Research report 2/2017

The youth labour market

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1 Introduction

Youth are a relevant part of the labour force to consider during annual wage reviews as youth are more likely to be reliant on awards to set their rate of pay.[1] In the *Annual Wage Review 2015–16* Decision, the Expert Panel noted that the youth labour market has been affected by longer term changes such as "a marked rise in the levels of education of young people and the increased labour force participation amongst the 15–24 year old population in education" ([2016] FWCFB 3500: para. 282).

The youth labour market is distinct from the rest of the labour market as young people in the process of acquiring skills and experience are more likely to be new entrants. Accordingly they are more easily affected by labour market contractions. They are also more likely to be engaged in study, particularly full time, limiting their ability to participate in the labour market (Gilfillan 2016).

While much of the previous literature focuses on either labour market or education outcomes for youth, this paper aims to examine these issues in parallel through the following research questions:

- What factors influence the labour market outcomes of youth?

- What are the different labour force outcomes between youth who are full-time students and youth who are not and why? Has this changed over time?

Although a junior employee is defined in the Fair Work Act as "a national system employee who is under 21",[2] the youth labour market is characterised by individuals aged 15–24 years throughout the paper.

The research contributes to the existing literature by using the most recent data from the Household Income and Labour Dynamics of Australia (HILDA) Survey to analyse the characteristics of the youth labour market. In doing so, the research takes advantage of the longitudinal nature of the data to allow for a consideration of changes over time, in particular, the effect of the global financial crisis (GFC).

The paper is structured into two parts. The first part provides a literature review of relevant Australian studies that examine the labour market outcomes for youth, as well as the effect that education and the economic cycle has on these outcomes. This part also addresses the first research question, which considers a range of household, individual and work characteristics likely to affect youth labour market outcomes and compares them with the rest of the working age population. The analysis presented in the final part of the paper is restricted to youth in order to compare the labour market outcomes of students studying full-time with other young people and to determine whether these differences have changed over time.

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[1] ABS, *Employee Earnings and Hours, May 2016, Australia*, Catalogue No. 6306.0.

[2] s.12, *Fair Work Act 2009* (Cth).

Part I

2 Literature review

The literature review summarises some of the recent studies that analyse labour market outcomes for youth aged 15–24 years in Australia as well as the effect that education and the economic cycle has on labour force outcomes.

Using data from the Labour Force Survey, AWPA (2014) found that young people were less likely to be in full-time employment and more likely to begin full-time employment at a later age. While the proportion of youth in full-time education or training increased between 2002 and 2013, so did the proportion of young people employed on a casual basis. AWPA also found that underutilisation are resolved for most people once they reach the 25–34 year age group.

Using data from the Census Longitudinal dataset for 2006–2011, AWPA (2014) examined two different types of level of engagement among youth. The first referred to young people not employed full time, not engaged in full-time education or training or not engaged in both part-time employment and part-time education or training (not fully engaged (NFE)). They described this group as young people who may have spare capacity to participate in the labour market or in education or training, or increase the number of hours in which they work. The analysis found an increase in NFEs for young adults aged 20–24 years between 2009 and 2013 and that over one quarter of young adults were NFE compared with one in seven teenagers aged 15–19 years. Further analysis showed that the growth in NFEs among young adults was mainly due to an increase among females, reflecting that females are more likely to be employed part time. Socioeconomic background was found to be associated with the probability of being NFE, with those in lower socioeconomic status having a higher proportion of young people NFE.

The second level of engagement was broader in that youth could be only working or studying part time to be considered fully engaged. It was found that socioeconomic disadvantage played a much greater role for non-participation of those aged 20–24 years than for teenagers.

Skattebol et al. (2015) analysed how young people transition to work once they have completed full-time education and explained that structural changes in the labour market and policies on education participation have influenced the transition of young people from school to work. In comparing the unemployment rates of young people with the rest of the labour force, Skattebol et al. (2015) explained that young people are more affected by economic downturns as shown by larger increases in unemployment rates. For the most recent downturn, Skattebol et al. explained that as relatively more young people aged 15–19 years were studying they were less affected. Although previous research has shown that the wage returns to education and training increase during a downturn, Skattebol et al. (2015) found that there was not much evidence for this in the most recent downturn.

A number of studies examined the probabilities of youth entering the labour force and the effect education had on these outcomes.

Biddle (2007) analysed the decision to work by students still at school using the 2001 Census. The study used three separate probit models to test the probability of being employed, unemployed and not in the labour force. Geographic variables included state/territory and remoteness, where the study found that a higher distance from major cities was associated with a lower probability of 16–18 year olds in work. Biddle also found that being in single-parent families for students was

associated with a lower probability of working than those who lived in couple families. Being from a non-English speaking background or living in households with low income was associated with a lower probability of working.

Baum and Mitchell (2008) used the HILDA survey to test the probability of labour market outcomes for youth aged 15–24 years. The paper also used three separate probit models to test characteristics associated with the probability of youth being adequately employed, employed part-time involuntarily or unemployed. The sample was restricted to those who were participating in the labour force. Data was taken from wave 1 of the HILDA survey (2001) as well as the 2001 ABS, Census of Population and Housing (Census) to control for regional variables, such as the local unemployment rate and demand side factors.[3]

The study found that having a post-secondary education and being married was associated with a higher probability of being adequately employed. Being female, having higher educational attainment, more years in paid employment and studying was associated with a lower probability of being unemployed. The presence of children and having English as a second language was associated with a lower probability of being adequately employed and involuntarily part-time employed. A higher local unemployment rate was also associated with a lower probability of being adequately employed.

Herault et al. (2010) used a multinomial logit to assess the effects of different macroeconomic circumstances on youth (18–30 years) who have left school (before or after completing Year 12) using the Longitudinal Survey of Australian Youth (LSAY). The paper tested the association with being in one of seven states made up of various combinations of labour force and education outcomes and whether they were associated with variables such as age, country of origin, family structure, current education living, parents' education and employment as well as living arrangements. To account for macroeconomic factors, gross domestic product (GDP) and unemployment rates were also included. Results were estimated separately for males and females.

The analysis found that completing Year 12 was associated with a lower probability of being unemployed, compared with youth who have not completed Year 12. Similar to the work undertaken by Baum and Mitchell, higher unemployment rates were associated with a lower probability of full-time work for most groups of males and a higher probability of part-time work. Higher unemployment was also associated with a lower probability of working full time for females and a higher probability of working part time or not being in the labour force. Males that did not complete Year 12 were the worst affected from an increase in unemployment.

The association with GDP growth was found to be small and limited, however, the effect of GDP growth was stronger for females than males, particularly an increase in the probability of working full time. However, those who had completed Year 12 were more likely to undertake further study. The unemployment rate was found to have a greater effect than GDP growth.

Using the LSAY, Anlezark and Lim (2011) estimated that around one-third of school students combined school and work. An analysis of some of their characteristics found that while females were more likely to work than males, on average, males worked longer hours and that working around five hours per week positively impacts full-time employment prospects after school.

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[3] The aggregate unemployment in 2001 was just under 7 per cent.

However, Anlezark and Lim (2011) explained that the jobs performed by young people while studying do not resemble their careers.

Some studies specifically examined the effect of more recent economic conditions on the youth labour market. They generally found that labour market outcomes of youth were associated with economic conditions.

Bowman et al. (2015) argued that while teenagers and young adults tend to be impacted more during downturns and in the subsequent recovery, this has not been evident since the GFC. While much of the employment growth since the GFC has been generated in service industries, Bowman et al. found that young people have not fared as well as older workers (25 years or older), arguing that the shift towards services had a negative impact on younger people.

According to Bowman et al., the increase in the proportion of people completing Year 12 or an equivalent has been encouraged by policy changes, including increasing the mandatory school leaving age to 17. For example, the Council of Australian Governments set a target to raise the Year 12 or equivalent attainment rate by 2015 and again by 2020. Therefore, higher participation in tertiary and vocational education has led to more young people with post-school qualifications.

However, Anlezark (2011) examined the experiences of young people in an economic downturn, in particular, the effect of the GFC. The study noted that between 1980 and 2009 there was an increase in the proportion of young people in full-time education, decrease in the proportion in full-time work, an increase in the proportion of full-time students who work and a change in the occupation and industry mix of employment. Anlezark found that young people in full-time employment tended to work in the industries that were negatively affected during the downturn, such as construction, retail and hospitality. However, the overall effect of the industries in which young people were employed had only a small effect as all young people were more likely to lose their jobs due to less experience and skills, compared with older workers.

Chesters and Baffour (2015) examined if the GFC encouraged young people to complete Year 12 and whether it affected post-school outcomes. The analysis compared three cohorts of 16 and 17 year olds grouped by when they completed secondary school: pre, during and post the GFC. Each cohort was tracked until they reached 20 or 21 years of age. Using a series of logistic regressions to estimate an odds ratio, the analysis did not find any differences across the cohorts in the completion of Year 12. However, the post-GFC cohort was less likely to be fully engaged compared with the other two groups. Being in the GFC and post-GFC cohort was negatively associated with both full-time and part-time employment while being in the GFC cohort increased the likelihood of studying full time relative to not studying at 20 or 21 years old compared with the pre-GFC cohort, this was found for only one of four models estimated.

Across all cohorts, young people who were employed part-time while at school when 16 or 17 years old were more likely to be either full or part-time employed at 20 or 21 years old. Also, living in regions with a high unemployment rate was associated with higher odds of not completing Year 12, suggesting that economic conditions are not a factor in the decision to complete secondary school and stay in education.

OECD (2016) provided an assessment of the Australian youth labour market (15–29 year olds) and contended that it performed "much better" than the OECD average since the onset of the GFC, however, the rate of involuntary part-time employment (or underemployment) among youth was found to be higher than the OECD average.

In the analysis using the HILDA survey, the OECD followed a cohort of 16 year olds for eight years over the period 2001 to 2012 to track their transition from school into further education or the labour market. The analysis found that the majority of youth spent a relatively short time (fewer than 6 months) not in employment, education or training (NEET), although one in five spent more than 12 months as a NEET.

These studies suggest that there are a myriad of factors likely to influence youth labour market outcomes which include a range of personal and household characteristics, as well as the economic climate.

While combining work and study is not uncommon among youth, the literature finds that their decision to engage in one or both activities or not to engage at all can be influenced by their socioeconomic status, country of origin, family composition and in recent times the onset of the GFC. These characteristics are further explored in the following Chapters.

3 Factors that influence labour market outcomes

This chapter uses two separate multinomial logit models to respond to the first research question by analysing factors that influence youth labour market outcomes, drawing on characteristics that have been presented in the literature. Each model is disaggregated by age—that is, youth (15–24 years) and the rest of the working age population (25–64 years) to determine if the characteristics of the youth labour market are different between the groups. Both models are also disaggregated to account for differences across gender, as in Herault et al. (2015).

The first model in this chapter pools all 15 waves of the HILDA survey and examines factors that influence the three labour market outcomes: employed, unemployed and not in the labour force. The second model incorporates information on award reliance which is only captured from wave 8 in the HILDA survey and is therefore restricted to pooling waves 8 to 15. This model examines factors associated with underemployment.

While the HILDA survey provides rich information on work, individual and household characteristics, it does not identify employees receiving a junior rate of pay and no consideration of earnings is performed throughout the report.

Table 1 presents a summary of the labour force outcomes for youth and the rest of the working age population for 2001 and 2015, the first and last years of the HILDA survey. The table shows that employment growth for the rest of the working age population was more than twice the rate for youth over the period (31 per cent compared with 14 per cent). In addition, full-time employment decreased for youth while it increased by around one quarter for the rest of the working age population.

Another distinct difference between the two groups is the unemployment rate. Although the table presents two different points in time, these mask the fall and then rise in the unemployment rates for each group in the years between 2001 and 2015. The underemployment rate is also relatively higher for youth than the rest of the working age population.

The youth participation rate fell by over three percentage points while for the rest of the working age population it increased by over four percentage points. AWPA (2014) found that removing those in full-time education showed that the fall in the participation rate of young people was reduced.

Table 1: Summary of labour force statistics, 2001 and 2015

	Youth		Rest	
	2001	**2015**	**2001**	**2015**
Total employment ('000s)	1600.0	1830.5	7268.8	9491.8
Full-time employment ('000s)	894.3	872.1	5573.2	7055.4
Part-time employment ('000s)	705.7	958.3	1695.7	2436.4
Part time as proportion of total (%)	44.1	52.4	23.3	25.7
Employment to population ratio (%)	61.1	58.5	71.0	75.6
Unemployment rate (%)	13.5	13.1	5.2	4.8
Participation rate (%)	70.7	67.3	74.9	79.3
Not in labour force ('000s)	767.5	1023.3	2567.1	2594.1
Underemployment ('000s)	217.5	358.1	416.9*	690.0*
Underemployment rate (%)	11.8	17.0	4.4*	5.7*

Note: All data are in original terms. *For all employed persons aged 25 years and over.

Source: ABS, *Labour Force, Australia, Dec 2016*, Catalogue No. 6202.0.

For a more comprehensive analysis of the trends in the youth labour market over the 20 years to 2015, see Denny and Churchill (2016).

3.1 Labour market outcomes

This section uses a multinomial logit, a type of regression where the dependent variable takes more than two values—in this case employed, unemployed and not in the labour force. This approach estimates the association between each labour market outcome and an explanatory variable, holding the effects of all the remaining explanatory variables constant. The multinomial logit approach is distinctive because it models the probabilities of being in each of the mutually exclusive labour market outcomes.

The explanatory variables used in the model comprise individual and household characteristics and are discussed below.

Students are defined as those studying a post-secondary course or those still at school.

Family type is considered because the composition of the family may influence whether an individual participates in the labour force. Family type consists of seven categories: couples without children (base category); couples with dependent children; couples without dependent children; lone parents with dependent children; lone parent and without dependent children; lone persons; and Other family type, such as multi-family households. However, youth and the rest of the working age population in the sample that fall within the same category of family type may represent a different member of the family. For example, youth with dependents are likely to have younger dependents than older individuals with dependents. In most cases, the position of youth will be different to that of the rest of the working age population.

Area of residence is based on a derived variable that categorises respondents into major cities (base category), regional and remote areas using the Australian Statistical Geography Standard.[4]

Socioeconomic status (SES) is based on an index of relative socioeconomic advantage/disadvantage developed by the ABS and based on the Census.[5] Respondents were put into a categorical variable based on quintiles, where the first quintile refers to the lowest socioeconomic status (base category) and the fifth quintile the highest.

Country of birth is separated into Australia (base category), other English-speaking countries and non-English speaking countries.

The state or territory was categorised into *mining* (Western Australia, Queensland and Northern Territory) and non-mining areas (New South Wales, Victoria, South Australia, Tasmania and Australian Capital Territory) (base category) to account for state/territory-based conditions.

Another indicator is for persons *living with parent at age 14*.

Table A1 provides descriptive statistics for each of the variables used in the analysis. The total sample contained 182 661 respondents, including 39 948 who were youth.

Table A4 shows the marginal effects of the multinomial logit for each characteristics and its association with the probability of being in each labour market outcome for male and female youth and the rest of the working age population.[6] These results only indicate associations and do not infer causality.

For some characteristics there was little or no variation. Those in a higher socioeconomic advantage were associated with a higher probability of being employed and a lower probability of being unemployed and not in the labour force for each group, as found by Biddle and AWPA. Living with parents at age 14 was also associated with a higher probability of being employed for each group.

Regardless of age or gender, those born in a country with a non-English speaking background were associated with a higher probability of not being in the labour force compared with those born in Australia. However, for those born in a country with an English speaking background, male youth were associated with a higher probability of being employed while female youth were associated with a higher probability of not being in the labour force.

Differences between the groups were found across most other characteristics. Living in a mining state were associated with a higher probability of being employed for youth, while there were no statistically significant effects found for males or females in the rest of the working age population.

Being a student had different effects for male and female youth. Among female youth and females and males in the rest of the working age population, being a student was associated with a higher probability of employment and a lower probability of not being in the labour force. For male youth, studying was associated with a higher probability of not being in the labour force. These findings

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[4] ABS (2011), *Australian Statistical Geography Standard (ASGS), Volume 5 – Remoteness Structure, July 2011*, Catalogue No. 1270.0.55.005.

[5] ABS (2011), *Census of Population and Housing: Socio-Economic Indexes Notes: for Areas (SEIFA), Australia*, *2011*, Catalogue No. 2033.0.55.001.

[6] The regression analysis uses unweighted data and standard errors are clustered at the individual data level.

were similar to Anlezark and Lim (2011). However, for both male and female youth, studying was associated with a lower probability of being unemployed, suggesting that youth that are studying are either in work or not looking for work.

The main difference between youth and the rest of the working age population that were studying was regarding unemployment. For youth, being a student was associated with a lower probability of being unemployed and a higher probability for students in the rest of the working age population. This finding was similar to Baum and Mitchell.

Living in a remote area was associated with a lower probability of being unemployed for youth and was not statistically significant for the rest of the working age population compared with living in a major city.

Among family type, youth in a "couple with dependents" were associated with a lower probability of being employed, while males in a "couple with dependents" were associated with a higher probability of being employed in the rest of the working age population.

Lone parent families with dependents were associated with a lower probability of being employed and a higher probability of not being in the labour force, with the magnitude much higher for youths. This finding was similar to Biddle.

3.2   Employment outcomes

This section explores whether youth and those in the rest of the working age population are satisfied with the hours that they work. Using a multinomial logit, the dependent variable takes three values—employed full-time, adequately employed part-time and underemployed.

Underemployment is constructed using a variable from the HILDA survey that asks whether employed persons would like to work more, fewer or about the same number of hours that they currently do, taking into account the change in income. Underemployment is restricted only to part-time employees, as per the definition used by the ABS.[7] Those who are adequately employed part time are those who work part-time hours and do not prefer to work more hours.

The explanatory variables in this section are restricted to work characteristics. These include an indicator for award-reliant employees, derived from the question asking respondents how their pay is currently set. As this question was only asked from wave 8, the data in this section only includes pooled waves 8 to 15. Table A3 provides descriptive statistics for each of the variables used in the analysis.

Other explanatory variables are occupation, based on the ANZSCO, and industries, based on ANZSIC classifications, with some similar industries grouped to simplify the analysis.

The only remaining explanatory variable from the previous analysis is the variable for studying. Four models are again estimated based on gender and youth.

The marginal effects are presented in Table A5 and show that, overall, there are many similarities between the employment outcomes between youth and the rest of the working age population with most differences found in the magnitudes, suggesting stronger effects among youth. Being award

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[7] Whether employees were available to work more hours, as per the ABS definition, was not considered.

reliant was associated with a lower probability of being employed full-time and a higher probability of being underemployed or adequately employed part time.

Studying was found to be associated with a lower probability of being employed full time, particularly among youth, where it was associated with a higher probability of being adequately employed part time. Being a student was associated with a higher probability of being underemployed for the rest of the working age population and for male youth.

There was also an association between the type of occupation that individuals worked and their employment outcomes. Compared with Managers (base category), each occupation was associated with a lower probability of full-time employment. While there were few differences between youth and the rest of the working age population, the main differences were in the magnitude of the association.

With the exception of Sales workers, each occupation was associated with a higher probability of being adequately employed part time for females in the rest of the working age population compared with female youth where occupations were associated with a higher probability of being underemployed. This result was the opposite for males, with occupation associated with a higher probability of male youth being adequately employed part-time than males in the rest of the working age population.

Similarly with industries, compared with Agriculture/Mining/Utilities (the base category), the magnitudes were higher among youth than the rest of the working age population. Working in Retail trade, Accommodation and food services, Health care and social assistance and Education and training was associated with a lower probability of working full time across all groups and a higher probability of working part time or being underemployed. In most cases, it was associated with a higher probability of working part time than being underemployed. These stronger effects among youth concur with Bowman et al., who find that the shift towards services has had a negative effect on young people.

3.3   Summary

The youth labour market has experienced higher part-time employment and lower participation than the rest of the working age population, with the unemployment rate remaining much higher. Overall, the analyses showed some differences in the labour market and employment outcomes between youth and the rest of the working age population and the findings were similar to the studies reviewed.

Differences in labour market outcomes were found to be associated with the state in which individuals lived, whether they were currently studying, certain family types and whether individuals were born outside of Australia in an English-speaking country. The association between socioeconomic status, living with parents at age 14 and born in a non-English speaking country and labour market outcomes was not found to differ between youth and the rest of the working age population.

Occupations and industries in which people worked were associated with different employment outcomes. While there were few differences between the groups, the main difference was in the magnitude of the marginal effects, which showed that, for youth, many occupations and industries were associated with a higher probability of being adequately employed part-time and underemployed.

The association between studying and employment outcomes differed between the groups. For youth, studying was found to have a negative association with the probability of being unemployed and a positive association with being adequately employed part time.

As mentioned, studying is an important activity for youth. Part two of this paper expands on this analysis by examining differences between full-time students and other young people. It includes changes over time and the transition from education to the labour market occurs as youth change from teenagers to young adults. The analysis is enhanced by comparing the outcomes for full-time students with other 15–24 year olds.

Part II

4 Labour market activities of full-time students and other young people

Young people aged 15–24 years comprise a varied group. In this age range, most young people transition from full-time study in schools and other educational institutions into adult economic roles, involving longer hours of work, moves from parental homes into accommodation arrangements they are responsible for, longer-term relationships and in some cases their own family formation. The focus of this section is on how young people's labour market activities differ between full-time students and non-students (strictly, non-full-time students in the analysis that follows). A related question dealt with in this section is how much these differences might have changed over time, specifically over the last fifteen years or so.

The data used for this analysis are taken from Waves 1 to 15 of the Household Income and Labour Dynamics in Australia (HILDA) Survey (see Summerfield et. al 2016), covering the period from 2001 to 2015. Those interviewed each year in HILDA are asked detailed questions about: their current housing arrangements; education and labour market participation; income; and their living circumstances, including their finances and general life satisfaction. The responses to questions about current education and labour force participation activities, as well as the characteristics of their jobs, are used in this study to trace changes in the youth labour market between 2001 and 2015. All observations used from the HILDA survey analysed here were of individuals aged at least 15 years of age and no older than 24 years of age. Individuals over 24 years were included for the years when their age was no older than 24 years.

Results from two types of descriptive analyses are reported here. The first combines the data from all years from the HILDA survey and examines how young people aged 15–24 years make the transition out of full-time schooling and how they progress through different labour market states. For student status, we distinguish between young people who are full-time students and those who are not full-time students (and generally refer to them as "non-students"). By labour market states, we mean whether young people are full-time employed, part-time employed with no expressed preference to work more hours, part-time employed who would prefer to work more hours (the underemployed identified in HILDA), the unemployed and those not in the labour force. The second set of descriptive analyses involves an examination of how young people's student status and labour market status have changed over the period 2001 to 2015.

4.1 Young people in transition

At age 15, almost 100 per cent of young Australians are full-time students. By age 24, this proportion falls to close 15 per cent, for both males and females (see Figure B1).[8] The pattern of decline with age is similar for males and females, though the proportion of females who are students is higher than for males at all ages. For both genders, the proportion who are full-time students falls sharply between 15 and 18 years, at which point the rate of decline becomes slower, presumably because many post-school qualifications require multiple years to complete.

Consistent with their full-time student status, most 15-year-old Australians are out of the labour force. Figure B2 shows how the labour market activities individuals engage in change as they age.

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[8] The data used in all figures involve weighted data estimates. The weight variable used is the yearly responding person cross-section weight _hhwtrps.

The left panel shows the pattern for females; the right, the pattern for males. At age 15, the majority of both males and females are not in the labour force, while a large group of young people work part-time and are content with their hours of work. By age 24, the majority of young people work full-time (70 per cent of males and 54 per cent of females). For males, the proportions in all activities other than full-time work decline from around age 20 through to age 24. For females this is true of part-time employment, underemployment and unemployment, while the proportion not in the labour force shows some sign of increasing marginally from age 20, presumably reflecting the impact of early family formation patterns. Across ages, the proportion underemployed tends to be higher than the proportion unemployed and is higher for females than males (16.5 per cent across all ages, compared to 13.1 per cent for males).

4.2   Differences between full-time students and other young people

Differences in the labour market states of young people who are and are not full-time students are highlighted in Figure B3. It contains the labour market activities that males and females in the HILDA panel engaged in between 2001 and 2015. The data are pooled across all years and ages. The distributions across labour market activities are shown for the entire male and female populations, as well as separately for full-time students and non-students.

The distributions vary substantially between full-time students and non-students, and between male and female 15 to 24 year olds. Between students and non-students, many fewer students work full-time (less than 10 (5) per cent of male (female) students compared to over 60 (just under 50) per cent of non-students), while more students work part-time or are not in the labour force. Many more males than females work full-time and fewer work part-time or are underemployed. Across all groups, the proportion unemployed is quite similar, at less than 10 per cent of the population.

4.3   Differences between students and others over time

Over the period studied here, the proportion of young people who were full-time students increased. This is shown in Figure B4, which depicts the year-by-year full-time study participation rates from 2001 to 2015 for males and females with the populations split into 15–19 and 20–24 year old age groups. The full-time student participation rate ranged between 64 and 78 per cent for 15–19 year olds and between 17 and 34 per cent for 20–24 year olds. Once more, the female rate is generally above the male full-time student rate for both age groups. The data also show a clear upward trend for all series after 2008 or 2009, presumably reflecting the onset of the GFC after 2008.

The labour market activities individuals aged 15 to 24 years old engaged in for each year between 2001 and 2015 are shown in Figure B5, for females in the left panel and males in the right. Over the entire period, around one-quarter of women worked full-time, one-quarter worked part-time and were happy with their hours, one-quarter were underemployed or unemployed, and one-quarter were not in the labour force. Post 2008, fewer women worked full-time and more were employed part-time, were underemployed or were not in the labour force. This pattern of declining job outcomes was more marked for males, with the post-2008 decline in full-time employment substantially sharper than that for females. More females than males (16.5 compared with 13.2 percent) indicate that they are underemployed. In general, underemployment did not exhibit any strong cyclical patterns, but was higher in 2015 by 2 to 3 percentage points than it had been in 2001 for males and females.

The labour market activities of females are shown in Figure B6 for full-time students and non-students in the two panels. The proportions in each activity are markedly different between female full-time students and non-students, with the part-time employment and not in the labour force categories dominating the student distributions, and full-time work dominating the non-student distribution. Over time, the full-time student proportions show little by way of obvious trend changes, though the proportion employed full-time among non-students falls following 2008 and the proportions employed part-time or underemployed both rise after 2008.

The patterns for male full-time students and non-students in Figure B7 are broadly similar. Once more, the differences are more marked between full-time students and non-students than they are over time. The not in the labour force and the part-time employment categories also dominate the male student distributions, with full-time work dominating the male non-student distribution. The decline in the proportion employed full-time after 2008 is most marked among the male non-student population than it is among students, as well as being more marked than it is for female non-students.

4.4   Multivariate regression results

Multivariate multinomial logit estimation approaches were also used to assess whether the probability an individual was in one of the five labour force activities could be explained by a group of variables including full-time student status, age controls, variables capturing change over time and a set of demographic characteristics.[9] The multivariate multinomial logit approach estimates the association between each employment status and a given explanatory measure, such as age, holding the effects of all of the explanatory measures constant. These are sometimes referred to as adjusted or conditional associations. The multinomial logit approach is distinctive because it models the probabilities of being in each of the five mutually exclusive labour market states. The main interest in using this model was to see whether it could capture the patterns in the data apparent over time in a parsimonious way and whether the full-time student effect changed over the estimation period or not.

The multivariate analysis confirmed the patterns already shown in the data. First, whether an individual was a full-time student had a significant impact on which activity an individual was observed in, being associated with an increase in the probabilities an individual was not in the labour force or employed part-time and with a decrease in the probability they were employed full-time. Second, there were changes over time in the activities individuals engaged in, with the impact of the GFC being particularly felt in the male labour market. Third, the magnitude of the full-time student effect differed with the age of the individual and changed over time, becoming marginally smaller but still operating in the same direction.[10]

The detailed multinomial logit regression results appear in Appendix tables B4 and B5 for females and males respectively, with aspects of the results summarised in the tables that follow. The specification involved regression of the current activities on current student status, individual age, the calendar year (including interactions between calendar year and current student status), along

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[9] The regression analysis uses unweighted data. Standard errors are clustered at the individual data to account for dependent data at that level.

[10] Statistical tests rejected null hypotheses of: no full-time student effects; no change in conditions over time; and no change in the full-time student effect over time for both males and females.

with a set of demographic, background characteristics.[11] The background characteristics included a measure of the family's socioeconomic status (SES, based on the highest occupational prestige value for the individual's parents when the individual was aged 14 years), whether the individual lived with both parents at age 14; dummy variables for whether the individual had one, two or three or more siblings; indicator variables if the individual as born overseas in an English-speaking country, a non-English speaking country; was partnered; attended a Catholic or an Independent school in their last year of schooling; and whether or not they revealed themselves to be Indigenous or not.

Table B1 reports estimates of the marginal effects of full-time student status in different waves on the probabilities of each of the labour market outcomes separately for men and women. The marginal effects describe how much the average predicted probability of being in each labour market status change if all the individuals are full-time students instead of being non-students, holding all of the other observed characteristics of the sample constant. For example, the first set of results in the top panel, for females in wave 1 of HILDA, suggest that being a full-time student was associated with a significantly lower probability of being employed full-time, offset by higher probabilities of being either employed part-time or being not in the labour force. [12] The marginal effects of being a student on full-time employment are slightly stronger for males than they are females. They indicate that being a full-time student is associated with substantial reduction in the probability that an individual worked full-time (a reduction of 0.34 for females in 2001, falling to 0.30 in 2015, and 0.44 for males in 2001 falling to 0.38 by 2015). The positive not in the labour force marginal effect was larger for males than females, while the part-time work marginal effect was smaller. This reflects patterns evident in earlier results that more young women combine part-time work with their studies than do males (see Figures B6 and B7 and Table A4 for the aggregate effect on employment), while males are more likely to not participate in the labour market while studying.

The estimated parameters can be used to assess whether the change observed between 2001 and 2015 in the labour market activities undertaken by young Australians reflected changes in the characteristics of the population of young Australians or changing circumstances, as captured in the changing regression parameters. The results suggest that while characteristics of young people changed a little, such as the increase in the proportion of full-time students, overwhelmingly the changes in the labour market activities undertaken reflected changing circumstances over time, most notably changes after 2008. Essentially, full-time employment between 2001 and 2008 grew from 35.1 to 44.7 per cent of the male cohort and 24.4 to 27.2 per cent of the female cohort because of broader economic phenomena, not because of any changes in the composition of the cohorts over that time. Similarly, after 2008 the full-time employment rates fell as a consequence of the slower economic growth experienced after the GFC, not because the characteristics of the cohorts changed.

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[11] The base equation was estimated separately for males and females. It used as explanatory variables: a quadratic spline in age, with kink points at ages 18 and 21; full-time student status and a quadratic time spline with kink points in 2005 and 2008 (the GFC). The full-time student status variable was interacted with the quadratic time spline to allow the marginal effect of full-time student status to vary over time.

[12] The sum of the marginal effects across labour force activities for both groups is zero by definition.

The estimated magnitudes of these marginal effects were not much affected whether the demographic variables were also included in the regression equations. Essentially, the demographic variables affected the labour market outcomes independently of whether an individual was a full-time student. The marginal effects associated with a subset of the demographic variables appear in Table B2. Females from higher SES backgrounds and/or who live with both parents at age 14 years are more likely to work and less likely to be unemployed or not in the labour force, while those born overseas from non-English-speaking backgrounds were less likely to be employed. Being partnered was associated with being more likely to be not in the labour force for females, but more likely to involve working full-time for males. Indigenous young people were much less likely to be working full or part-time and more likely to be unemployed or not in the labour force.[13]

4.5 Differences occupational and industry employment between students and others

Another important feature of the differences in the labour market involvement of full-time students and non-students is the way they are distributed across industries and occupations at this age. The distributions at the one digit level occupation classification level are shown in Table B3 for females and males, full-time students and non-students, and for full-time, part-time and underemployed workers. We have already established that full-time employment rates differ substantially between the full-time students and non-student groups. From Table B3, it is also clear that the employment distributions among those who have full-time jobs are very different between students and non-students, and within those groups, between full-time workers compared with part-time and underemployed workers. Dissimilarity indexes are presented for the distributions. A dissimilarity index shows how much of a particular distribution would need to change category for that group to have the same distribution as another group.[14] It is clear for both males and females, and students and non-students, that the part-time and underemployed occupational distributions are more alike than either is with the full-time employment distribution. The same is true for the industry employment distributions, which are shown in Tables B6 and B7 of the Appendix, where many more of the part-time workers are employed in the retail and hospitality sectors than is the case for full-time workers.

4.6 Summary

Full-time students in the 15–24 year old range differ from non-students in the labour market activities they undertake. They are less likely to work full-time, more likely to work part-time or be not in the labour force and less likely to be unemployed. While these patterns changed somewhat over the period studied from 2001 to 2015, the relationships between full-time student status and these activities changed by only a small magnitude. The broader labour market for young people did change in the period studied, but in a direction that was then reversed. The period from 2001 to 2008 was one of strong employment growth that saw a rise in the proportion of young people

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[13] We also estimated a dynamic specification where current labour market activities were related to activities lagged one period and lagged full-time student status. One period lagged prior activities had a substantial impact on current activities, but the estimated current full-time student status marginal effects were only slightly smaller than those already described, so the qualitative patterns already described held for the dynamic case results too.

[14] For example, if females were distributed across three categories with 5, 15 and 80 per cent in the categories, and males were distributed across the same categories with 10, 20 and 70 per cent in the respective categories, the dissimilarity measure between the two distributions would be 10. This follows because a move of 5 and 5 from the first two categories of the male distribution into the third would result in the male distribution being the same as the female distribution.

employed full-time. The period after 2008 saw a reversal of that growth, and full-time employment rates, especially among males, fell. In 2015, more young people were full-time students and not in the labour force than had been the case in 2001, but generally the differences were quite small. More females than males (16.5 compared with 13.2 per cent) indicated that they were underemployed, and more students than non-students indicated they were underemployed among both males and females. Underemployment did not exhibit any strong cyclical patterns, but was higher in 2015 than it had been in 2001 for both males and females.

5 Conclusion

This paper has examined factors that influence the labour market outcomes of youth (15–24 years) and the different labour force outcomes between full-time students and other youth. Using an Australian longitudinal survey with a rich set of variables has allowed an assessment of individual, household and work characteristics as well as changes over time.

Between 2001 and 2015 the trend in the youth labour market was characterised by a higher unemployment rate, lower participation rate and a greater increase in part-time employment compared with the rest of the working age population.

In the first part, an analysis of youth with the rest of the working age population using a multinomial logit found some differences in the factors of labour market outcomes between the groups. The main distinctions in the factors associated with labour market outcomes were found to be whether they lived in a mining state, whether they were currently studying, certain family types and whether individuals were born outside of Australia in an English-speaking country. Youth that were studying were less likely to be unemployed, while males were more likely to be not in the labour force and females more likely to be employed. Studying was associated with a higher probability of employment and unemployment for both males and females in the rest of the working age population.

Focusing on employment outcomes, studying was associated with a higher probability of part-time employment for both male and female youth, with similar yet smaller results for males in the rest of the working age population. Studying was associated with a higher probability of underemployment for females in the rest of the working age population. Award reliance was found to be associated with employment outcomes in the same way for youth and the rest of the working age population.

In the second part, it was found that while the patterns in the labour market changed over the period 2001 to 2015, the relationships between full-time student status and these activities changed by only a small magnitude. In 2015, more young people were full-time students and not in the labour force than had been the case in 2001, but generally the differences were quite small. Between full-time students and non-students, many fewer students worked full-time, while more students worked part-time or are not in the labour force. These findings were confirmed in the multivariate analysis. Whether an individual was a full-time student had a significant impact on which activity they were observed in, being associated with an increase in the probabilities an individual was not in the labour force or employed part-time and a decrease in the probability they were employed full-time. The analysis also found changes over time in the activities individuals engaged in, with the impact of the GFC being particularly felt in the male labour market. Finally, the magnitude of the full-time student effect differed with the age of the individual and changed over time, becoming marginally smaller but still operating in the same direction

A common finding between the two parts is that studying is associated with a higher probability of employment, particularly part-time employment, for female youth and a higher probability of not being in the labour force for male youth. This suggests that females are more likely to seek employment while studying than males.

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Appendix A—Results for Part I

Table A1 presents the number of youth and the rest of the working age population in the sample across all 15 waves of the HILDA survey. The table shows that around one in five respondents were considered to be youth, increasing from around 19 per cent in wave 1 to around 22 per cent in wave 15. The proportion of the sample considered to be youth peaked in wave 10 at around 24 per cent before the 'top up' sample was introduced in wave 11 when the proportion began to fall.

Table A1: Sample sizes of youth and the rest of the working age population, by wave

Wave	Youth	Rest	Total
1	9705	2254	11 959
2	8966	2139	11 105
3	8635	2178	10 813
4	8324	2170	10 494
5	8447	2348	10 795
6	8443	2430	10 873
7	8300	2438	10 738
8	8259	2460	10 719
9	8578	2625	11 203
10	8659	2707	11 366
11	11 397	3342	14 739
12	11 256	3265	14 521
13	11 227	3253	14 480
14	11 232	3202	14 434
15	11 285	3137	14 422
Total	**142 713**	**39 948**	**182 661**

Source: HILDA survey, waves 1 to 15.

Table A2 shows that, across all waves, youth were relatively evenly divided between males and females, at around 11 per cent of the sample each. However, there was a slightly higher proportion of older females than males in the sample. The proportions were also relatively similar between mining and non-mining states, regions and socioeconomic advantage/disadvantage, although youth were slightly more likely to be in the highest and lowest quintiles.

A higher proportion of students were youth than non-students, with just over half of the sample of students aged 15–24 years. Youth also comprised a higher proportion of lone parent families and other family types (such as share houses), while the rest of the working age population were more likely to be lone persons or in couple families. Youth were more likely to be born in Australia.

Table A2: Descriptive stats, explanatory variables for labour market outcomes, per cent

	Youth		Rest		Total
	Male	**Female**	**Male**	**Female**	
State/territory					
Non-mining state	10.7	11.2	36.9	41.2	100
Mining state	10.9	10.9	37.3	40.8	100
Studying					
Non-student	7.4	7.3	41.2	44.2	100
Student	24.9	27.2	19.7	28.3	100
Family type					
Couple without children	5.3	7.8	41.4	45.5	100
Couple with dependents	11.2	11.7	37.8	39.2	100
Couple with non-dependents/child	14.0	9.5	38.1	38.4	100
Lone parent with dependents	16.9	20.7	9.5	52.8	100
Lone parent with non-dependent child	15.9	10.5	29.8	43.8	100
Lone person	9.6	8.7	45.1	36.6	100
Other family types	24.2	19.8	31.6	24.4	100
Area of residence					
Major city	10.8	11.2	36.9	41.1	100
Regional	10.6	11.1	37.2	41.0	100
Remote	10.6	8.9	38.2	42.2	100
Socioeconomic advantage/disadvantage					
1st quintile	11.7	12.3	35.9	40.1	100
2nd quintile	11.1	11.1	37.1	40.7	100
3rd quintile	10.1	10.7	37.4	41.8	100
4th quintile	10.8	10.8	37.2	41.2	100
5th quintile	10.2	10.8	37.2	41.8	100
Country of birth					
Born in Australia	12.3	12.7	35.5	39.4	100
Other English speaking country	3.6	3.4	47.9	45.0	100
Non-English speaking country	5.1	5.9	39.5	49.5	100
Total	**10.7**	**11.1**	**37.1**	**41.1**	**100**

Source: HILDA, pooled waves 1 to 15.

Table A3 shows that youth comprised a higher proportion of award-reliant employees than employees that were not award reliant. The proportions of young and older females studying were similar and there were relatively higher proportions of young females employed as Sales workers.

However, as to be expected, relatively higher proportions of older males and females were employed across occupations and industries. Among Technicians and trades workers, relatively higher proportions were found for both male youth and older males. For females, however, the employment pattern was not consistent across age groups, with relatively higher proportions of Sales workers comprised of youth and relatively higher proportions of Clerical and administrative workers comprised of older workers.

Within industry groups, although Accommodation and food services had a relatively higher proportion of male and female youth, this declined with age. The Health sector had a relatively

higher proportion of older females, while Construction had a relatively higher proportion of older males.

Table A3: Descriptive statistics, explanatory variables for employment outcomes, per cent

Variable	Youth		Rest		
	Male	**Female**	**Male**	**Female**	**Total**
Award reliance					
Not award reliant	8.3	7.6	43.5	40.6	100
Award reliant	18.9	23.1	22.4	35.6	100
Studying					
Not studying	7.4	7.1	41.5	44.0	100
Studying	25.2	28.1	18.7	28.0	100
Occupation					
Managers	3.0	2.7	61.1	33.2	100
Professionals	3.1	4.8	40.7	51.4	100
Technicians and trades workers	20.6	3.6	64.2	11.6	100
Community and personal service workers	8.5	20.3	21.4	49.8	100
Clerical and administrative workers	3.7	11.6	21.1	63.6	100
Sales workers	15.4	35.0	17.8	31.9	100
Machinery operators and drivers	11.4	1.8	79.3	7.5	100
Labourers	24.1	7.3	42.1	26.5	100
Industry					
Agriculture/Mining/Utilities	9.5	2.5	37.7	20.2	100
Manufacturing	10.9	4.0	63.2	22.0	100
Construction	21.3	1.3	68.8	8.6	100
Wholesale and transport	7.1	3.5	66.5	22.9	100
Retail trade	16.9	25.4	23.8	33.9	100
Accommodation and food services	22.5	32.4	18.8	26.3	100
Professional services	5.6	7.7	44.3	42.4	100
Public administration	5.8	3.9	52.0	38.3	100
Health	3.3	6.9	24.4	65.4	100
Education	2.1	9.6	17.0	71.3	100
Arts and Other	13.5	12.9	41.7	31.8	100
Total	**11.1**	**11.5**	**36.7**	**40.6**	**100**

Source: HILDA survey, waves 8 to 15.

Table A4: Marginal effects of labour market outcomes

Variable	Labour market outcome	Youth		Rest	
		Male	**Female**	**Male**	**Female**
Mining state	Employed	0.03***	0.03***	0.01	–0.01
		(0.01)	(0.01)	(0.01)	(0.01)
	Unemployed	0.00	0.00	0.00	0.00
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	–0.03***	–0.03***	–0.01*	0.02*
		(0.01)	(0.01)	(0.01)	(0.01)
Student	Employed	0.00	0.09***	0.02**	0.08***
		(0.01)	(0.01)	(0.01)	(0.01)
	Unemployed	–0.03***	–0.02***	0.02***	0.02***
		(0.01)	(0.00)	(0.00)	(0.00)
	Not in the labour force	0.02***	–0.07***	–0.04***	–0.11***
		(0.01)	(0.01)	(0.01)	(0.01)
Base = Couple without children					
Couple with dependents	Employed	–0.29***	–0.29***	0.10***	0.00
		(0.01)	(0.01)	(0.01)	(0.01)
	Unemployed	0.05***	0.01	0.00	0.00**
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	0.24***	0.28***	–0.10***	0.00
		(0.01)	(0.01)	(0.01)	(0.01)
Couple with non-dependent children	Employed	–0.04**	0.02	–0.03**	0.03
		(0.02)	(0.02)	(0.01)	(0.01)
	Unemployed	0.03***	0.00	0.02***	0.00
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	0.01	–0.02*	0.01	–0.03
		(0.01)	(0.01)	(0.01)	(0.01)
Lone parent with dependents	Employed	–0.35***	–0.33***	–0.07***	–0.06
		(0.02)	(0.02)	(0.02)	(0.01)
	Unemployed	0.05***	0.02***	0.03***	0.03
		(0.01)	(0.01)	(0.01)	(0.00)
	Not in the labour force	0.30***	0.31***	0.04*	0.02
		(0.02)	(0.01)	(0.02)	(0.01)
Lone parent with non-dependent children	Employed	–0.13***	0.00	–0.09***	–0.04
			(0.02)	(0.02)	(0.02)
	Unemployed	0.04***	0.00	0.04***	0.01
		(0.01)	(0.01)	(0.01)	(0.00)
	Not in the labour force	0.09***	0.00	0.05**	0.04
		(0.02)	(0.02)	(0.02)	(0.02)
Lone person	Employed	–0.08***	–0.05***	–0.03***	0.01
		(0.02)	(0.02)	(0.01)	(0.01)
	Unemployed	0.03***	0.01	0.02***	0.01

Variable	Labour market outcome	Youth		Rest	
		Male	**Female**	**Male**	**Female**
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	0.05***	0.05***	0.01	−0.02
		(0.01)	(0.01)	(0.01)	(0.01)
Other family types	Employed	−0.13***	−0.10***	−0.10***	0.01
		(0.02)	(0.02)	(0.02)	(0.02)
	Unemployed	0.04***	0.03**	0.05***	0.03
		(0.01)	(0.01)	(0.01)	(0.01)
	Not in the labour force	0.09***	0.07***	0.05***	−0.04
		(0.01)	(0.01)	(0.02)	(0.02)
Base = Major city					
Regional	Employed	−0.01	−0.04***	−0.04***	−0.02
		(0.01)	(0.01)	(0.01)	(0.01)
	Unemployed	0.00	0.00	0.00	0.00
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	0.01	0.04***	0.03***	0.02
		(0.01)	(0.01)	(0.01)	(0.01)
Remote	Employed	0.07*	0.01	0.05***	0.00
		(0.03)	(0.04)	(0.02)	(0.03)
	Unemployed	−0.04**	−0.03*	0.01	0.00
		(0.02)	(0.02)	(0.01)	(0.01)
	Not in the labour force	−0.03	0.03	−0.06***	0.00
		(0.03)	(0.03)	(0.01)	(0.03)
Base = SES 1					
SES 2	Employed	0.08***	0.07***	0.07***	0.10***
		(0.01)	(0.01)	(0.01)	(0.01)
	Unemployed	−0.04***	−0.03***	−0.02***	−0.01***
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	−0.03***	−0.04***	−0.05***	−0.08***
		(0.01)	(0.01)	(0.01)	(0.01)
SES 3	Employed	0.10***	0.10***	0.12***	0.16***
		(0.01)	(0.01)	(0.01)	(0.01)
	Unemployed	−0.05***	−0.02***	−0.03***	−0.02***
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	−0.05***	−0.08***	−0.09***	−0.14***
		(0.01)	(0.01)	(0.01)	(0.01)
SES 4	Employed	0.09***	0.13***	0.14***	0.20***
		(0.02)	(0.02)	(0.01)	(0.02)
	Unemployed	−0.05***	−0.06***	−0.03***	−0.02***
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	−0.04***	−0.07***	−0.11***	−0.17***
		(0.02)	(0.02)	(0.01)	(0.01)

Variable	Labour market outcome	Youth		Rest	
		Male	**Female**	**Male**	**Female**
SES 5	Employed	0.10***	0.14***	0.16***	0.20***
		(0.02)	(0.02)	(0.01)	(0.01)
	Unemployed	−0.07***	−0.05***	−0.04***	−0.02***
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	−0.03***	−0.09***	−0.12***	−0.18***
		(0.01)	(0.01)	(0.01)	(0.01)
Base = Born in Australia					
Other English speaking country	Employed	0.05*	−0.10***	−0.01	−0.02
		(0.03)	(0.03)	(0.01)	(0.02)
	Unemployed	−0.01	0.02	0.01	0.00
		(0.02)	(0.02)	(0.00)	(0.00)
	Not in the labour force	−0.04	0.08***	0.00	0.02
		(0.02)	(0.03)	(0.01)	(0.01)
Non-English speaking country	Employed	−0.08***	−0.12***	−0.07***	−0.11***
		(0.03)	(0.02)	(0.01)	(0.01)
	Unemployed	0.00	0.00	0.01***	0.01***
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	0.08***	0.12***	0.06***	0.10***
		(0.02)	(0.02)	(0.01)	(0.01)
Lived with both parents at age 14	Employed	0.09***	0.09***	0.03***	0.05***
		(0.01)	(0.01)	(0.01)	(0.01)
	Unemployed	−0.06***	−0.03***	−0.01***	−0.01***
		(0.01)	(0.01)	(0.00)	(0.00)
	Not in the labour force	−0.03***	−0.06***	−0.02**	−0.04***
		(0.01)	(0.01)	(0.01)	(0.01)

Source: HILDA survey, pooled waves 1 to 15.

Table A5: Marginal effects of employment outcomes

Variable	Labour market outcome	Youth		Rest	
		Male	**Female**	**Male**	**Female**
Award reliant	Employed full-time	−0.06***	−0.07***	−0.07***	−0.11***
		(0.01)	(0.01)	(0.01)	(0.01)
	Employed part-time	0.02**	0.03***	0.03***	0.05***
		(0.01)	(0.01)	(0.01)	(0.01)
	Underemployed	0.04***	0.04***	0.05***	0.06***
		(0.01)	(0.01)	(0.01)	(0.01)
Student	Employed full-time	−0.21***	−0.20***	−0.03***	0.01
		(0.01)	(0.01)	(0.01)	(0.01)
	Employed part-time	0.18***	0.20***	0.01*	−0.06***
		(0.01)	(0.01)	(0.01)	(0.01)
	Underemployed	0.02**	0.00	0.02***	0.05***
		(0.01)	(0.01)	(0.01)	(0.01)
Base = Managers					
Professionals	Employed full-time	−0.10***	−0.06	−0.04***	−0.17***
		(0.03)	(0.04)	(0.01)	(0.02)
	Employed part-time	0.06**	−0.01	0.03***	0.13***
		(0.03)	(0.04)	(0.01)	(0.02)
	Underemployed	0.04	0.07***	0.01***	0.04***
		(0.02)	(0.02)	(0.00)	(0.01)
Technicians and trades workers	Employed full-time	0.00	−0.08	−0.04***	−0.31***
		(0.03)	(0.05)	(0.01)	(0.03)
	Employed part-time	−0.01	0.02	0.03***	0.20***
		(0.02)	(0.04)	(0.01)	(0.03)
	Underemployed	0.01	0.06**	0.02***	0.10***
		(0.02)	(0.03)	(0.00)	(0.01)
Community and personal service workers	Employed full-time	−0.35***	−0.38***	−0.13***	−0.34***
		(0.03)	(0.04)	(0.01)	(0.02)
	Employed part-time	0.17***	0.17***	0.05***	0.21***
		(0.03)	(0.03)	(0.01)	(0.02)
	Underemployed	0.19***	0.21***	0.07***	0.13***
		(0.03)	(0.02)	(0.01)	(0.01)
Clerical and administrative workers	Employed full-time	−0.23***	−0.23***	−0.08***	−0.26***
		(0.04)	(0.04)	(0.01)	(0.02)
	Employed part-time	0.14***	0.12***	0.04***	0.19***
		(0.03)	(0.04)	(0.01)	(0.02)
	Underemployed	0.09***	0.10***	0.03***	0.07***
		(0.03)	(0.02)	(0.01)	(0.01)
Sales workers	Employed full-time	−0.42***	−0.52***	−0.07***	−0.35***
		(0.03)	(0.03)	(0.01)	(0.03)
	Employed part-time	0.25***	0.29***	0.03***	0.21***
		(0.03)	(0.03)	(0.01)	(0.02)
	Underemployed	0.17***	0.23***	0.04***	0.14***
		(0.02)	(0.02)	(0.01)	(0.01)

Variable	Labour market outcome	Youth		Rest	
		Male	**Female**	**Male**	**Female**
Machinery operators and drivers	Employed full-time	–0.29***	–0.34***	–0.09***	–0.17***
		(0.03)	(0.08)	(0.01)	(0.05)
	Employed part-time	0.14***	0.00	0.04***	0.06
		(0.03)	(0.07)	(0.01)	(0.04)
	Underemployed	0.14***	0.33***	0.05***	0.12***
		(0.03)	(0.07)	(0.01)	(0.03)
Labourers	Employed full-time	–0.43***	–0.48***	–0.19***	–0.39***
		(0.03)	(0.04)	(0.02)	(0.03)
	Employed part-time	0.19***	0.16***	0.09***	0.18***
		(0.03)	(0.04)	(0.01)	(0.02)
	Underemployed	0.24***	0.31***	0.10***	0.21***
		(0.02)	(0.03)	(0.01)	(0.02)
Base = Agriculture, Mining and Utilities					
Manufacturing	Employed full-time	0.01	–0.18**	0.00	0.00
		(0.03)	(0.07)	(0.01)	(0.04)
	Employed part-time	0.01	0.16**	0.00	0.00
		(0.03)	(0.07)	(0.01)	(0.04)
	Underemployed	–0.01	0.02	0.00	0.00
		(0.02)	(0.06)	(0.00)	(0.02)
Construction	Employed full-time	–0.02	–0.06	0.00	–0.04
		(0.03)	(0.09)	(0.01)	(0.05)
	Employed part-time	0.01	0.10	0.00	0.03
		(0.02)	(0.08)	(0.01)	(0.05)
	Underemployed	0.01	–0.04	0.01	0.01
		(0.02)	(0.07)	(0.00)	(0.02)
Wholesale trade and Transport, postal and warehousing	Employed full-time	–0.13***	–0.06	–0.03***	–0.05
		(0.04)	(0.07)	(0.01)	(0.04)
	Employed part-time	0.06**	0.03	0.02**	0.02
		(0.03)	(0.07)	(0.01)	(0.04)
	Underemployed	0.07**	0.03	0.01**	0.03*
		(0.03)	(0.06)	(0.00)	(0.02)
Retail trade	Employed full-time	–0.31***	–0.27***	–0.13***	–0.19***
		(0.03)	(0.06)	(0.02)	(0.04)
	Employed part-time	0.17***	0.15**	0.07***	0.11***
		(0.03)	(0.06)	(0.01)	(0.04)
	Underemployed	0.14***	0.12**	0.06***	0.08***
		(0.02)	(0.05)	(0.01)	(0.02)
Accommodation and food services	Employed full-time	–0.42***	–0.36***	–0.19***	–0.21***
		(0.03)	(0.06)	(0.02)	(0.04)
	Employed part-time	0.22***	0.21***	0.11***	0.11***
		(0.03)	(0.06)	(0.02)	(0.04)
	Underemployed	0.20***	0.15***	0.08***	0.10***
		(0.02)	(0.05)	(0.01)	(0.02)
Professional services	Employed full-time	–0.22***	–0.12*	–0.05***	–0.07*
		(0.03)	(0.06)	(0.01)	(0.04)
	Employed part-time	0.09***	0.09	0.03***	0.04

Variable	Labour market outcome	Youth		Rest	
		Male	**Female**	**Male**	**Female**
		(0.03)	(0.06)	(0.01)	(0.03)
	Underemployed	0.14***	0.03	0.02***	0.03*
		(0.03)	(0.05)	(0.01)	(0.01)
Public administration and safety	Employed full-time	−0.01	0.02	−0.02**	0.01***
		(0.04)	(0.08)	(0.01)	(0.04)
	Employed part-time	−0.01	0.04	0.02**	−0.01***
		(0.03)	(0.08)	(0.01)	(0.04)
	Underemployed	0.03	−0.05	0.00	0.00***
		(0.03)	(0.06)	(0.01)	(0.02)
Health care and social assistance	Employed full-time	−0.44***	−0.37***	−0.17***	−0.19***
		(0.04)	(0.06)	(0.02)	(0.04)
	Employed part-time	0.23***	0.24***	0.07***	0.12***
		(0.04)	(0.06)	(0.01)	(0.04)
	Underemployed	0.21***	0.13***	0.09***	0.07***
		(0.04)	(0.06)	(0.02)	(0.02)
Education and training	Employed full-time	−0.27***	−0.20***	−0.11***	−0.21***
		(0.04)	(0.06)	(0.02)	(0.04)
	Employed part-time	0.15***	0.16**	0.08***	0.16**
		(0.04)	(0.06)	(0.02)	(0.03)
	Underemployed	0.12***	0.04*	0.03***	0.05***
		(0.04)	(0.05)	(0.01)	(0.02)
Arts and recreation services and Other services	Employed full-time	−0.26***	−0.23*	−0.07***	−0.20
		(0.03)	(0.07)	(0.02)	(0.04)
	Employed part-time	0.12***	0.13	0.05	0.09
		(0.03)	(0.06)	(0.01)	(0.04)
	Underemployed	0.13***	0.10**	0.02***	0.11***
		(0.03)	(0.06)	(0.01)	(0.02)

Note: Standard errors in brackets below.

Source: HILDA, pooled waves 8 to 15.

Appendix B—Results for Part II

Figure B1: Proportion of males and females who are full-time students, by age (all years)
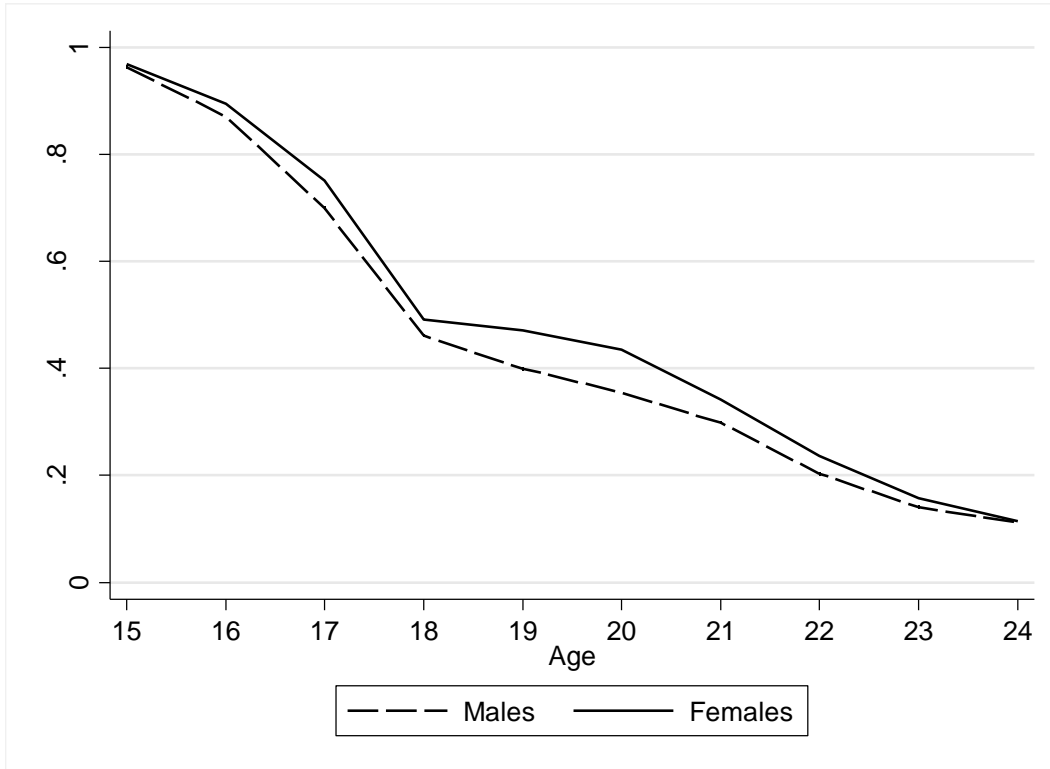
Figure B2: Female and male labour market activities by age (all years)
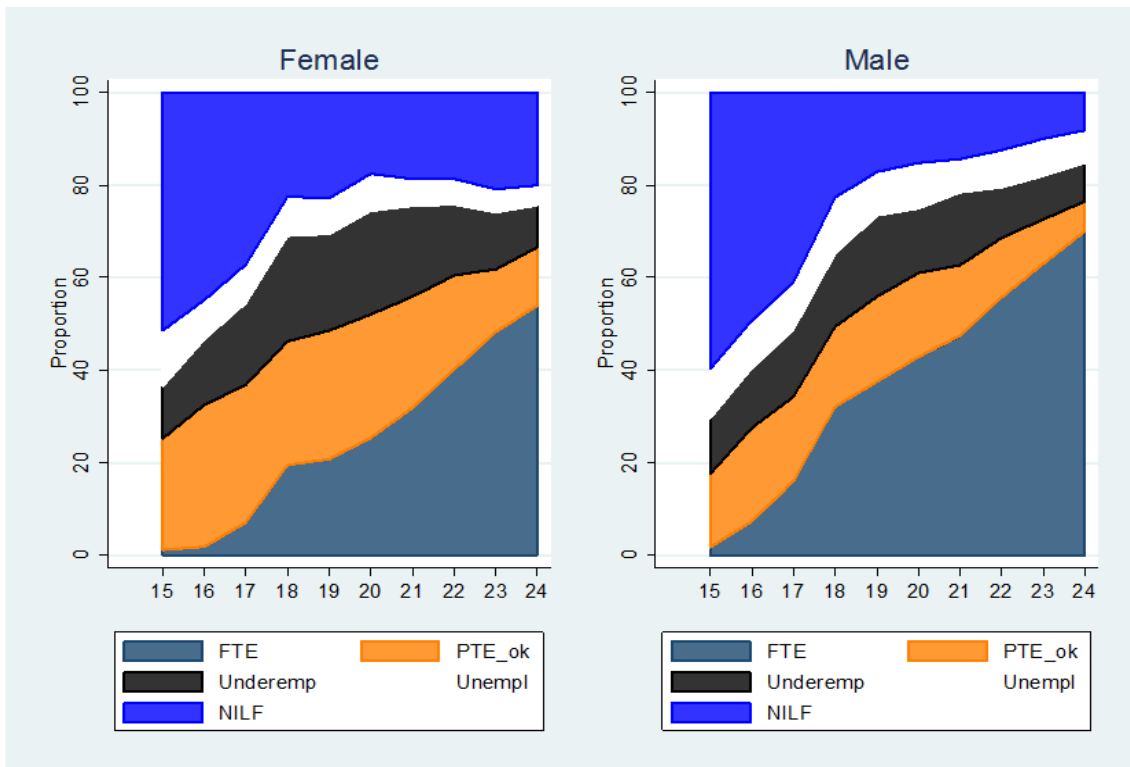
Figure B3: Labour market activities of males and females, full-time students and non-students (all years)
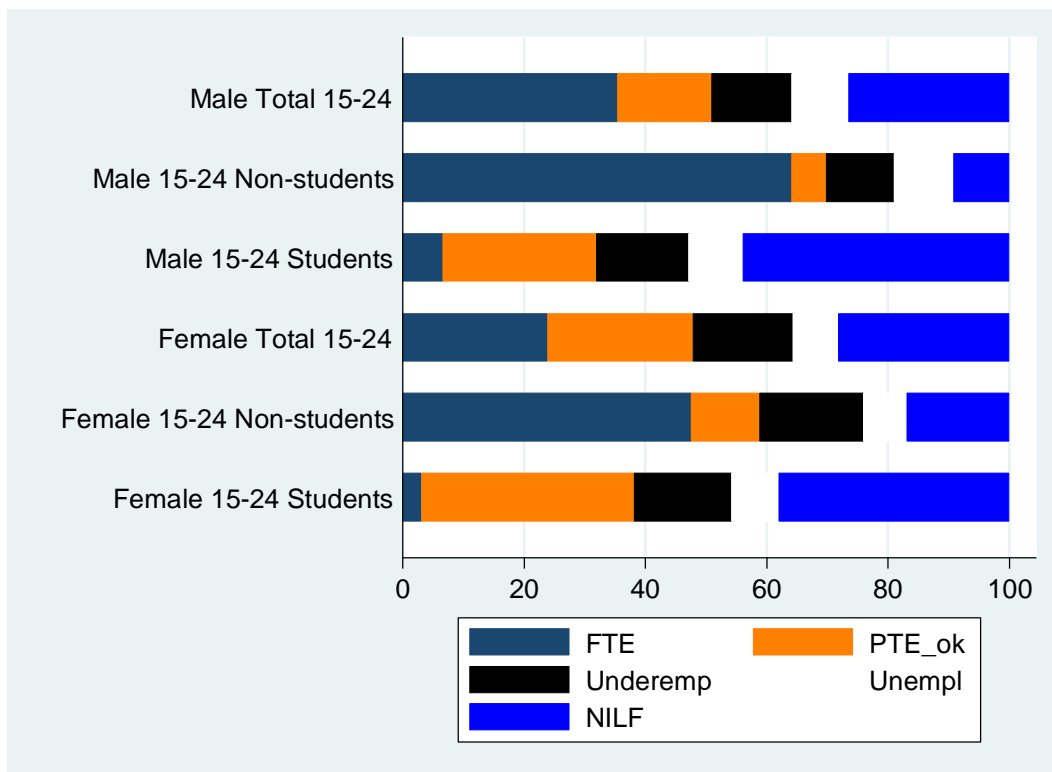
Figure B4: Proportion of 15–19 and 20–24 year olds who are full-time students, 2001 to 2015
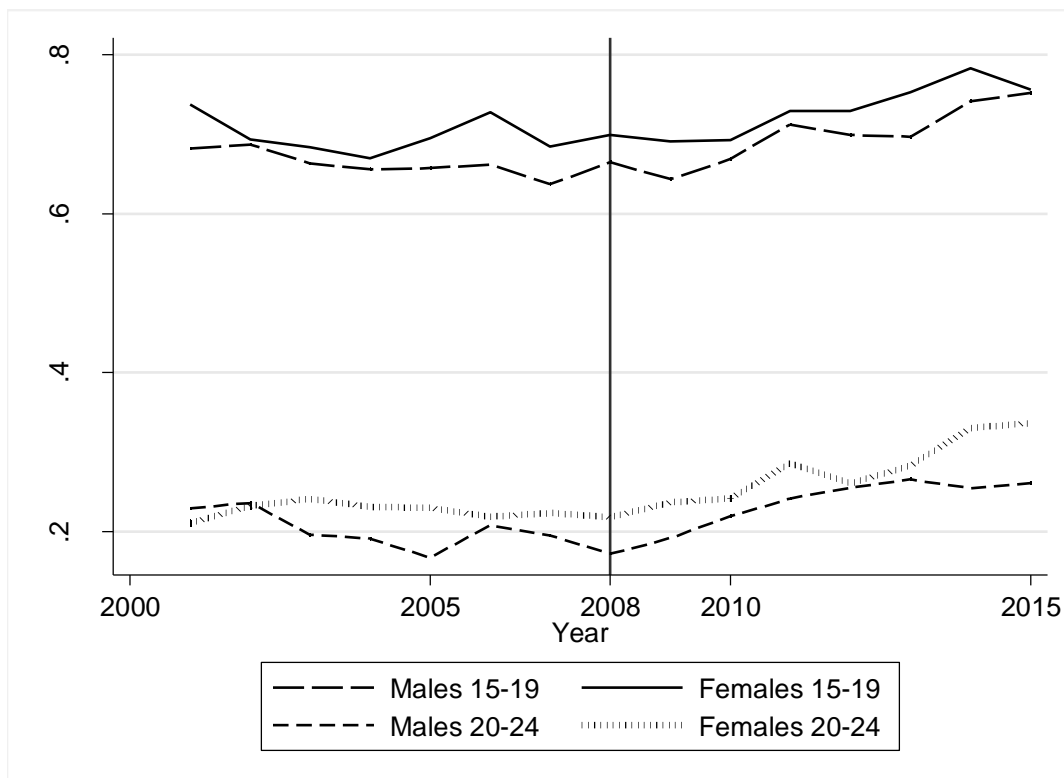
Figure B5: Labour market activities of 15–24 year old females and males, 2001 to 2015
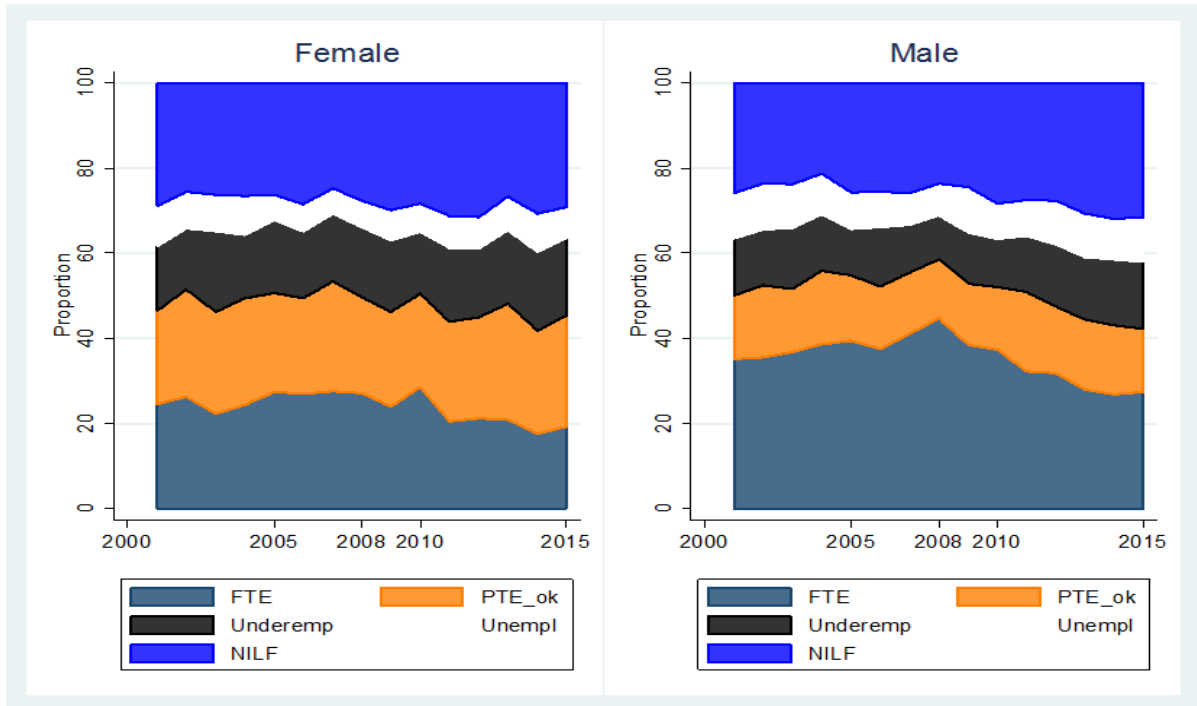
Figure B6: Labour market activities of 15–24 year old females, full-time students and non-students, 2001 to 2015
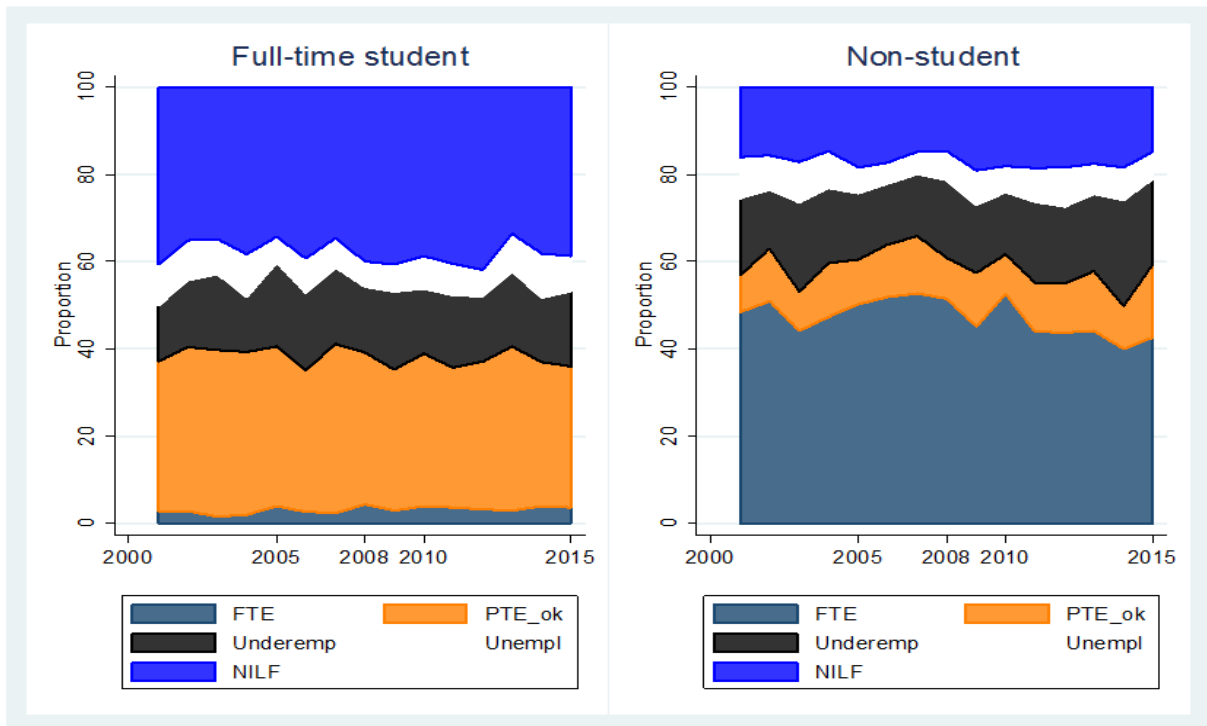
Figure B7: Labour market activities of 15–24 year old males, full-time students and non-students, 2001 to 2015
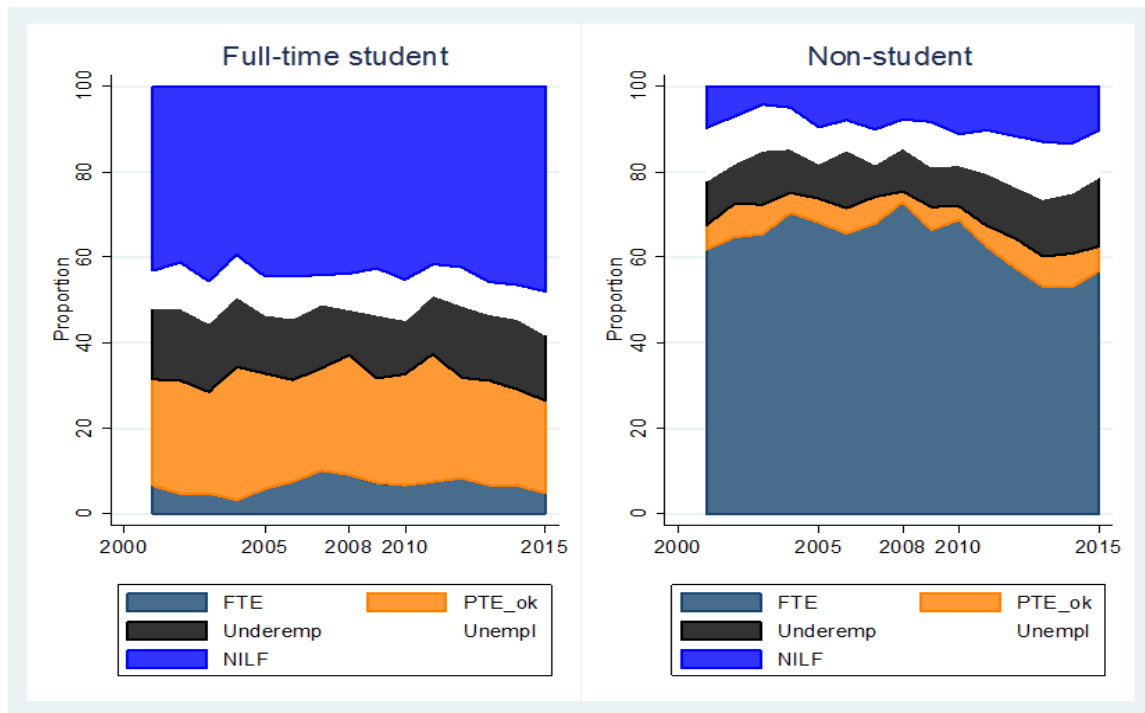
Table B1: Marginal effect of being a full-time student, aged 15–24 years, across waves

(a) Females

	Wave 1	Wave 5	Wave 9	Wave 13
Full-time	−0.34***	−0.39***	−0.35***	−0.30***
employed	(0.03)	(0.02)	(0.01)	(0.01)
Part-time	0.28***	0.26***	0.25***	0.22***
employed	(0.03)	(0.02)	(0.01)	(0.01)
Underemployed	−0.04	0.01	−0.02	−0.05***
	(0.03)	(0.02)	(0.01)	(0.01)
Unemployed	−0.02	−0.01	−0.02**	−0.02
	(0.02)	(0.01)	(0.01)	(0.01)
Not in Labour	0.12***	0.14***	0.13***	0.15***
Force	(0.03)	(0.02)	(0.02)	(0.02)
N	17,930	17,930	17,930	17,930

(b) Males

	Wave 1	Wave 5	Wave 9	Wave 13
Full-time	−0.44***	−0.51***	−0.42***	−0.38***
employed	(0.03)	(0.02)	(0.02)	(0.02)
Part-time	0.21***	0.23***	0.22***	0.19***
employed	(0.03)	(0.02)	(0.01)	(0.01)
Underemployed	0.07**	0.06***	0.03***	0.01
	(0.03)	(0.01)	(0.01)	(0.01)
Unemployed	−0.05**	0.01	−0.03***	−0.05***
	(0.02)	(0.01)	(0.01)	(0.01)
Not in Labour	0.22***	0.21***	0.20***	0.22***
Force	(0.03)	(0.02)	(0.01)	(0.02)
N	17,244	17,244	17,244	17,244

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$. Standard errors in parentheses.

Table B2: Marginal effects of other selected variables

	Labour Force Activity	Females	Males
SES	Full-time employed	0.10***	–0.02
		(0.02)	(0.02)
	Part-time employed	0.10***	0.08***
		(0.02)	(0.02)
	Underemployed	–0.02	0.01
		(0.02)	(0.01)
	Unemployed	–0.05***	–0.06***
		(0.01)	(0.01)
	Not in Labour Force	–0.12***	–0.01
		(0.02)	(0.02)
Lived both parents when aged 14	Full-time employed	0.04***	0.04***
		(0.01)	(0.01)
	Part-time employed	0.02**	0.03***
		(0.01)	(0.01)
	Underemployed	–0.00	–0.00
		(0.01)	(0.01)
	Unemployed	–0.02***	–0.04***
		(0.01)	(0.01)
	Not in Labour Force	–0.03***	–0.03***
		(0.01)	(0.01)
Indigenous	Full-time employed	–0.12***	–0.09***
		(0.02)	(0.02)
	Part-time employed	–0.06***	–0.08***
		(0.02)	(0.02)
	Underemployed	–0.02	–0.01
		(0.02)	(0.02)
	Unemployed	0.04***	0.06***
		(0.01)	(0.01)
	Not in Labour Force	0.16***	0.12***
		(0.02)	(0.02)
Partnered	Full-time employed	–0.00	0.10***
		(0.01)	(0.01)
	Part-time employed	–0.04***	–0.05***
		(0.01)	(0.01)
	Underemployed	–0.05***	–0.03***
		(0.01)	(0.01)
	Unemployed	–0.00	0.00
		(0.01)	(0.01)
	Not in Labour Force	0.09***	–0.02
		(0.01)	(0.02)
N		17,930	17,244

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$. Standard errors in parentheses.

Table B3: Male employment by occupation (1-digit), 15–24 year olds, pooled data 2001 to 2015

	Non-students			Students		
	FT	PT_ok	Underemp	FT	PT_ok	Underemp
Males						
Managers	6.1	0.9	1.7	3.4	0.7	1.3
Professionals	11.0	7.5	5.2	5.2	4.9	5.7
Technicians and Trades Workers	41.7	10.4	8.8	66.1	5.2	6.0
Community and Personal Service Work	4.6	14.5	15.7	6.2	14.0	14.9
Clerical and Administrative Workers	6.4	7.0	4.6	4.4	7.1	5.5
Sales Workers	6.3	18.2	20.3	4.4	31.4	26.5
Machinery Operators and Drivers	8.0	7.0	6.8	1.4	4.5	3.2
Labourers	16.0	34.5	36.9	9.1	32.3	36.8
Dissimilarity indexes						
FT v/s PT_ok, Underemp		40.9	46.0		63.8	62.2
PT_ok v/s Underemp			6.5			7.7
Total emp non-student v/s student			33.6			
Females						
Managers	6.0	2.0	0.8	3.1	1.4	0.4
Professionals	22.2	9.1	7.1	14.9	4.2	5.7
Technicians and Trades Workers	8.8	4.7	4.3	18.7	2.0	1.5
Community and Personal Service Work	12.9	27.5	25.4	21.4	22.6	25.2
Clerical and Administrative Workers	32.3	12.5	9.5	26.0	8.1	6.8
Sales Workers	12.1	35.9	42.1	9.8	54.5	49.8
Machinery Operators and Drivers	1.3	0.6	0.6	1.2	0.3	0.5
Labourers	4.3	7.6	10.2	5.0	6.9	10.2
Dissimilarity indexes						
FT v/s PT_ok, Underemp		41.8	48.4		47.8	48.9
PT_ok v/s Underemp			8.8			7.5
Total emp non-student v/s student			35.2			

Table B4: Male multinomial regression parameters

	FTE	PTE_ok	Underemp	Unemp
Full-time student	–6.29	42.86	20.59	51.38***
	(21.65)	(27.42)	(22.53)	(19.06)
Age	3.34*	4.15	1.88	3.85*
	(1.75)	(3.07)	(2.46)	(2.01)
Age squared	–0.09*	–0.11	–0.05	–0.11*
	(0.05)	(0.09)	(0.07)	(0.06)
Age kink point at 18	0.07	0.06	–0.01	0.11
	(0.07)	(0.12)	(0.10)	(0.08)
Age kink point at 21	0.04	0.09	0.08	0.03
	(0.05)	(0.08)	(0.07)	(0.07)
Wave	0.40*	0.31	0.44	0.11
	(0.23)	(0.30)	(0.28)	(0.28)
Wave squared	–0.05*	–0.05	–0.06*	–0.03
	(0.03)	(0.04)	(0.04)	(0.04)
Wave kink point in 2005	0.05	0.07	0.09	0.05
	(0.05)	(0.07)	(0.06)	(0.06)
Wave kink point in 2008	0.01	0.00	–0.02	–0.02
	(0.03)	(0.04)	(0.04)	(0.04)
Full-time student by age interaction	–0.17	–5.04	–2.54	–6.35***
	(2.51)	(3.17)	(2.61)	(2.24)
Full-time student by age squared	0.02	0.15	0.08	0.19***
	(0.07)	(0.09)	(0.08)	(0.07)
Full-time student by age 18 kink	–0.21**	–0.17	–0.09	–0.30***
	(0.10)	(0.13)	(0.11)	(0.10)
Full-time student by age 21 kink	0.33***	–0.01	0.01	0.17
	(0.09)	(0.11)	(0.10)	(0.12)
Full-time student by wave interaction	–1.10***	–0.35	–0.34	0.14
	(0.36)	(0.35)	(0.33)	(0.35)
Full-time student by wave squared	0.17***	0.06	0.05	–0.01
	(0.05)	(0.05)	(0.04)	(0.05)

(continued)

Table B4: Male multinomial regression parameters (continued)

	FTE	PTE_ok	Underemp	Unemp
Full-time student by	−0.29***	−0.10	−0.09	−0.02
wave 2005 kink	(0.08)	(0.08)	(0.07)	(0.08)
Full-time student by	0.13***	0.03	0.04	0.04
wave 2008 kink	(0.04)	(0.05)	(0.04)	(0.05)
SES	−0.19	0.60***	0.05	−0.67***
	(0.20)	(0.17)	(0.18)	(0.18)
Lived both parents when aged 14	0.35***	0.34***	0.13	−0.28***
	(0.10)	(0.09)	(0.09)	(0.08)
One sibling	−0.15	−0.10	0.05	0.05
	(0.18)	(0.16)	(0.16)	(0.17)
Two siblings	0.18	0.10	0.30*	0.14
	(0.18)	(0.16)	(0.16)	(0.17)
Three or more siblings	0.12	−0.13	0.06	0.29*
	(0.18)	(0.17)	(0.16)	(0.17)
Born overseas, English-speaking	−0.24	−0.17	−0.14	−0.20
	(0.24)	(0.22)	(0.22)	(0.25)
Born overseas, non-English-speaking	−0.96***	−0.55***	−0.43**	−0.35*
	(0.16)	(0.16)	(0.17)	(0.18)
Partnered	0.70***	−0.27*	−0.05	0.29**
	(0.13)	(0.16)	(0.14)	(0.15)
Attended Catholic school	0.10	0.20**	0.20**	−0.03
	(0.11)	(0.10)	(0.10)	(0.10)
Attended Independent school	−0.27**	0.18*	−0.06	−0.17
	(0.13)	(0.10)	(0.11)	(0.12)
Indigenous	−1.10***	−1.21***	−0.76***	−0.12
	(0.22)	(0.24)	(0.21)	(0.15)
Constant	−30.90**	−39.37	−18.71	−33.25*
	(15.10)	(26.62)	(21.28)	(17.24)
Number of observations	17,244			

Note: * p<0.1; ** p<0.05; *** p<0.01

Table B5: Female multinomial regression parameters

	FTE	PTE_ok	Underemp	Unemp
Full-time student	–60.80*	6.58	26.20	27.14
	(36.14)	(20.13)	(19.09)	(20.10)
Age	2.41	0.73	1.53	0.29
	(2.16)	(2.23)	(2.05)	(2.08)
Age squared	–0.06	–0.02	–0.04	–0.01
	(0.06)	(0.06)	(0.06)	(0.06)
Age kink point at 18	0.02	–0.00	–0.00	–0.04
	(0.08)	(0.09)	(0.08)	(0.08)
Age kink point at 21	0.03	0.06	0.02	0.10
	(0.04)	(0.06)	(0.05)	(0.06)
Wave	0.08	0.12	0.12	0.04
	(0.14)	(0.21)	(0.19)	(0.22)
Wave squared	–0.00	–0.00	–0.01	–0.01
	(0.02)	(0.03)	(0.03)	(0.03)
Wave kink point in 2005	–0.03	–0.03	0.01	0.03
	(0.03)	(0.05)	(0.04)	(0.05)
Wave kink point in 2008	0.05**	0.07**	0.01	–0.02
	(0.02)	(0.03)	(0.03)	(0.03)
Full-time student by age interaction	6.15	–0.97	–3.47	–3.32
	(4.15)	(2.33)	(2.21)	(2.35)
Full-time student by age squared	–0.16	0.04	0.11*	0.10
	(0.12)	(0.07)	(0.06)	(0.07)
Full-time student by age 18 kink	0.09	–0.08	–0.20**	–0.10
	(0.16)	(0.09)	(0.09)	(0.11)
Full-time student by age 21 kink	0.16	–0.08	0.16*	–0.03
	(0.10)	(0.08)	(0.09)	(0.11)
Full-time student by Wave interaction	–0.40	–0.17	–0.09	–0.22
	(0.38)	(0.25)	(0.26)	(0.31)
Full-time student by wave squared	0.04	0.01	0.02	0.03
	(0.05)	(0.03)	(0.03)	(0.04)

(continued)

Table B5: Female multinomial regression parameters (continued)

	FTE	PTE_ok	Underemp	Unemp
Full-time student by wave 2005 kink	–0.02	0.01	–0.05	–0.05
	(0.08)	(0.06)	(0.06)	(0.07)
Full-time student by wave 2008 kink	–0.05	–0.05	0.04	0.03
	(0.05)	(0.03)	(0.04)	(0.04)
SES	1.05***	0.91***	0.38**	–0.12
	(0.18)	(0.15)	(0.16)	(0.17)
Lived both parents when aged 14	0.38***	0.22***	0.13*	–0.16**
	(0.09)	(0.07)	(0.08)	(0.08)
One sibling	0.30	0.14	0.07	0.00
	(0.19)	(0.15)	(0.16)	(0.19)
Two siblings	0.17	0.24	0.15	0.01
	(0.20)	(0.15)	(0.16)	(0.19)
Three or more siblings	–0.12	–0.01	–0.25	–0.12
	(0.19)	(0.15)	(0.16)	(0.19)
Born overseas, English-speaking	–0.44*	–0.51**	–0.43**	–0.03
	(0.23)	(0.20)	(0.19)	(0.20)
Born overseas, non-English-speaking	–0.79***	–0.76***	–0.68***	–0.27*
	(0.15)	(0.14)	(0.16)	(0.15)
Partnered	–0.37***	–0.51***	–0.65***	–0.34***
	(0.08)	(0.08)	(0.09)	(0.11)
Attended Catholic school	0.21**	0.17**	0.17*	–0.16
	(0.10)	(0.08)	(0.09)	(0.11)
Attended Independent school	–0.23**	–0.17*	–0.16	–0.38***
	(0.12)	(0.09)	(0.10)	(0.11)
Indigenous	–1.42***	–0.89***	–0.83***	–0.16
	(0.20)	(0.17)	(0.17)	(0.15)
Constant	–24.37	–8.12	–14.38	–2.93
	(18.93)	(19.31)	(17.77)	(17.96)
Number of observations	17,930			

Note: * p<0.1; ** p<0.05; *** p<0.01

Table B6: Male employment by industry, 15–24 year olds, pooled data 2001 to 2015

	Non-students			Students		
	FT	PT_ok	Underemp	FT	PT_ok	Underemp
Agriculture, Forestry and Fishing	3.2	2.2	3.0	3.6	1.0	1.8
Mining	1.7	0.7	0.1	2.5	0.1	0.0
Manufacturing	15.9	4.6	4.1	13.9	2.6	3.5
Electricity, Gas, Water and Waste Services	1.4	0.7	0.3	0.2	0.2	0.0
Construction	23.9	9.2	8.5	33.0	2.5	3.2
Wholesale Trade	3.6	2.3	2.8	2.3	1.5	0.9
Retail Trade	9.7	26.5	24.3	8.8	36.6	30.6
Accommodation and Food Services	5.9	21.8	20.7	6.7	30.7	29.9
Transport, Postal and Warehousing	3.5	3.7	5.0	1.3	2.1	2.1
Information Media and Telecommunications	1.7	0.6	2.0	1.2	1.9	0.9
Financial and Insurance Services	1.9	1.3	0.5	0.8	0.5	0.7
Rental, Hiring and Real Estate Services	0.6	1.1	0.8	0.5	0.9	0.9
Professional, Scientific and Technical	8.1	3.4	4.3	3.7	2.8	3.8
Administrative and Support Service	2.2	4.8	4.3	0.9	2.4	3.8
Public Administration and Safety	4.5	2.4	2.9	5.5	1.2	1.4
Education and Training	1.7	3.9	4.6	3.0	4.6	6.0
Health Care and Social Assistance	2.6	3.6	4.0	1.8	2.7	2.3
Arts and Recreation Services	1.4	5.1	4.2	1.0	4.5	6.2
Other Services	6.5	2.2	3.3	9.3	1.3	2.2
Dissimilarity indexes						
FT v/s PT_ok, Underemp		42.9	40.8		61.2	57.7
PT_ok v/s Underemp			7.8			9.3
Total emp non-student v/s student			41.1			

Table B7: Female employment by industry, 15–24 year olds, pooled data 2001 to 2015

	Non-students			Students		
	FT	PT_ok	Underemp	FT	PT_ok	Underemp
Agriculture, Forestry and Fishing	0.9	1.0	0.7	3.6	1.0	1.8
Mining	0.8	0.3	0.1	2.5	0.1	0.0
Manufacturing	5.8	3.1	2.4	13.9	2.6	3.5
Electricity, Gas, Water and Waste Services	0.8	0.2	0.0	0.2	0.2	0.0
Construction	2.2	0.8	0.9	33.0	2.5	3.2
Wholesale Trade	2.9	1.1	1.0	2.3	1.5	0.9
Retail Trade	12.3	31.9	34.6	8.8	36.6	30.6
Accommodation and Food Services	9.0	21.4	24.9	6.7	30.7	29.9
Transport, Postal and Warehousing	1.9	0.9	0.7	1.3	2.1	2.1
Information Media and Telecommunications	3.7	1.4	1.1	1.2	1.9	0.9
Financial and Insurance Services	6.6	2.8	2.0	0.8	0.5	0.7
Rental, Hiring and Real Estate Services	2.8	1.5	1.2	0.5	0.9	0.9
Professional, Scientific and Technical	11.9	3.5	2.6	3.7	2.8	3.8
Administrative and Support Service	2.9	2.1	2.1	0.9	2.4	3.8
Public Administration and Safety	5.2	1.2	1.0	5.5	1.2	1.4
Education and Training	6.6	5.5	5.5	3.0	4.6	6.0
Health Care and Social Assistance	15.2	15.1	11.6	17.5	6.8	7.1
Arts and Recreation Services	2.2	3.3	3.8	2.4	3.6	5.1
Other Services	6.3	3.0	4.0	13.0	2.0	3.3
Dissimilarity indexes						
FT v/s PT_ok, Underemp		33.2	39.8		49.6	46.6
PT_ok v/s Underemp			7.9			7.4
Total emp non-student v/s student			31.6			