



The Australian National University
Centre for Economic Policy Research
DISCUSSION PAPER

Long-Term Unemployment in the ACT*

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DISCUSSION PAPER NO. 603
March 2009

ISSN: 1442-8636
ISBN: 978 1 921262 84 5

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* This paper uses confidentialised unit record file data from the Household, Income and Labour Dynamics in Australia (HILDA) survey. The HILDA Project was initiated and is funded by the Department of Families, Community Services, and Indigenous Affairs (FaCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (MIAESR). The findings and views reported in this paper, however, are those of the authors and should not be attributed to FaCSIA or MIAESR. We are also grateful to officials of the ACT Chief Minister's Department and the Department of Employment and Workplace Relations for feedback on an earlier draft. Responsibility for the contents of the paper lies solely with the authors.

Abstract

In the late 1970s and early 1980s, the overall unemployment rate in the ACT was virtually indistinguishable from that in the country as a whole. However, for the past twenty-five years, unemployment in the ACT has been lower – often substantially lower – than in the nation as a whole. The ACT also has a lower rate of long-term unemployment (defined as unemployment durations of 12 months or more). Given the unique nature of the ACT labour market, it is useful to focus on long-term unemployment in the ACT specifically. We do this by analysing administrative data on benefits payments. Looking only at unemployed persons in the ACT, and analysing the propensity to be long-term unemployed, we find that men, Indigenous people, older people, and less educated people are more likely to be long-term unemployed. Finally we find that unemployment and long-term unemployment in the ACT is geographically concentrated in certain neighbourhoods.

JEL Codes: E24, J64, J68

Keywords: unemployment duration, local labour markets

Long-Term Unemployment in the ACT: An Overview

In the late 1970s and early 1980s, the overall unemployment rate in the ACT was virtually indistinguishable from that in the country as a whole. However, for the past twenty-five years, unemployment in the ACT has been lower – often substantially lower – than in the nation as a whole. Australian Bureau of Statistics (ABS) data indicate that nationally Australian men and women had unemployment rates in the first quarter of 2007 of 4.5 and 5.4 per cent respectively. In the ACT, however, both men and women were somewhat less likely to be unemployed (3.8 and 3.4 per cent respectively).

The divergence between ACT and national-level unemployment is also apparent when we consider long-term unemployment specifically. In particular, since 2001, the ABS has separately tabulated long-term unemployment rates by state/territory. These data indicate that long-term unemployment is also lower in the ACT than the national average. In the first quarter of 2007, the long-term unemployment rate nationally was 1.2 per cent, while in the ACT just 0.4 per cent of the labour force was long-term unemployed. This rate implies that there were approximately 850 long-term unemployed individuals in the ACT.

Given the unique nature of the ACT labour market, it is useful to focus on long-term unemployment in the ACT specifically. We do this by analysing administrative data on benefits payments from the Department of Employment and Workplace Relations (DEWR). Given the relatively small size of the ACT labour market, this is one of the only data sources large enough to permit separate analysis of the ACT. The two available methods for determining the duration of unemployment in the DEWR data both differ from ABS standards, however, the results shed light explicitly on the nature of unemployment in the ACT. Specifically, our analysis considers the factors (characteristics) that distinguish individuals who have been employed for less than 52 weeks from those who are long-term unemployed, i.e. unemployed for more than 52 weeks.

Our results indicate that unemployed women in the ACT are approximately five percentage points less likely than unemployed men to be long-term unemployed. This is

consistent with the estimated gender differential of 4.5 percentage points found in the national sample based on HILDA.

Among the ACT unemployed, those who are born overseas do not seem to be more or less likely to be long-term unemployed. Thus, nativity status may be more related to the probability of being unemployed than to the duration of that unemployment. At the same time, Aboriginals and Torres Strait Islanders living in the ACT are significantly more likely to be unemployed for more than 12 months irrespective of how we measure duration of unemployment. Specifically, Indigenous status is associated with between a 5.1 and 10.7 percentage point higher probability of being long-term versus short-term unemployed depending on the method used for determining unemployment duration. These effects are particularly pronounced for Aboriginal and Torres Strait Islander women and are consistent with national results based on HILDA data.

The propensity to be unemployed for more than 12 months increases rapidly in the ACT as individuals age. Moreover, unemployed individuals are much less likely to be long-term unemployed the more education they have. Using the time since last declared earnings definition of unemployment duration, individuals with a Year 12 education are 4.9 percentage points less likely to be in long-term unemployment than are similar individuals who did not complete Year 12. Those with a university education are 9.6 percentage points less likely to be unemployed long-term. The magnitude of the relationship between education and the propensity to be long-term unemployed is much the same for men and women and is not particularly sensitive to the way in which we measure unemployment duration.

Finally we find that, unemployment in the ACT is geographically concentrated in certain neighbourhoods. In particular, one in four unemployed (24.7 per cent) and long-term unemployed (25.9 per cent) individuals live in either postcode 2602 or postcode 2615. All together, the top five postcodes are home to approximately half of the ACT's unemployed (49.9 per cent) and long-term unemployed (52.2) populations. Interestingly, there is relatively little difference in residential patterns by unemployment duration. In other words, the short-term and the long-term unemployed tend to live in the same neighbourhoods. Although the small sample sizes make it difficult to draw

definitive conclusions, the residential patterns of Indigenous unemployed individuals also appear to be very similar to those of the unemployed population generally. The exception is the higher propensity for Indigenous unemployed individuals to live in postcode 2540 (Jervis Bay).

What do these results imply about the potential for government policy to improve outcomes for long-term unemployed individuals in the ACT? On the one hand, relatively low unemployment rates, high participation rates, and high wages all suggest that overall the ACT labour market is very strong relative to other parts of the country. On the other hand, the ACT labour market is relatively small and employment is concentrated heavily in a handful of particular, highly-skilled industries. Specifically, more than one in four employees work in government administration/defence, while 14.9 per cent are employed in property/business services, 11.6 per cent are employed in the retail industry, and 9.0 per cent are in education (ABS 2006; Table 10.4). This most likely means that the long-term unemployed – who often have relatively poor labour market skills – may face particular challenges in finding work in the ACT labour market.

The development of policies to assist the long-term unemployed in the ACT is also hampered by a relative lack of information. Specifically, the relatively small size of the ACT labour market implies that nationally-representative data sources (like HILDA) are not large enough to permit separate analysis of the ACT. Administrative data (like the DEWR data) provide a sample that is large enough to permit separate analysis of long-term unemployment in the ACT. Unfortunately, administrative data are limited in the information that they provide about an individual's demographic and human capital characteristics.

This implies that there may be a need to consider other research methodologies. For example, among other recommendations, Dockery and Webster (2001) called for more program evaluation based on random assignment. Random assignment continues to be rare in the evaluation of Australian social policy. However, in 2000 the then Department of Family and Community Services conducted three randomised trials, one of which was targeted towards assisting the long-term unemployed. The results from this trial indicated that an intensive interview with follow-ups led the very long-term

unemployed to engage in higher levels of study and training (Breunig, et al., 2003). These results encourage us about the potential for government policy to assist the long-term unemployed. At the same time, this intervention was modest at best and there remains a great deal that we do not know about the potential for government policy to improve outcomes for the long-term unemployed.

1. Introduction

Both the Australian and the international evidence suggest that unemployment is often concentrated amongst a subset of the population who spend substantial periods of time without work. Much of the increases in unemployment over the 1970s and 1980s, for example, resulted from increases in the average time spent unemployed rather than an increased propensity to become unemployed (Layard, et al., 1991; Meyer, 1995; Dolton and O'Neil, 1995).

In Australia over much of the 1990s, the composition of the unemployment pool across unemployment categories remained relatively constant. Approximately 30 – 40 per cent of unemployed individuals were in spells of less than three months, while the long-term unemployed (those that had been searching for a job for over a year) made up between 25 – 35 per cent of the unemployment pool (Borland 2000). Moreover as the aggregate rate of unemployment increased after the 1970s, the proportion of very long-term unemployed (more than 2 years) grew (Borland 2000; Dockery and Webster 2001). Thus, although most Australians who become unemployed are likely to find new jobs quickly, a large share of those who are unemployed at any particular moment may have been without employment for some time.

Long-term unemployment is an important social problem. Families' social and economic well-being are closely linked to their employment outcomes. A job provides both financial security and a connection to society more generally. Involuntary unemployment on the other hand, even for a short period of time, can lead to both financial and psychological stress, health problems, and a reduction in living standards and economic well-being (see Mathers and Schonfeld 1998; Carroll 2005). Moreover, the negative economic and social consequences of unemployment increase with the duration of unemployment. In particular, individuals who are unemployed for an extended period of time often find that as time goes on it is more difficult to find work. This may reflect the risk that for extended periods of joblessness, the value of skills, training and educational qualifications deteriorates.

1.1 The Evidence on Unemployment Duration:

Historically, a number of Australian studies concentrated on attempting to understand the rate of long-term unemployment. Time-series analysis of ABS Labour Force data over relatively long time periods suggests that variation in the rate of long-term unemployment is explained fairly well by variation in the rate of total unemployment (see Borland 2000 for a review).

More recently, researchers have turned their efforts to assessing the factors that determine the length of time an individual will spend seeking work.¹ The results suggest that previous patterns of employment and unemployment are related to the speed with which individuals are likely to leave unemployment. Past spells of unemployment are associated with longer durations of current unemployment spells (Carroll 2007), while previous labour market experience is associated with shorter unemployment spells (Borland 2000). Moreover, unemployment duration is closely linked to individuals' other productivity-related characteristics.

Specifically, unemployment spells are longer, holding other demographics constant, for individuals who are older, have relatively low educational attainment, are disabled, or are migrants from non-English-speaking background countries (see in particular Borland 2000; Carroll 2007). These relationships suggest that individuals who previously earned high wages are likely to leave unemployment quicker than those who had been on low wages. Consequently, the incidence of long-term unemployment disproportionately falls on workers in low-skilled occupations and in industries such as manufacturing or hospitality (see Junankar and Kapuscinski, 1991; Borland 2000). The tendency of those with less education to experience longer spells of unemployment is consistent with the international evidence (see Steiner, 1990; Rosholm, 2001; Røed and Zhang).²

The duration of unemployment also appears to be related to the job search behaviour and risk attitudes of individuals. Carroll (2007), for example, suggests that individuals who are prepared to take more financial risks have longer spells of unemployment. To the extent that attitudes toward financial risk are associated with

¹Most of these studies utilise some form of duration analysis.

² These studies consider the case of Austria (Steiner 1990), Denmark (Rosholm 2001) and Norway (Røed and Zhang 2003).

attitudes toward risk more generally, this relationship is consistent with the view that risk seekers are more likely prolong their job search in the hopes of securing a higher wage offer. The method of job search is also related to unemployment duration: individuals using friends and relatives as their primary means of finding a job tend to exit unemployment faster than individuals relying on newspapers or government job-finding services (see Borland 2007).

Finally, the probability of exiting unemployment may depend on the length of the current unemployment spell—a phenomenon referred to as *duration dependence*.³ Borland (2000) reviews the Australian literature and concludes that there is no evidence of duration dependence. Although some studies do find negative duration dependence, these studies do not control for unobserved heterogeneity.⁴ Studies that include controls for unobserved heterogeneity (by estimating a model with individual fixed effects) generally do not find evidence of duration dependence (for example, Chapman and Smith, 1992). Borland (2000) cautioned, however, that the failure to find evidence of negative duration dependence may stem from the fact that labour market programs have been successful in reducing the labour market disadvantage of the long-term unemployed. Specifically, the studies may confound ‘true’ duration dependence with policy effects.

1.2 Government Policy and Unemployment Duration:

Borland (2000) discussed the potential rationale for government intervention targeted towards altering the distribution of unemployment durations. The main rationale for intervention appears to be the desire to improve job search efficiency. If individuals are able to search for jobs more effectively while unemployed than while employed, then a case can be made that risk aversion amongst the unemployed or externalities in the

³ More specifically, negative duration dependence occurs when the probability of exiting unemployment at any particular moment is positively related to the length of time an individual has already spent unemployed.

⁴ Without controlling for the unobserved characteristics that lead some individuals to have a high propensity to be long-term unemployed, it is not possible to separately identify true state dependence from the selection effects resulting from the fact that the unemployment pool is increasingly negatively selected over time.

search process warrant the subsidising of unemployed job search through unemployment benefits (see, Marimon and Zilibotti, 1999; Acemoglu and Shimer, 1999).

There is also international evidence that higher unemployment benefits are associated with longer periods of unemployment (Belzil 2001; Addison and Portugal 2003; Card et al. 2006; Chetty 2007), though Chapman and Smith (1992) did not find evidence of this for Australia. Time series analyses suggest that, at the macro level, unemployment duration in Australia is related to labour market conditions, skilled and unskilled immigration, and levels of labour market assistance to the unemployed (Connolly et al. 2002; Connolly and Cunningham 2004).

Borland (2000) reviewed the evidence that government policy can affect unemployment duration generally, while Dockery and Webster (2001) reviewed Australian policy targeted towards assisting the long-term and very long-term unemployed specifically. These authors identified a number of issues for future consideration. Borland (2000) concluded, for example, that the existing empirical studies “do not provide a strong basis for assessing the relation between labour market programs and unemployment spell duration”. This failure stems from a number of problems with the Australian labour market program evaluation literature (see Dockery and Webster, 2001 for a comprehensive review).

Amongst other recommendations, Dockery and Webster (2001) called for more program evaluation based on random assignment. Random assignment continues to be rare in the evaluation of Australian social policy. However, in 2000 the then Department of Family and Community Services conducted three randomised trials, one of which was targeted towards assisting the long-term unemployed. The results from this trial indicated that an intensive interview with follow-ups led the very long-term unemployed to engage in higher levels of study and training (Breunig, et al., 2003). These results encourage us about the potential for government policy to assist the long-term unemployed. At the same time, this intervention was modest at best and there remains a great deal that we do not know about the potential for government policy to improve outcomes for the long-term unemployed.

1.3 Our Research Plan:

Our analysis proceeds as follows. The trends over time in unemployment and long-term unemployment are reviewed in Section 2, while Section 3 focuses on the correlates of long-term unemployment in a large sample of Australians captured in the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The predominant factors associated with long-term unemployment in the ACT are analysed in Section 4. Conclusions and suggestions for future research are presented in Section 5.

2. Trends in Unemployment

Data from the Australian Bureau of Statistics (ABS) enable us to look at state and territory trends in the overall unemployment rate as well as national trends in long-term unemployment. These trends are useful in highlighting the extent to which unemployment patterns in the ACT mirror patterns nationally.

2.1 Measuring Unemployment in the ABS Labour Force Survey:⁵

The ABS is charged with providing a range of official statistics on the Australian economy. Most labour market statistics are derived from the monthly Labour Force Survey (LFS) which measures the labour force status of the civilian population over the age of 15. To be classified as unemployed, a respondent in the survey must satisfy each of the following criteria in the reference week:

- not employed;
- actively sought work in the previous four weeks; and
- available to start work in the reference week.

The LFS then goes on to ask respondents who – based on these three criteria – are classified as unemployed a series of more detailed questions in order to determine the duration of unemployment. At present, the duration of unemployment is defined as the period of time:

- from the date when the unemployed individual began looking for work until the end of the reference week, or
- from the date when the unemployed individual last worked in any job (either part-time or full-time) for two weeks or more until the end of the reference week,

whichever time period is shorter. Individuals are classified as long-term unemployed whenever their duration of unemployment exceeds 52 weeks.

⁵ This section is based on the information provided in ABS (2001b).

It is important to note that the method that the ABS uses to measure unemployment duration changed in April of 2001 as a result of changes to the design of the LFS. The goal of these changes was to align the ABS method for determining unemployment duration with International Labour Organisation guidelines. Specifically, prior to 2001 a spell of unemployment was deemed to have begun either 1) on the date the individual began looking for work or 2) on the date that the individual last worked full-time (part-time work was not counted). Moreover, the definition of unemployment was changed so that individuals who had been away from their jobs without pay for less than four weeks because of a lack of work were reclassified from unemployed (pre 2001) to employed (post 2001), while those not employed who were actively seeking work, but who were not able to start work in the reference week due to temporary illness were reclassified from unemployed (pre 2001) to out of the labour force (post 2001).

The combined effect of these changes in the way that unemployment duration is measured and in the definition of unemployment was to reduce the proportion of the unemployed who were classified as long-term unemployed by approximately 1.7 percentage points per month on average over the period April 1986 to March 2001 (see ABS 2001b for more information.) Although the ABS revised its long-term unemployment statistics for the 1986-2001 period, this structural break in the data series on long-term unemployment means that one should be cautious in comparing trends in long-term unemployment in the pre- and post-2001 periods.

2.2 Unemployment and Long-Term Unemployment in the ACT:

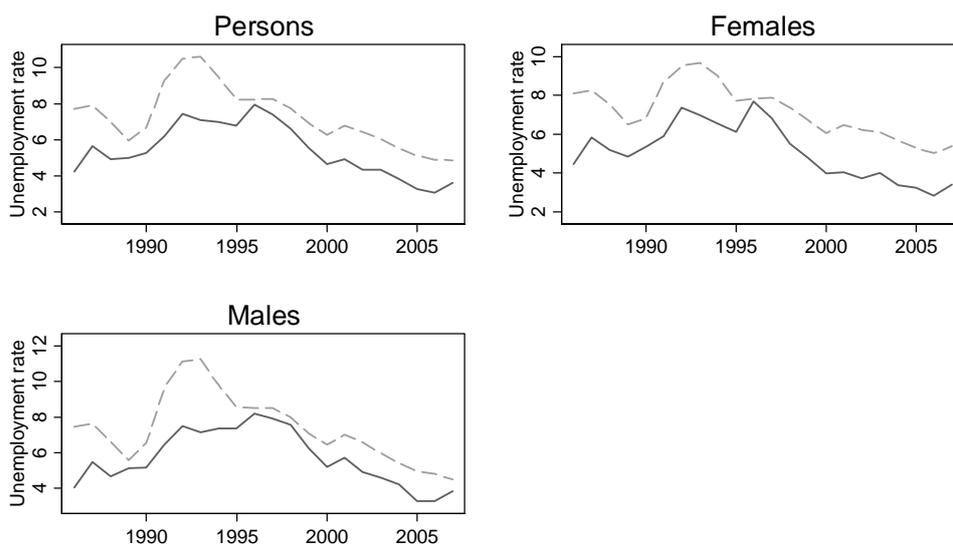
In the late 1970s and early 1980s, the unemployment rate in the ACT was virtually indistinguishable from that in the country as a whole. In the mid-1980s, however, the national unemployment rate surged sharply relative to the ACT unemployment rate creating a wedge between the two data series that has persisted over time. For the past twenty-five years, unemployment in the ACT has been lower – often substantially lower – than in the nation as a whole. Figure 2.1 shows this disparity over the period

1986 – 2007.⁶ In the first quarter of 2007, for example, the national unemployment rate stood at 4.9 per cent, while in the ACT unemployment was 3.6 per cent.

Figure 2.1 also demonstrates the time trends in the unemployment rates are remarkably consistent across gender. Since the mid-1980s, the unemployment rate of both men and women in the ACT has been lower than the national average. At the same time, there are gender differences in the level of unemployment. Nationally, women had a higher unemployment rate in the first quarter of 2007 than did men (5.4 versus 4.5 per cent). In the ACT, however, men were somewhat more likely to be unemployed (3.8 versus 3.4 per cent).

Figure 2.1: Unemployment Rates, 1986-2007

Solid line is the ACT, dashed line is Australia



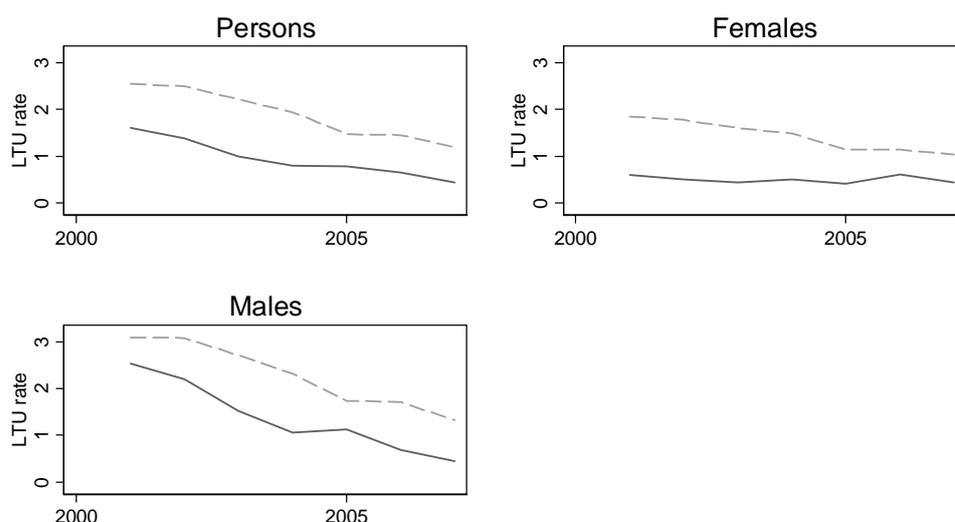
Note: Figures are annual averages (1986 is from April, 2007 is to April).
Source: ABS, 6291.0.55.001 Labour Force, Australia, Detailed

Since 2001, the ABS has separately tabulated long-term unemployment rates by state/territory. Figure 2.2 compares the incidence of long-term unemployment in the ACT to the national average over this period. Consistent with the previous results, long-term unemployment is lower in the ACT than the national average. In the first quarter of 2007, the long-term unemployment rate nationally was 1.2 per cent, while in the ACT

⁶ This data series has been retrospectively adjusted beginning in April 1986 to take account of the 2001 changes in the way in which unemployment is measured in the LFS (see ABS 2001a).

just 0.4 per cent of the labour force was long-term unemployed.⁷ Nationally, men were somewhat more likely than women to be experiencing long-term unemployment (1.3 versus 1.0 per cent), while in the ACT there was no gender difference in the incidence of long-term unemployment.

Figure 2.2: Long-Term Unemployment Rates, 2001-2007
Solid line is the ACT, dashed line is Australia



Note: Long-term unemployment rate (LTU) is long term unemployed as a share of the labour force. Figures are annual averages (2001 is from April, 2007 is to April). Source: ABS Labour Force Data Cube.

2.3 Putting ACT Unemployment in Context:

It is important to consider the pattern in unemployment rates in the context of the ACT labour market more generally. As of September 2007, the ABS estimates that there were 189,400 employed people in the ACT, 76.3 per cent of whom worked full-time (ABS 2007). This makes the ACT labour market relatively small in comparison to most other states. At the same time, the labour force participation rate at September 2007 (72.7 per cent) was second only to the Northern Territory.⁸ Average weekly wages are also relatively high, with men earning \$1,276 and women earning \$1,077 per week on

⁷ Given an ACT labour force of approximately 194,000 individuals (see ABS 2007), this rate implies that there are approximately 850 long-term unemployed individuals in the ACT. In Section 4, we show that, using a different definition of long-term unemployment, we obtain a slightly higher estimate of the number of long-term unemployed people in the ACT. This difference could be due either to the difference in the definition, or to sampling variation in the ABS Labour Force Survey.

⁸ In comparison, the national labour force participation rate was 65.5 per cent (ABS 2007).

average as of November 2005 (ABS 2006; Table 10.7). These relatively high wages coupled with high participation rates translate into a mean disposable household income of more than \$43,000 per capita in 2004-05, the highest in the country (ABS 2006; Table 10.8). In contrast, households in New South Wales (the second highest in the country) had a mean disposable income of less than \$29,000.

The relatively low unemployment rate, high participation rate, and high wages all suggest that overall the ACT labour market is very strong relative to other parts of the country. At the same time, the ACT labour market is relatively small and employment is concentrated heavily in a handful of particular, highly-skilled industries. Specifically, more than one in four employees work in government administration/defence, while 14.9 per cent are employed in property/business services, 11.6 per cent are employed in the retail industry, and 9.0 per cent are in education (ABS 2006; Table 10.4). This most likely means that the long-term unemployed – who often have relatively poor labour market skills – may face particular challenges in finding work in the ACT labour market.

3. The Characteristics of the Long-term Unemployed in Australia

The existing domestic and international literature suggests that both the incidence and duration of unemployment are closely related to individuals' labour market skills. In this section of our report, we present the results of our analysis of national unemployment patterns in order to quantify the difference in the unemployment experiences of individuals with different demographic and human capital characteristics.

3.1 Measuring Unemployment in the HILDA Data:

In order that we may compare the outcomes of long-term, unemployed individuals with those who are not long-term unemployed, it is necessary to use a dataset that includes people who are in work as well as those looking for work. We opt for analysing the Household Income and Labour Dynamics in Australia survey (HILDA) which is a longitudinal survey of Australian households spanning the years 2001-2005, and encompassing approximately 13,000 individual respondents living in more than 7,000 households (see Wooden et al. 2002). To maximise statistical power, we pool data from waves 1 – 5 of the survey.

Our sample consists of all persons aged 15-64. Although HILDA does not specifically identify the long-term unemployed using ABS procedures, we can use the detail of the HILDA data to achieve a definition of long-term unemployment that is broadly consistent with the ABS definition. Specifically, we classify HILDA respondents as being long-term unemployed if:

- their current labour market status is unemployed; and
- they were unemployed for the full duration of the previous financial year.

Because the HILDA survey is designed to define unemployment as not having a job and actively seeking work, like the ABS unemployment definition, it is not necessary that a HILDA respondent be receiving unemployment benefits to be described as unemployed.⁹ At the same time, there are differences in the HILDA and the ABS

⁹ In the next section of our report we consider similar results based on definitions of unemployment that are tied to the receipt of various government benefits.

definition of unemployment which may lead current labour market status to be defined slightly differently in the two data sources.¹⁰ There are also differences in the way in which the duration of the current unemployment spell is calculated. The ABS uses information on the date at which individuals begin looking for work or the date at which individuals last worked for pay to identify the beginning of an unemployment spell. In the HILDA data, a large share of unemployed respondents are unable to recall when their unemployment spell began.

Consequently, we have adopted an alternative strategy which exploits the fact that HILDA asked respondents their labour force status in each month of the previous financial year. If respondents are currently unemployed, and report being unemployed in every month of the previous financial year, we classify them as long-term unemployed. Unlike the ABS measure, the HILDA measure of long-term unemployment will therefore be based on self-reports of employment status at particular points in time.¹¹ A drawback of our HILDA coding is that the interview is not conducted at precisely the end of the financial year (most HILDA respondents are interviewed in September or October). Since we do not know their labour force status for the period between the end of the financial year and the interview date, we cannot take account of this when determining whether or not the respondent is long-term unemployed. Overall, our estimates suggest that about 22 percent of unemployed respondents in HILDA are long-term unemployed. This is very close to ABS figures for 2001-05, which indicate that around 21 percent of unemployed people are long-term unemployed.¹² On aggregate figures, our approach therefore seems to produce an estimate that is very close to the ABS figure. By contrast, using the duration question in HILDA (and dropping those who are unable to recall their duration of unemployment) implies that only 8 percent of unemployed people are long-term unemployed.

¹⁰ In particular, the sequencing of questions is different and the HILDA data lack some of the detail of the ABS data. This implies that there may be some minor differences in the way in which individuals' current labour market state is defined. For more details, compare the Continuing Person Questionnaire in HILDA with ABS 2001c.

¹¹ HILDA does ask individuals who are unemployed at the date of interview a question on the number of weeks they have been unemployed. However, 13 per cent of unemployed respondents do not know their unemployment duration. Given that this item non-response is likely to be positively related to unemployment duration, we have adopted a definition of long-term unemployment that combines current labour market status with self-reported unemployment experience over the previous financial year.

¹² Authors' calculations, based on ABS Supertables.

3.2 Our Estimation Strategy:

In order to understand the correlates of long-term unemployment, we first contrast the population of long-term unemployed with the rest of the labour force. Specifically, those individuals who are classified as long-term unemployed are compared to those individuals who are presently in the labour force and not long-term unemployed. This includes individuals who are working full-time, working part-time, or unemployed short-term, i.e. those unemployed for less than one year (see Table 3.1). Secondly, we move on to specifically compare the characteristics of those who are long-term unemployed with those who are presently unemployed, but who were not employed for the full duration of the previous financial year (see Table 3.2). This latter analysis closely parallels that in the next section. In both of these comparisons, individuals who are not in the labour force are excluded from the analysis.

In the case of income, we make two changes. First, since the respondent's own employment status has a direct effect on their own income, and on government transfers received by the household, we calculate a measure of the total market income received by other members of the household (ie. excluding the respondent's own income). Second, to account for nominal income changes over the period 2001-2005, we define that income measure as percentiles of that year's distribution. For example, a respondent whose household income is at the 30th percentile has a household income that is below 70 percent of the population in that year.

All estimates are weighted using HILDA survey weights. To maximise statistical power, we use the full unbalanced panel across waves 1 to 5. Watson and Wooden (2004) have shown that attrition is higher among respondents who are unemployed in the first wave. Since our approach places equal weight on all waves, we are effectively undersampling the unemployed. Were we to only keep respondents that appeared in all waves, we would exacerbate that bias still further. Our full sample consists of 38,114 observations, though there is some item non-response amongst these individuals leaving some key variables with missing values.

3.3 The Demographic and Human Capital Characteristics of the Long-term Unemployed:

3.3.1 Descriptive Analysis:

Table 3.1 presents information about HILDA respondents who have been unemployed for more than 52 weeks and compares their characteristics to those of other labour force participants, i.e. employed and short-term unemployed individuals. (Throughout this paper, summary statistics in the text show means only; for standard deviations and numbers of observations, see the appendix tables). The long-term unemployed are somewhat younger on average and are more likely to be male, unmarried, foreign-born, and Indigenous than are other labour market participants. The disparity in the demographic characteristics of the two populations is often quite large. In particular, fully 6.0 per cent of HILDA respondents who are long-term unemployed identify themselves as being an Aboriginal/Torres Strait Islander person. This is true of just 1.5 per cent of other labour market participants. Similarly, married individuals make up more than half (62.1 per cent) of labour market participants who are not long-term unemployed, but only one third (36.2 per cent) of the long-term unemployed population.

The human capital characteristics of the two populations differ as well. The long-term unemployed have approximately one year less education in total (11.0 versus 12.3 years) and have completed fewer years of schooling. The long-term unemployed also report themselves to be somewhat in poorer physical health. On average the long-term unemployed rate their physical health at 80.4 on a scale of 0 – 100, while other labour market participants rate their health at 89.6 overall. Those who have been unemployed more than a year are also approximately twice as likely (21.0 versus 11.4 per cent) to have a father who also experienced unemployment. These differences in characteristics are consistent with the previous literature suggesting that long-term unemployment is associated with a lack of productivity-related skills (see Section 1).

Moreover, it is important to note that the employment outcomes of other household members do not appear to fully compensate for the loss of income associated with long-term unemployment. On average, labour market participants who are not long-term unemployed are living in households where the other household members' market incomes place the household at the 56th percentile of the distribution.

On the other hand, those individuals who have been unemployed for more than one year are living with other individuals whose own labour market incomes leave the household only at the 36th percentile of the household market income distribution. Thus, the long-term unemployed are living in households with other individuals whose own incomes are relatively low.

Table 3.1
The Demographic and Human Capital Characteristics of the Long-term Unemployed Population versus the Rest of Labour Force

Demographic and Human Capital Characteristics	Not long-term Unemployed^a	Long-term Unemployed^b
	Mean	Mean
Age in years	37.4	36.9
Female (%)	46.7	39.1
Married (%)	62.1	36.2
Indigenous (%)	1.5	6.0
Born overseas (%)	24.5	32.5
Total years of education	12.3	11.0
Years of high school	11.0	10.2
Father unemployed >6 months (%)	11.4	21.0
Decile of household market income (excl. own income)	5.6	3.6
Physical health (0 – 100 scale)	89.6	80.4

^a This includes individuals who are working full-time, working part-time, or unemployed short-term, i.e. those unemployed for less than one year.

^b This includes individuals who 1) are currently unemployed and 2) were unemployed for the entirety of the previous fiscal year (see the text for more information).

In addition to being large, these disparities in characteristics are also statistically significant. Specifically, statistical tests on the differences in the two samples – t-tests for continuous variables and tests of proportion for binary variables – show that all demographic and human capital characteristics listed in Table 3.1 are statistically distinct in the two samples, i.e. not due to random chance, at the one per cent level of significance. The exception is gender which is significant at the five per cent level.

Thus, the characteristics of individuals who have been unemployed for more than 12 months appear quite different to those of other labour market participants, the vast majority of whom are employed. In order to deepen our understanding of long-term

unemployment, we use HILDA data to compare the characteristics of the long-term and short-term unemployed populations (see Table 3.2). These results suggest that – perhaps not surprisingly – on many dimensions individuals who are long-term unemployed appear to be more similar to other unemployed individuals than to other labour market participants as a whole.

Table 3.2
The Demographic and Human Capital Characteristics of the Short-term versus Long-term Unemployed Populations

	Short-term Unemployed^a Mean	Long-term Unemployed^b Mean
Age in years	29.5	37.0
Female (%)	47.5	39.1
Married (%)	33.7	36.2
Indigenous (%)	5.2	6.0
Born overseas (%)	27.1	32.5
Total years of education	11.4	11.0
Years of high school	10.7	10.2
Father unemployed >6 months (%)	20.2	21.0
Decile of household market income (exc. own income)	5.1	3.6
Physical health (0 – 100 scale)	86.9	80.4

^a This includes individuals who 1) are currently unemployed and 2) were not unemployed for the entirety of the previous fiscal year (see the text for more information).

^b This includes individuals who 1) are currently unemployed and 2) were unemployed for the entirety of the previous fiscal year (see the text for more information).

In particular, marriage rates are very similar in the short- and long-term unemployed population (33.7 versus 36.2 per cent), while short-term unemployed individuals are about as likely as those who have been unemployed for more than 12 months to report being an Aboriginal/Torres Strait Islander person (5.2 versus 6.0). Differences in marital and Indigenous status are much larger between the long-term unemployed population and other labour market participants as a whole. At the same time, other demographic characteristics appear to be correlated with the length of unemployment spell. Specifically, individuals who have been unemployed for less than a year are on average 29.5 years old, while individuals who are long-term unemployed have an average age of 37.0.

Approximately half (47.5 per cent) of those unemployed short-term are women, while this is true of only 39.1 per cent of the population of long-term unemployed. Interestingly, most human capital characteristics do not appear to be highly correlated with the length of one's employment. Education levels are very similar between the two groups with each having about 11 years of education in total and a completed level of schooling between Year 10 and Year 11. Approximately, one in five unemployed individuals – irrespective of their unemployment duration – have a father who also experienced unemployment. At the same time, the disparity in self-reported physical health between these two groups, though somewhat smaller than that between the long-term unemployed and other labour market participants, is relatively large.

Statistical tests on the differences in means reveal the differences in marital status, Indigenous status, having an unemployed father, and gender are all statistically significant at the ten per cent level, while the difference in foreign-born status is significant at the five per cent level. The differences in the remaining characteristics are statistically significant at the one per cent level.

Thus, on many dimensions individuals who are long-term unemployed are quite similar to others who have been unemployed for a shorter period. Given the nature of our data and the associated definition of unemployment, it is possible that some individuals currently observed in a short spell of unemployment might fail to find employment and become long-term unemployed in the future. This censoring problem is expected to reduce any observed differences between the two groups and might therefore explain some of the similarities in certain characteristics.

At the same time, on other dimensions, specifically age and gender, the two groups appear to be quite dissimilar. In particular, it is important to note that, consistent with our previous results for other labour market participants as a whole, the short-term unemployed live in households in which other household members' incomes place the household around the median (51ST percentile) of the distribution of household market income. Despite the potential for censoring to blur any differences in characteristics of the two groups, it is the case that in many important ways the long-term unemployed population appears to be quite distinct.

Finally, we consider the ways in which the incidence of long-term unemployment varies across age groups, education levels, and state/territory. This allows us to assess whether there is potentially a non-linear relationship between long-term unemployment and these characteristics (see Table 3.3). Long-term unemployment is most common amongst young people (under the age of 30) and individuals aged 50 to 59. The incidence of long-term unemployment is lowest for those individuals aged 30 to 49 (the prime working ages) and for those over the age of 60 who may be more likely to leave the labour market, i.e., retire, than continue to seek employment.

Table 3.3
The Long-term Unemployment Rate by
Age, Education, and State/Territory

Age	Long-term Unemployment Rate (%)	Education	Long-term Unemployment Rate (%)	State/Territory	Long-term Unemployment Rate (%)
15-19	1.8	8	5.4	NSW	1.5
20-29	1.4	9	3.6	VIC	1.2
30-39	1.1	10	2.0	QLD	1.1
40-49	1.0	11	1.1	SA	1.5
50-59	1.5	12	1.1	WA	1.0
60-64	1.1	15	0.4	TAS	2.3
		16	0.2	NT	0.6
		17+	0.9	ACT	0.2

There appears to be a much more linear relationship between education and the incidence of long-term unemployment. Long-term unemployment falls rapidly as education increases. Specifically, individuals with only eight years of education have a long-term unemployment rate of 5.4 per cent; a rate that is more than two and a half times higher than the rate of individuals with ten years of education and five times higher than the rate for individuals with 12 years of education. Long-term unemployment is only rarely experienced by individuals who have 15 years of education or more.

Finally, consistent with ABS data, HILDA data also indicate that the long-term unemployment rate varies across states and territories. Long-term unemployment is

most common in Tasmania and is least common in the ACT. In our HILDA sample, there are 909 individuals who are participants in the ACT labour market, of these two are long-term unemployed given our definition. We carried out two-sample test of proportion, comparing the ACT's long-term unemployment rate in turn with each of the other states and territories. These tests allow us to reject, at the 95 per cent confidence level, the hypothesis that the ACT long-term unemployment rate is the same as the rate in any other state in Australia.¹³ For the Northern Territory, the mean is higher, but the samples are too small for us to reject the null hypothesis that the long-term unemployment rate is the same as in the ACT.

3.3.2 Regression Analysis:

Our descriptive analysis suggests that the characteristics of the long-term unemployed differ from other labour market participants and, to a lesser extent, from individuals who are short-term unemployed. In this section, we explore these relationships in more depth by exploiting regression analysis which allows us to simultaneously account for multiple demographic and human capital characteristics. This approach is useful in giving us a better understanding of the partial correlations between specific characteristics and the probability of being long-term unemployed.

Tables 3.4 and 3.5 present the results from two separate probit regressions. In the first, we use our HILDA sample of labour force participants to estimate the effects of an individual's demographic and human capital characteristics on the probability of being long-term unemployed. This regression effectively differentiates between the long-term unemployed and all other labour market participants, i.e., individuals who are employed or short-term unemployed. In the second regression, we re-estimate the model using a sample of unemployed individuals only. This regression differentiates between those who have been unemployed for more than 12 months and those who have been unemployed for less than 12 months. For each sample, we estimate two alternative specifications of the model separately for men and women as well as for the

¹³ The 95 percent confidence interval on the ACT long-term unemployment rate includes zero to 0.005.

total sample. To facilitate the interpretation of our results, we report probit marginal effects.¹⁴

Age is related to the propensity to be unemployed for more than 12 months, but in ways that differ for men and women (see Appendix Table 3). All else equal, women's probability of experiencing long-term unemployment falls by 0.01 percentage points for each year of additional age, while men's increases by 0.03 percentage points. These effects are statistically significant at the one per cent level and change only slightly once we also control for household income and physical health. Although the magnitude of these effects appears to be small, they are in fact relatively large given that the long-term unemployment rate is only 1.0 per cent for women and 1.4 per cent for men. These effects imply that aging a decade is associated with a probability that a woman will experience long-term unemployment that is 10.0 per cent lower than the average female long-term unemployment rate of 1.0 per cent. For men, aging a decade is associated with a probability of experiencing long-term unemployment that is 21.4 per cent higher than the overall average.

Although women are 0.26 percentage points less likely to experience long-term unemployment than men with similar characteristics, this effect disappears once we control for an individual's physical health and the household's position in the income distribution. Thus, the bivariate relationship between gender and long-term unemployment that is observed in Table 3.1 disappears once we compare men and women with similar household incomes and health.

Overall, married men and women are 1.3 percentage points less likely to experience long-term unemployment than their single counterparts. However, as with age, there are substantial differences in the effect of marital status on the unemployment experiences of men and women. Specifically, the disparity in unemployment between married and single women is only 0.5 percentage points, while amongst men being single is associated with a 2.1 percentage point increase in the propensity of being unemployed. These are very large effects, particularly for men, in light of the low overall long-term unemployment rate. Still, the effects of marital status

¹⁴ The marginal effects are the change in the estimated propensity to be long-term unemployed given a one-unit change in the independent variable (eg. one additional year of age).

become much weaker – and disappear for women – once the household's position in the distribution of market income is taken into account. This suggests that the estimated relationship between marital status and long-term unemployment may be due in part to differences in the relative position of single and married households in the income distribution.

Both Indigenous and nativity status are related to long-term unemployment. Individuals who are Aboriginal or Torres Strait Islander are much more likely than non-Indigenous individuals with similar characteristics to experience unemployment that lasts more than 12 months. In particular, being an Aboriginal/Torres Strait Islander person is associated with a long-term unemployment rate that is 2.8 percentage points higher than (more than double) the average. Again, this effect is reduced once physical health and household income are taken into account. The relationship between nativity status and long-term unemployment is somewhat weaker. Being foreign-born is associated with a 0.80 percentage point (67 per cent) higher probability of being unemployed for more than one year. Again there are differences by gender, with Indigenous status being relatively more important for understanding women's unemployment experiences and foreign-born status being relatively more important for understanding the experiences of men.

There is a close link between long-term unemployment and years of education. Overall, each additional year of education is associated with a 0.27 percentage point reduction in the propensity of being unemployed for more than 12 months. Thus, for the average individual the probability of being unemployed long-term halves with each additional year of education. This is consistent with the descriptive results presented in Table 3.3 which show that long-term unemployment is by and large experienced only by individuals with 12 years of education or less. Finally, the relationship between education and long-term unemployment is somewhat larger for men than for women (0.28 versus 0.23 percentage points), but relative to the average gender-specific long-term unemployment rate the proportional effect is much the same.

Having a father who experienced unemployment is associated with a higher probability of experiencing long-term unemployment, but only for men. Specifically, men whose fathers experienced unemployment have a 1.0 percentage point higher

probability of being long-term unemployed relative to men whose fathers did not experience unemployment. This effect is reduced somewhat when we control for a man's physical health and his household's position in the distribution of market income, however it remains sizeable.

Finally, long-term unemployment is related to having poorer physical health and living in a household that is ranked lower in the distribution of market income. Each decile increase in the household's position in the market income distribution is associated with a propensity of being long-term unemployed that is approximately ten per cent lower, while rating one's health ten points higher (on a scale of 0 to 100) is also related to a similar reduction in the propensity of being unemployed for more than 12 months.

The results in Appendix Table 3 are useful in understanding what sets the long-term unemployed apart from other labour market participants. At the same time, we can sharpen our understanding of the phenomenon of long-term unemployment, by explicitly comparing the characteristics of those who have been unemployed for more than 12 months with those who have been unemployed for less than 12 months.¹⁵ These results indicate that those who have been unemployed for more than 12 months make up approximately one quarter of all unemployed individuals (see Appendix Table 4) with long-term unemployment being somewhat more prevalent amongst men (26.8 per cent) than amongst women (19.6 per cent).

The probability of being unemployed for more than 12 months (relative to being unemployed less than 12 months) increases as individuals become older. Women's probability of being long-term unemployed is approximately 3.5 per cent higher with each additional year of age, while men's propensity of being long-term unemployed increases 4.6 per cent. This positive relationship between age and long-term unemployment amongst unemployed women disappears once we take into account self-reported health and the household's position in the distribution of market income. Moreover, this relationship differs from the negative relationship observed when we compare women who are long-term unemployed with all female labour market

¹⁵ To some extent, this comparison will understate the difference in these two groups because some of the individuals who we currently observe to be short-term unemployed may one day be long-term unemployed.

participants (see Appendix Table 3). This suggests that employment is higher amongst older women; but that amongst the unemployed, duration increases with age.

Interestingly, once we take into account individuals' demographic and human capital characteristics, there are no significant differences in the propensity for men and women to be unemployed for more than 12 months. Though marital status is generally unrelated to the probability that women are unemployed long-term, there is a large disparity in the long-term unemployment rates of single and married men. Specifically, single men have a probability of being unemployed for more than one year that is 91 per cent higher than their married counter parts. The effect of marital status disappears, however, once we take into account the household's position in the market income distribution.

As before, we find that Indigenous status is particularly important in distinguishing the unemployment experiences of women, while men's unemployment patterns are much more closely related to nativity status. Specifically, Aboriginal/Torres Strait Islander women are much more likely than other non-Indigenous women to be unemployed for more than one year. The effect of Indigenous status disappears once physical health and the household's ranking in the income distribution are accounted for, suggesting that the estimated effect of Indigenous status may confound the effects of both health and household income. Foreign-born men are much more likely than native-born men to have been unemployed for more than a year, but this effect also disappears once health and household income ranking are included in the model.

The duration of unemployment is negatively related to years of education. Specifically, each additional year of education reduces the probability of being long-term unemployed (relative to being unemployed for less than one year) by 13 per cent. The link between education and long-term unemployment is much stronger amongst men than amongst women. In particular, the propensity of being unemployed for more than 12 months falls by 16 per cent with each additional year of education even after controlling for physical health and a household's income ranking. In contrast, the correlation between having a father who experienced unemployment and experiencing

long-term unemployment oneself becomes statistically insignificant once these factors are taken into account though the magnitude of the effect remains substantial.

Finally, long-term unemployment is more common amongst individuals who report that they have worse physical health and who live in households that are ranked lower in the market income distribution. Moving up a decile in the distribution of household market income is associated with a 8.6 percentage point reduction in the propensity of having an unemployment duration of more than one year, while rating ones health ten points higher is associated with a 6.5 per cent lower probability of being long-term unemployed.

3.3.3 Summary:

These national patterns in long-term unemployment rates highlight a number of issues. First, there are substantial gender differences in the relationship between demographic and human capital characteristics on the one hand and long-term unemployment rates on the other. For example, Indigenous status is much more closely linked to the experiences of women, while men's unemployment rates are much more closely related to their nativity status. These complexities are not adequately captured by models that only allow for a gender difference in unemployment levels, but that constrain the effects of demographic and human capital characteristics to be the same across gender. Understanding the patterns in men's and women's unemployment experiences is likely to be important in developing policies that address the specific labour market barriers that men and women face.

Second, the probability of experiencing long-term unemployment differs across the income distribution and with physical health. Long-term unemployment is much more prevalent amongst individuals who are in poorer physical health and who are living in households further down the income ranking. These results suggest that long-term unemployment is more common amongst groups already experiencing economic and social disadvantage.

Finally, there is a relationship between productivity-related characteristics and unemployment experiences. Specifically, long-term unemployment is associated with

having relatively few years of education – and for men – having a father who also experienced unemployment.

4. The Characteristics of the Long-term Unemployed in the ACT

The results in Section 3 are based on an analysis of the HILDA data which are representative of the Australian population as a whole. As such, the results are useful in highlighting the incidence of long-term unemployment amongst workers with different characteristics in the labour market as a whole. However, there are many reasons to believe that the ACT labour market functions somewhat differently to those in other states and territories (see Section 2.3 for example). Consequently, it is useful to focus on long-term unemployment in the ACT specifically. We do that in this section using administrative data on benefits payments from the Department of Employment and Workplace Relations (DEWR). Given the relatively small size of the ACT labour market, this is one of the only data sources large enough to permit separate analysis of the ACT.

4.1 *Measuring Unemployment in the DEWR Data:*

Our data from the Department of Employment and Workplace Relations (DEWR) comprise a full sample of all 4,111 individuals who were unemployed in the ACT as at 31 August 2007. We use two alternative methods for determining the duration of unemployment as follows:¹⁶

- First, duration is measured as the time since last declared earnings, which corresponds to the date the individual last worked for pay and 31 August 2007;
- Second, duration is measured as the period between first receiving an activity-tested benefit and 31 August 2007.¹⁷

Because individuals can receive an activity-tested benefit, but have an exemption from having to actually meet the activity test, the date at which an individual first received an activity-tested benefit does not necessarily correspond to the period that an individual has been actively seeking work. Thus, using length of time in receipt of an activity-tested benefit as a measure of the duration of unemployment tends to overstate

¹⁶ The activity-tested benefit definition has been adjusted for allowable breaks, but the time since last declared earnings definition has not been adjusted in this manner.

¹⁷ One might also refer to this as the 'time since Unemployment Start Date'.

unemployment duration relative to an ABS definition which specifically captures the period that an individual is actively seeking and available for work. Indeed we find that 57 per cent of unemployed individuals in the ACT first received an activity-tested benefit more than 12 months ago.

Using the time since last declared earnings to mark the start of an unemployment spell more closely aligns with ABS's method of measuring duration based on the date an individual last worked for pay. Using this definition of unemployment duration, we find a closer correspondence between DEWR and ABS estimates of the proportion of the unemployed population who are long-term unemployed. In particular, 26 per cent of individuals who were unemployed in the ACT at the end of August 2007 had an unemployment duration of more than 52 weeks. This is very close to the national average of 24.5 per cent as measured by the ABS in the first quarter of 2007.

At the same time, official ABS statistics for the ACT in the first quarter of 2007 indicate that the unemployment rate was 3.63 per cent, while the long-term unemployment rate was 0.44 per cent implying that the long-term unemployed made up 12.1 per cent of the ACT unemployment pool. Given the large standard errors surrounding the ABS estimate of long-term unemployment for the ACT, however, it is difficult to know whether the fraction of the unemployment pool that is long-term unemployed in the ACT differs from the national average. Thus, relative to ABS definitions, unemployment duration in the DEWR data is almost certainly overstated given the first method of determining duration and may or may not be overstated given the second. Overstating the duration of unemployment will tend to blur the distinction between individuals who are short- versus long-term unemployed in the DEWR data.

4.2 The Demographic and Human Capital Characteristics of the Long-term Unemployed:

The advantage of the DEWR data is that they provide a sample that is large enough to permit separate analysis of long-term unemployment in the ACT. Unfortunately, like most administrative data, they are somewhat limited in the information that they provide about an individual's demographic and human capital characteristics. We do not, for example, have information about an individual's family background or household

income. Consequently, we focus on the following: Indigenous status, nativity status, gender, age, and education. Education is coded into four categories: high school dropout, (includes primary, year 10, 'did not go' and 'unknown'), high school completion, vocational qualification ('trade or TAFE' or 'diploma'), and a university degree.

4.2.1 Descriptive Analysis:

Our interest is in understanding which demographic and human capital characteristics might differentiate between individuals who are long- versus short-term unemployed. We begin by using the measure of unemployment duration that is based on the date an individual last worked for pay (see Table 4.1), and follow by discussing results in which duration is based on the date an individual first received an activity-based payment (see Table 4.2). In each case, we will refer to the length of an individual's "unemployment" spell, though we recognize that both measures of unemployment potentially differ from standard ABS definitions (see Section 4.1).

Table 4.1
The Demographic and Human Capital Characteristics of the Short-term versus
Long-term Unemployed Populations
(DEWR Data – Time Since Last Declared Earnings Definition)

Characteristic	Short-term Unemployed Mean	Long-term Unemployed Mean
Unemployment duration (years)	0.23	3.30
Female (%)	39.9	33.9
Foreign-born (%)	23.1	25.9
Indigenous (%)	6.6	7.4
Age (years)	33.7	39.6
High school dropout (%)	51.1	56.8
Year 12 completion (%)	21.3	18.3
TAFE (%)	17.9	16.4
University (%)	9.6	8.5

The results in Table 4.1 indicate that the average duration of unemployment amongst those who last worked for pay more than 12 months ago is 3.3 years, while the short-term unemployed have spent approximately three months since they last worked

for pay. This disparity suggests that some individuals spend a considerable period of time out of work.

Women make up a somewhat smaller proportion of the long-term unemployment pool than the short-term unemployment pool (33.9 versus 39.9 per cent). At the same time, it is interesting that there is very little difference in the likelihood that short- and long-term unemployed individuals are Indigenous or foreign-born. This suggests that these demographic characteristics may be more important in understanding the probability of experiencing unemployment than in understanding the length of that unemployment spell. The long-term unemployed are somewhat older on average (39.6 versus 33.7 years old) and are more likely to have dropped out of high school (56.8 versus 51.5 per cent).

Table 4.2
The Demographic and Human Capital Characteristics of the Short-term versus Long-term Unemployed Populations
(DEWR Data – Time on Activity-Tested Benefit Definition)

Characteristic	Short-term Unemployed Mean	Long-term Unemployed Mean
Unemployment duration (years)	0.39	4.40
Female (%)	41.0	36.2
Foreign-born (%)	23.3	24.3
Indigenous (%)	5.5	7.8
Age (years)	32.8	37.1
High school dropout (%)	48.3	55.8
Year 12 completion (%)	23.3	18.5
TAFE (%)	17.8	17.4
University (%)	10.7	8.3

There are similar patterns in the characteristics of the long- versus short-term unemployed when we turn to a definition of unemployment duration that is based on the date the individual first received an activity-tested benefit. Here too women make up a somewhat smaller proportion of the long-term unemployment pool than they do the short-term unemployment pool, while the proportion of unemployed individuals who are

Aboriginal/Torres Strait Islander or immigrants does not vary substantially with the duration of unemployment. Individuals who last began receiving an activity-tested benefit than 12 months ago are somewhat older on average and are more likely to have dropped out of high school than are individuals who have been unemployed for less than 12 months. Given that individuals may be granted exemptions from meeting those activity tests however, it is likely to be the case that they do not actively seek work throughout this period.

4.2.2 Regression Analysis:

In order to account for multiple characteristics simultaneously, we again use probit regression to estimate the partial correlations between individuals' characteristics and the propensity to be long-term rather than short-term unemployed. We estimate separate regressions using our two alternative measures of unemployment duration. Each regression effectively differentiates between those whose current unemployment spell began more than 12 months ago and those whose current unemployment spell began less than 12 months. We estimate each model separately for men and women as well as for the total sample. As before, we report probit marginal effects (see Appendix Table 7).¹⁸

Irrespective of how we measure the duration of unemployment, unemployed women in the ACT are approximately five percentage points less likely than unemployed men to be long-term unemployed. This is very similar to the estimated gender differential of 4.5 percentage points we found using a nationally representative sample of unemployed individuals in the HILDA data (see Appendix Table 4). Foreign-born women are estimated to have a probability of being long-term unemployed that is 6.2 percentage points lower when we measure unemployment duration based on the time spent on an activity-tested benefit.

This effect disappears in the ACT estimates based on time since last declared earnings definition (which we believe more closely aligns with the ABS methodology for identifying the long-term unemployed) and is not present at a national level in the HILDA

¹⁸ Recall that the marginal effects are the change in the estimated propensity to be long-term unemployed versus short-term unemployed given a small change in continuous variables and a unit change in indicator variables.

data. Foreign-born men in the ACT are also somewhat less likely to be long-term unemployed when we measure duration using the time since last declared earnings definition, though these effects are relatively small (4.1 percentage points) and significant only at the 10 per cent level. Thus, conditional on being unemployed, nativity status seems to have little relationship with the duration of unemployment in the ACT.

At the same time, Aboriginals and Torres Strait Islanders living in the ACT are significantly more likely to be unemployed for more than 12 months irrespective of how we measure duration of unemployment. Specifically, Indigenous status is associated with a 5.1 percentage point higher probability of being long-term versus short-term unemployed using the time since last declared earnings definition and an 10.7 percentage point higher probability when using the time on activity-tested benefits definition. These effects are particularly pronounced for Aboriginal and Torres Strait Islander women and are consistent with national results derived from models that do not account for household income ranking or individual health (see Appendix Table 4).

In the ACT, the propensity to be unemployed for more than 12 months increases rapidly as individuals age. Specifically, the probability of being long-term versus short-term unemployed is 0.7-0.8 percentage points higher amongst individuals who are one year older. Moreover, the relationship between age and unemployment duration is remarkably consistent irrespective of the way in which we measure unemployment duration.

Finally, unemployed individuals are much less likely to be long-term unemployed the more education they have. Using the time since last declared earnings definition, individuals with a Year 12 education are 4.9 percentage points less likely to be in long-term unemployment than are similar individuals who did not complete Year 12. Those with a university education are 9.6 percentage points less likely to be unemployed long-term. The magnitude of the relationship between education and the propensity to be long-term unemployed is much the same for men and women and is not particularly sensitive to the way in which we measure unemployment duration in the DEWR data.

4.2.3 Summary:

Consistent with the national-level analysis of the HILDA data in Section 3, we find that unemployment duration in the ACT is related to both demographic and productivity-related characteristics. In particular, unemployment duration in the ACT is longer amongst men, older individuals, and Aboriginals/Torres Strait Islanders, though we find little effect of foreign-born status. Low education is also associated with a substantially higher probability of being long-term unemployed.

At the same time, we find little evidence of the substantial gender differences in the relationship between demographic/human capital characteristics and long-term unemployment rates on the other that were evident in the HILDA data. In the DEWR data for the ACT, the relationship between an individual's characteristics and the propensity of being long-term unemployed is much the same for both men and women. This may reflect the specific nature of the ACT labour market. Alternatively, it may reflect our inability to account for factors such as marital status, household income ranking, physical health and fathers' unemployment experiences in our analysis of the ACT.

4.3 The Geography of Long-term Unemployed:

The DEWR data indicate that as at the 31 August 2007 there were 4,111 unemployed individuals in the ACT – 1,069 of whom had last worked for pay more than 12 months previously.¹⁹ In order to assess whether there are particular neighbourhoods in the ACT that are more likely to be affected by long-term unemployment, we calculate the incidence of unemployment and long-term unemployment by the postcode of individuals' residence (see Table 4.3). These results show how unemployed individuals are geographically distributed across the ACT.

These results indicate unemployment in the ACT is geographically concentrated in certain neighbourhoods. In particular, one in four unemployed (24.7 per cent) and long-term unemployed (25.9 per cent) individuals live in either postcode 2602 (Ainslie, Dickson, Downer, Hackett, Lyneham, O'Connor, and Watson) or postcode 2615

¹⁹ In this section, we use the last declared earnings to mark the start of the unemployment spell because this measure of unemployment duration more closely aligns with the ABS measurement of long-term unemployment.

(Charnwood, Dunlop, Florey, Flynn, Fraser, Higgins, Holt, Kippax, Latham, Macgregor, Melba, Spence). Unemployed individuals are also likely to live in postcodes 2612 (Braddon, Campbell, Reid, and Turner), 2617 (Belconnen, Bruce, Evatt, Giralang, Kaleen, Lawson, and McKellar) and 2905 (Bonython, Calwell, Chisholm, Gilmore, Isabella Plains, Richardson, and Theodore). All together, these five postcodes are home to approximately half of the ACT's unemployed (49.9 per cent) and long-term unemployed (52.2) populations.

Interestingly, there is relatively little difference in residential patterns by unemployment duration. In other words, the short-term and the long-term unemployed tend to live in the same neighbourhoods. Of those unemployed individuals living in high-unemployment postcodes (specifically, 2602, 2615, 2612, 2617, and 2905), 27.2 per cent last worked for pay more than 12 months ago. This is nearly identical to the proportion of all ACT unemployed individuals (26 per cent) who are long-term unemployed.

In addition to the results shown in Table 4.3, we also tabulated the distribution of Indigenous unemployed across postcodes. Of the 280 Indigenous unemployed persons in the ACT, the most common postcodes of residence were 2612 (13 per cent), 2602 (11 per cent), 2615 (9 per cent), 2540 (9 per cent) and 2905 (7 per cent). The geographic pattern for long-term unemployed Indigenous people is quite similar. Although the small sample sizes make it difficult to draw definitive conclusions, the residential patterns of Indigenous unemployed individuals appear to be very similar to those of the unemployed population generally. The exception is the higher propensity for Indigenous individuals to live in postcode 2540 (Jervis Bay).

Table 4.3
The Distribution of the Unemployed Population across Postcodes in the ACT
(DEWR Data – Time Since Last Declared Earnings Definition)

POSTCODE	All Unemployed (U)		Long-Term Unemployed (LTU)		Share of U who are LTU
	Number	Share (%)	Number	Share (%)	%
0200	*	*	*	*	*
2540	27	0.66	10	0.94	37.04
2600	49	1.19	10	0.94	20.41
2601	14	0.34	*	*	*
2602	483	11.75	143	13.38	29.61
2603	150	3.65	50	4.68	33.33
2604	146	3.55	45	4.21	30.82
2605	90	2.19	19	1.78	21.11
2606	139	3.38	33	3.09	23.74
2607	106	2.58	26	2.43	24.53
2608	11	0.27	*	*	*
2609	49	1.19	19	1.78	38.78
2611	207	5.04	51	4.77	24.64
2612	395	9.61	145	13.56	36.71
2614	217	5.28	47	4.4	21.66
2615	533	12.97	131	12.25	24.58
2616	10	0.24	*	*	*
2617	330	8.03	74	6.92	22.42
2618	*	*	*	*	*
2620	21	0.51	*	*	*
2900	16	0.39	*	*	*
2901	*	*	*	*	*
2902	205	4.99	56	5.24	27.32
2903	101	2.46	26	2.43	25.74
2904	93	2.26	18	1.68	19.35
2905	310	7.54	65	6.08	20.97
2906	144	3.5	19	1.78	13.19
2912	35	0.85	10	0.94	28.57
2913	185	4.5	45	4.21	24.32
2914	41	1	*	*	*
Total	4,111	100	1,069	100	26.00

Note: To preserve confidentiality, cell sizes below 10 (and their accompanying frequencies) have been replaced with an asterisk.

5. Conclusion

Data from the ABS suggest that on almost all measures the ACT labour market is stronger than the national average. Unemployment, both short- and long-term, is substantially lower, while labour market participation and wage rates are higher. Still, the ACT labour market is small and employment is concentrated in relatively few industries. This implies that while the number of people who are long-term unemployed is likely to be relatively modest in the ACT – perhaps between 850 and 1100 individuals – finding employment may be particularly challenging for them, particularly if they have a lack of employment-related skills.

Our results for the ACT confirm those in the previous literature by indicating that both demographic and human capital characteristics (in particular education) are related to the duration of unemployment. Unemployment spells are generally longer for individuals who are older, have relatively low educational attainment, or are Indigenous. In general, the ACT results based on data provided by DEWR match national results based on HILDA data. However, while the HILDA sample suggests that there are large gender differences in long-term unemployment at the national level, we do not find substantial gender differences using DEWR data for the ACT. It is hard to know whether these differences are driven by the nuances of the ACT labour market or by the fact that the DEWR data contains fewer demographic variables than the HILDA data.

These results point to a number of directions for future research. First, some of the variables available to us in HILDA (in particular, father's unemployment history, household income ranking, and health status) appear to have particularly strong relationships with unemployment duration at the national level. This suggests that one might get a better understanding of long-term unemployment in the ACT if it were possible to exploit this sort of detailed information for a sample of ACT respondents. In particular, more detailed information about individual's health, labour market experience, etc. would be useful in identifying the specific barriers individuals face in finding employment. Moreover, household information (in particular, household income) would be useful in understanding the extent to which the long-term unemployed live in households with others who also experience labour market disadvantage.

Unfortunately, the overall size of the ACT population means that generating a large enough sample for analysis is likely to require a specialized survey.

Second, it is potentially useful to investigate the difference in the gender patterns of long-term unemployment at the national and local levels. Does this arise because of the specific nature of the ACT labour market or, does it result from our inability to account for certain characteristics (in particular health status and household income ranking) in the DEWR data for the ACT?

It is also potentially important to develop a deeper understanding of the geographic patterns in unemployment across the ACT. Specifically, what are the causes and consequences of geographic clustering in long-term unemployment? Is this geographic clustering tied to house prices and the availability of public housing, transportation networks, or to employment opportunities? And to what extent do individuals living in the same neighbourhood affect one another's behaviour? These are potentially important questions for researchers and policymakers, and answering them may help reduce the incidence of long-term unemployment in the ACT.

Finally, randomised trials may provide a promising source of information about the nature of long-term unemployment as well as the potential effectiveness of policy interventions targeted towards assisting the long-term unemployed in the ACT (Breunig et al. 2003; Leigh 2003).

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7. Appendix Tables

Appendix Table 1
The Demographic and Human Capital Characteristics of the Long-term Unemployed Population versus the Rest of Labour Force

Demographic and Human Capital Characteristics	Not long-term Unemployed ^a			Long-term Unemployed ^b		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
Age in years	41,472	37.4	12.6	493	36.9	13.8
Female (%)	41,472	46.7	49.9	493	39.1	48.8
Married (%)	41,472	62.1	48.5	493	36.2	48.1
Indigenous (%)	41,472	1.5	12.3	493	6.0	23.7
Born overseas (%)	41,472	24.5	43.0	493	32.5	46.9
Total years of education	41,442	12.3	2.1	493	11.0	2.0
Years of high school	41,436	11.0	1.2	493	10.2	1.3
Father unemployed >6 months (%)	35,584	11.4	31.7	387	21.0	40.8
Decile of household market income (excl. own income)	32,695	5.6	3.1	341	3.6	3.0
Physical health (0 – 100 scale)	37,268	89.6	17.1	408	80.4	21.8

^a This includes individuals who are working full-time, working part-time, or unemployed short-term, i.e. those unemployed for less than one year.

^b This includes individuals who 1) are currently unemployed and 2) were unemployed for the entirety of the previous fiscal year (see the text for more information).

Appendix Table 2
The Demographic and Human Capital Characteristics of the Short-term versus Long-term Unemployed Populations

	Short-term Unemployed ^a			Long-term Unemployed ^b		
	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
Age in years	1,878	29.5	12.8	493	37.0	13.8
Female (%)	1,878	47.5	50.0	493	39.1	48.8
Married (%)	1,878	33.7	47.3	493	36.2	48.1
Indigenous (%)	1,878	5.2	22.1	493	6.0	23.7
Born overseas (%)	1,878	27.1	44.5	493	32.5	46.9
Total years of education	1,877	11.4	1.9	493	11.0	2.0
Years of high school	1,877	10.7	1.2	493	10.2	1.3
Father unemployed >6 months (%)	1,388	20.2	40.2	387	21.0	40.8
Decile of household market income (exc. own income)	1,425	5.1	3.3	341	3.6	3.038
Physical health (0 – 100 scale)	1,624	86.9	20.8	408	80.4	21.8

^a This includes individuals who 1) are currently unemployed and 2) were not unemployed for the entirety of the previous fiscal year (see the text for more information).

^b This includes individuals who 1) are currently unemployed and 2) were unemployed for the entirety of the previous fiscal year (see the text for more information).

Appendix Table 3
The Propensity of Being Long-term Unemployed Conditional on Labour Market Participation
(Probit Marginal Effects)

1=LTU, 0=In Labour Force, not LTU						
	Persons	Women	Men	Persons	Women	Men
Age	0.0001** [2.13]	-0.0001* [1.74]	0.0003*** [5.08]	0.0000 [0.30]	-0.0002*** [3.72]	0.0002*** [3.28]
Female	-0.0026** [1.98]			-0.0008 [0.73]		
Married	-0.0127*** [6.24]	-0.0050** [2.20]	-0.0207*** [7.15]	-0.0051*** [2.93]	0.0002 [0.14]	-0.0108*** [4.29]
Indigenous	0.0272*** [4.43]	0.0351*** [4.26]	0.0194** [2.34]	0.0158*** [3.09]	0.0167*** [2.66]	0.0098 [1.50]
Born overseas	0.0080*** [4.45]	0.0042* [1.95]	0.0100*** [4.12]	0.0036** [2.34]	0.0013 [0.89]	0.0044** [2.10]
Total years of education	-0.0027*** [6.68]	-0.0023*** [4.56]	-0.0028*** [5.05]	-0.0017*** [5.25]	-0.0012*** [3.58]	-0.0019*** [3.91]
Father unemployed >6 mths	0.0069*** [3.29]	0.0033 [1.29]	0.0104*** [3.46]	0.002 [1.26]	-0.0009 [0.58]	0.0059** [2.37]
Decile HH market income (excl respondent)				-0.0009*** [4.36]	-0.0010*** [4.19]	-0.0008** [2.53]
Physical health (0 - 100)				-0.0001*** [4.49]	-0.0001*** [4.67]	-0.0001** [2.24]
Pseudo R2	0.093	0.063	0.135	0.115	0.126	0.151
Mean	0.012	0.010	0.014	0.009	0.008	0.01
Persons	10836	5258	5578	9290	4575	4715

Absolute value of z statistics in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

Appendix Table 4
The Propensity of Being Long-term Unemployed Conditional on Being Unemployed
– HILDA Data
(Probit Marginal Effects)

	1=LTU, 0=In Labour Force, not LTU					
	Persons	Women	Men	Persons	Women	Men
Age	0.0083*** [7.55]	0.0031** [2.07]	0.0125*** [9.15]	0.0055*** [4.47]	-0.0001 [0.08]	0.0100*** [6.60]
Female	-0.045 [1.63]			-0.0251 [0.87]		
Married	-0.0644* [1.96]	-0.0013 [0.03]	-0.1277*** [3.13]	-0.0221 [0.61]	0.0121 [0.26]	-0.0608 [1.37]
Indigenous	0.0542 [0.93]	0.1467** [2.04]	0.0129 [0.15]	0.0355 [0.51]	0.1531 [1.56]	-0.0452 [0.52]
Born overseas	0.041 [1.23]	-0.0313 [0.77]	0.1066** [2.31]	-0.0069 [0.18]	-0.0678 [1.59]	0.0444 [0.83]
Total years of education	-0.0294*** [3.95]	-0.0190** [2.01]	-0.0398*** [3.47]	-0.0265*** [3.28]	-0.0101 [0.97]	-0.0361*** [3.07]
Father unemployed >6 mths	0.0566 [1.56]	0.0168 [0.36]	0.1032** [2.02]	0.0017 [0.04]	-0.0542 [1.19]	0.0879 [1.47]
Decile of HH market income (excl respondent)				-0.0172*** [3.60]	-0.0152** [2.35]	-0.0189*** [2.59]
Physical health (z-score)				-0.0013* [1.65]	-0.0023** [2.29]	-0.0004 [0.36]
Pseudo R2	0.076	0.027	0.141	0.098	0.065	0.178
Mean	0.235	0.196	0.268	0.200	0.172	0.227
Persons	1356	646	710	929	464	465

Absolute value of z statistics in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%

Appendix Table 5
The Demographic and Human Capital Characteristics of the Short-term versus
Long-term Unemployed Populations
(DEWR Data – Time Since Last Declared Earnings Definition)

Characteristic	Short-term Unemployed			Long-term Unemployed		
	N	Mean	SD	N	Mean	SD
Unemployment duration (years)	3042	0.23	0.257	1069	3.30	2.8
Female (%)	3042	39.9	49.0	1069	33.9	47.3
Foreign-born (%)	3042	23.1	42.2	1069	25.9	43.8
Indigenous (%)	3042	6.6	24.8	1069	7.4	26.2
Age (years)	3042	33.7	12.8	1069	39.6	13.0
High school dropout (%)	3042	51.1	50.0	1069	56.8	49.6
Year 12 completion (%)	3042	21.3	41.0	1069	18.3	38.7
TAFE (%)	3042	17.9	38.4	1069	16.4	37.0
University (%)	3042	9.6	29.5	1069	8.5	27.9

Appendix Table 6
The Demographic and Human Capital Characteristics of the Short-term versus
Long-term Unemployed Populations
(DEWR Data – Time on Activity-Tested Benefit Definition)

Characteristic	Short-term Unemployed			Long-term Unemployed		
	N	Mean	SD	N	Mean	SD
Unemployment duration (years)	1772	0.39	0.272	2337	4.40	3.8
Female (%)	1772	41.0	49.2	2337	36.2	48.1
Foreign-born (%)	1772	23.3	42.3	2337	24.3	42.9
Indigenous (%)	1772	5.5	22.8	2337	7.8	26.9
Age (years)	1772	32.8	12.7	2337	37.1	13.1
High school dropout (%)	1772	48.3	50.0	2337	55.8	49.7
Year 12 completion (%)	1772	23.3	42.3	2337	18.5	38.9
TAFE (%)	1772	17.8	38.2	2337	17.4	37.9
University (%)	1772	10.7	30.9	2337	8.3	27.7

Appendix Table 7
The Propensity of Being Long-term Unemployed Conditional on Being
Unemployed – DEWR Data
(Probit Marginal Effects)

	Time Since Last Declared Earnings Definition			Time on Activity-Tested Benefit Definition		
	Persons	Women	Men	Persons	Women	Men
Female	-0.0533*** [3.80]			-0.0540*** [3.35]		
Foreign-Born	-0.0231 [1.38]	0.0052 [0.20]	-0.0408* [1.86]	-0.0302 [1.54]	-0.0618** [1.96]	-0.0093 [0.37]
Indigenous	0.0505* [1.76]	0.1141** [2.50]	0.0119 [0.33]	0.1067*** [3.40]	0.1408*** [2.71]	0.0858** [2.18]
Age	0.0074*** [13.29]	0.0050*** [6.21]	0.0093*** [12.09]	0.0076*** [11.61]	0.0074*** [7.44]	0.0078*** [9.01]
Year 12	-0.0490*** [2.78]	-0.0654** [2.39]	-0.0399* [1.74]	-0.0877*** [4.26]	-0.1194*** [3.52]	-0.0716*** [2.77]
TAFE	-0.0647*** [3.55]	-0.0551** [2.02]	-0.0732*** [3.01]	-0.0684*** [3.12]	-0.0631* [1.83]	-0.0755*** [2.66]
University	-0.0956*** [4.15]	-0.0950*** [2.67]	-0.1008*** [3.34]	-0.1510*** [5.23]	-0.1410*** [3.00]	-0.1629*** [4.43]
Observations	4111	1575	2536	4109	1574	2535
Pseudo R2	0.044	0.034	0.052	0.033	0.036	0.029
Mean	0.26	0.23	0.279	0.569	0.538	0.588

Absolute value of z statistics in brackets. * significant at 10%; ** significant at 5%; *** significant at 1%
Excluded education category is high school dropouts.