Lake Wobegon, Australia: where everyone's future is above average*

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Abstract

This paper uses information on the occupational and income expectations at age 30 of people currently aged 20 years to assess whether they have a good picture of the impact of education and training on these phenomena. The implied education effects are compared with the patterns experienced by current cohorts of 30 year olds. In general, the young people appear overly optimistic about their future outcomes. They expect to work in much more highly skilled occupations and earn higher incomes than current 30 year olds. The relationships between education and both occupational status and income apparent for current cohorts of 30 year olds also hold in the expectations data. Expected occupational status and income generally increase with education and training level, with the pattern similar for young people from both low and high socio-economic status backgrounds. The exception to this consistency of the patterns in the expectations data lies with the income expectations of the least educated groups of males, who have no plans to undertake any further education or training. They have average expectations of incomes at age 30 that exceed those held by the likely most educated. For this group at least, it appears that better career information may play a role in assisting this group make better career and education and training participation choices.

Keywords: income expectations, human capital, youth decision-making

JEL Codes: J24, J31, I21

1. Introduction

Governments, parents, researchers and many others in Australia worry about the 'transitions' young people make each year from school to work and further education and training (CoAG Reform Council 2012). From the immediate effects of 'schoolies' weeks held after exams each year in various parts of the country to the potential longer term effects of early experiences of unemployment, concerns about the health and well-being of young people abound. From a distance, little seems planned and much seems influenced by chance. But young people make decisions about jobs and education courses with long-term consequences, and it seems important to try to assess how accurate the information base that lies behind those decisions is and to think about how it might be improved.

This paper looks at whether young people have an accurate picture of the impact of education and training on their future incomes and occupations at about the time they make education and training course choices, that is when they undertake their first post-school human capital investments. It asks whether they understand what levels of education are required for the occupations they expect to work in and whether the level of accuracy of these views varies across the social background distribution. Specifically, it addresses how accurately do teenagers estimate the benefits of education, including vocational education.

The paper uses information on the self-reported education plans of young people, and anticipated occupations and income levels at age 30 years to assess how closely anticipated returns to education match those realized by 30 year olds in Australian data, and what factors are most closely associated with inaccurate estimates. Both the expected returns to higher education and vocational education and training are analysed. The analysis considers explicitly how expected returns differ across differing groups of young people, distinguished by gender, social background and family welfare receipt history. Further, the accuracy of the path through education and training individuals perceive towards desired occupations is

important to understand, given moves to demand-driven decision-making in post-school education.

The main element of the methodology employed involves estimation of identical regression equations explaining income (and occupations) at age 30 from two data sets: one that contains twenty year-old's expectations about occupations and incomes (from the Youth in Focus - *YIF*- survey); the other the realizations of thirty year-olds (Household, Income and Labour Dynamics in Australia - *HILDA* - survey). With the HILDA data, the analysis is undertaken on the realized education, occupation and income outcomes of thirty year-olds, while for the YIF data it will be undertaken on expected outcomes of twenty year-olds when they reach age thirty. The analysis focuses on the extent to which the expected returns (based on the parameters from the equation estimated from YIF data) depart from the realized returns (based on the parameters from the equation estimated from HILDA data) and whether these vary for individuals from differing social backgrounds or for groups with other differing personal characteristics, such as by gender, or social background or welfare receipt history.

The next section contains a review of the international literature on income expectations and their realization. The data used here are described in the third section and the results in the fourth. The fifth section concludes.

2. How good are young people's expectations of the future

2.1. The international literature

There is a substantial literature now that looks at how the expectations of individuals about some phenomena translate into realizations. The literate spans phenomena from the timing of and income at retirement, fertility plans, expected educational attainment, future occupation and income, among many others. Manksi (2004) provides a summary and discusses the

breadth of activities studied, with a particular perspective of how expectations should be measured. There are a number of reasons for studying these phenomena. One is that these expectations of future events generally have implications for the current behaviour of individuals. How much longer you plan to work for or your expected income at retirement may influence your current labour supply behaviour, your asset accumulation patterns and portfolio, and your preparedness to undertake training, for example. Fertility expectations, and any associated labour force adjustments within a household, might influence the education and training investments made by its members. A second reason for studying expectations is that revealed expectations may provide information about how individuals view or understand some phenomena of interest – what is the return to education they face, how do they view risk, do they update their expectations in predictable ways when they receive new information, and do they understand what types of education are associated with different types of jobs. The focus in this paper is on the literature that looks at the income expectations of individuals, particularly of students whose final, highest level of education has not yet been observed or realised.

Studies in this growing income expectations literature of current students vary in a number of dimensions. First, on the types of students or young people studied - from general groups of young people found in household surveys (Attanasio & Kaufmann 2009, Jensen 2010) to quite specific groups - such as undergraduates in specific fields of study in one university (Betts 1996). Second, studies vary over the time frame over which income expectations are provided, from immediately upon graduation (Brunello, Lucifora and Winter-Ebmer 2004, Jerrim 2011) to ages out to 40 years (Dominitz & Manski 1996). Third, studies differ on whether incomes are provided for levels of completed qualifications versus incomes associated with fields of study within specific levels (Betts 1996, Zafar 2011, Wiswall & Zafar 2011a, 2011b, Arcidiacono, Hotz & Kang 2012). Four, studies differ over the extent to

which future income forecasts are compared with the individual's actual realizations (requiring longitudinal data as in Jerrim 2011, Brunello, Lucifora and Winter-Ebmer 2004, Webbink and Hartog 2004) versus those incomes experienced by another cohort of individuals (Smith & Powell 1990, Blau & Ferber 1991, Jensen 2010). Five, studies differ on whether individuals report their future incomes after one particular level of completed education (say, on graduation from their current studies: Brunello, Lucifora and Winter-Ebmer 2004, Jerrim 2011) or a number of hypothetical levels (Dominitz & Manski 1996, Attanasio & Kaufmann 2009), so the perceived income effects of qualifications can be estimated directly from individual responses. Six, studies vary in the extent to which individuals are asked to place themselves relative to the distribution of future incomes in relevant populations (revealing individual views about their ability and industriousness, among other characteristics– Smith & Powell 1990) versus studies where only absolute expectations are sought. Seven, studies differ on whether a single expectation at some time in the future is sought (so, just one moment of the expected income distribution - the individual's mean or the median among possible outcomes: (Brunello, Lucifora and Winter-Ebmer 2004, Jerrim 2010) versus a more complete picture of the distribution of potential incomes facing individuals (Dominitz & Manski 1996, Wolter 2000, Attanasio & Kaufmann 2009, Mazzo & Hartog 2011). The number of studies of income expectations data from both developed and developing countries are increasing, though most focus here is given to those from developed countries.

There are a number of reasonably common results across studies of income expectations in developed countries. First, individuals never underestimate their likely future income, with the level of measured over-estimation depending somewhat on the approach used in the study. Some longitudinal studies that allow the comparison of expected and actual realizations for the same individuals have found little error (for example, Webbink and

Hartog 2004, as well as Wolter 2000). Studies that compare average income expectations with averages in the current population find large over-estimates (up to 50% - Betts 1996, Smith & Powell 1990). Second, males in these studies in particular are prone to "self-enhance" (Smith & Powell 1990). That is, their income expectations are substantially higher that the income earned by males in the current population. Third, people do believe income increases with education – their income expectations are higher for completing a degree than if they only complete high school, for example (Smith & Powell 1990, Dominitz & Manski 1996). Four, students from poor backgrounds report similar expectations of the way income increases with education as do students from rich backgrounds (Rouse 2004, though Betts 1996 found the absolute errors of students from poor backgrounds were larger). Five, forecasts improve the closer individuals are to graduation and with their knowledge of the field of study being considered (Betts 1996). Six, expectations of future incomes are subject to change if the information on which they are based changes (Jensen 2010, Wiswall & Zafar 2011a, 2011b).

Like all academic literature, there is a strong methodological element to this research area. This revolves around the best method to elicit expectations from individuals and what information should be sought. Studies that seek information on the distribution of expected income that individuals believe they face often utilise computer-based collection modes and involve small sample sizes. These studies typically involve the provision of very detailed instructions to individuals, given the complexity of the information sought. One payoff in these studies is that it is very clear what income concept has been collected. Individuals are instructed to ignore inflation, to assume they are continuously employed full-time after graduation, to provide a personal income estimate of labour earnings, that the estimates should be before tax, and so on. This clarity has considerable benefits compared with the

type of question used in this study (and many others), described below, which provides no guidance on these issues to respondents.

2.2. Australian studies

In Australia, there is no literature that looks at the income expectations of individuals and compares it to the realisations of the same individuals or others. There is work on educational aspirations and their realisations that shows individuals who plan to complete Year 12 and attend university are more likely to do so than others who do not (Khoo and Ainley 2007). Research by Homel and Ryan (2013) confirms this, even after allowing for some unobserved third factor, like ambition or motivation or ability to influence, both expectations and their realizations. There are also studies of the role of occupational expectations and their realisations. For example, Sikora and Saha (2011) analyse occupational plans and the extent to which young Australians realize them by the age of 25. Like other researchers, they find a very strong preference toward employment in professional occupations, which also has consequences for the educational plans of individuals in the data they use. They found that these occupational plans were *consequential* to young adults' attainment, particularly for an early entry into high-status employment. Those who plan to be employed in a high status job might not achieve it, but those who do not plan almost certainly will not stumble into one.

3. Data and methodology

3.1. The Youth in Focus survey

The YIF survey focuses on understanding the well-being and the progress in achieving economic and social independence among young Australians (it is described in detail in Breunig *et al*. 2009).[1] The YIF data involves the combination of historical government

[1] For more information about the project see http://youthinfocus.anu.edu.au.

administrative data on payments made to the young person and/or their family with survey data from both the young person and from one of their parents (typically, their mother). The dataset includes detailed information on the current state and activities of the young person at ages 18 and or 20 years and that of their parent, as well as on the circumstances under which the young person grew up.

The first wave of the YIF survey collected data on 4,079 young people, who were interviewed between August and November of 2006. These people were born between October 1987 and March 1988 and had had contact with the social security system in the period between 1993 and 2006 as recipients of government payments themselves, or because their parents received payments or child related allowances and benefits. While the data should not be representative of young people whose families were at the very top of the income distribution and ineligible for social benefits, comparison of the YIF sample with the Australian Census data suggests that the administrative data capture about 98 percent of the youths born in the period (Breunig *et al*. 2009). The activities (employment rates, proportions in different forms of education and training) the young people engaged in as 18 year olds in 2006 matched closely those of 18 year olds Australian Census (Homel *et al*. 2012)

YIF respondents were re-interviewed two years later in 2008, when they were aged 20 years of age. Some 2,362 individuals who have been interviewed in wave one responded in wave two. In addition, a top-up sample from the original survey population was added in wave two. This provided a further 1,261 responses.

The YIF data are based on a stratified sample of the population of young people whose families had received government payments, such that those with the longest histories of receipt of welfare payments were oversampled, and those who received family payments were undersampled. In this study, weights have been used to re-weight the achieved sample

back to match the proportions in the actual population of recipients and these weights are used in all of the reported analysis in this study.

All respondents to the YIF survey in wave two were asked about their expectations of the future. Among the questions asked were "What kind of work do you expect to be doing when you are 30 years old?" and "What do you expect your total annual income to be in 10 years time when you are 30 years old?". The responses to these questions form the basis of the dependent variables analysed in this paper. Responses to another question, relating to the highest level of education respondents plan to obtain in the future, forms the basis of the key explanatory variables used in this paper.

3.2. The HILDA survey

This study uses data from the Household, Income and Labour Dynamics in Australia (HILDA) survey to examine the relationship between education, occupation and income among individuals aged 30 years. HILDA is a household-based longitudinal survey, which aims to track members of an initial sample of 7682 households, and individuals who join members of those initial households, over an indefinite life. The sample was intended to be nationally representative of the Australian population aged 15 years or more living in non-remote regions in 2001. Interviews are concentrated in the period from August to November each year. People aged 30 years in any of the first ten waves of the survey, from 2001 to 2010 are used in the analysis undertaken in this paper. The HILDA survey is described in more detail in Summerfield et al. (2011).

3.3. Data inconsistencies between two surveys

There are a number of inconsistencies between the two surveys, as well as unique data quality issues that affect one of them. These are described below, along with how they have been resolved in this study.

First, both data sets contain occupationally-related socio-economic status indicators for subjects, based on their own or their parents' occupations. These are based on the occupational categorisation used in the data. In HILDA, occupations were coded to the Australian Standard Classification of Occupations version 2 (ASCO2) in early waves, then to the Australian and New Zealand Standard Classification of Occupations (ANZCO) when the Australian Bureau of Statistics changed the occupational categorisation it used. These occupational classifications were linked to different, but conceptually-related occupational SES scales: ASCO2 to ANU4, ANZSCO to AUSEI06. Later releases of the data provided only the AUSEI06 scale. The YIF occupations were coded only to ASCO2, so that the relevant occupational SES scale is ANU4. However, it is possible to construct a concordance between ANU4 and AUSEI06 to convert this information, so that at least at the one digit ANZSCO occupational classification level, the SES level of the jobs of individuals can be shown on the AUSEI06 occupational scale range.

Second, the future income YIF question was “What do you expect your total annual income to be in 10 years time when you are 30 years old?" There are many uncertainties about the way the responses might be interpreted? Respondents were given no instructions about whether to account for inflation, future living arrangements, taxation, career interruptions, whether to provide a mean of possible outcomes or some other feature of the distribution,

HILDA has many income concepts available in the distributed data: personal annual income; annual earnings (what would normally be used in estimating an earnings function); and household disposable income, among others. The last concept is important, and is often "equivalised" by dividing by the (weighted) number of adults and children present in the household, to capture an individual's effective call on household resources. Since many 30 year olds live with partners and children, possibly relying on the earned income of others for their "equivalised" disposable income, this matters for the comparisons we make.

Respondents in the YIF survey were not asked if they expected to be partnered by age 30 or the number of children they expected to have by that time (or if they were going to be working full- or part-time). Hence it is not possible to "equivalise" their future income, though some individuals may have responded with some kind of "equivalised" concept in mind when they answered the question. For example, some women who indicated they would be "homemakers" in response to the future occupation question nevertheless anticipated future incomes that appear larger than might come from unearned income. If the patterns of answering the questions are similar across education categories in the YIF data, the complexities of not knowing household and family formation patterns or hours of work or how respondents dealt with inflation should not affect income relativities by education level too much. In this paper we compare the annual income expectations of individuals from the YIF data with both the personal income and equivalised household disposable income of subjects from the HILDA data.

Third, there are missing values for the future occupation variable in the YIF data. About one quarter of observations have missing future occupation values. In some cases, this is because respondents planned to be 'homemakers'. In most other cases, subjects provided occupations that were not coded and the verbatim responses to the question are available in the released data.

Fourth, there are also missing values for the future income variable in the YIF data. About 15 per cent of individuals did not provide future income estimates. Further, some respondents provided extremely (implausibly) high values, which were trimmed in the analysis, with only annual incomes less than $400000 included.[2] There were some zeros in the data, mostly from

[2] This removed 35 males and 19 females from the analysis.

those among the 'homemakers' group who must have answered the question about their personal income.

The response taken to the third and fourth issues in this paper has been to impute occupation and income where it is missing and use multiple imputation techniques in the analysis (for multiple imputation techniques, see Rubin 1976, 1987, 1996, Little 1992 and Cameron and Trivedi 2008 for a textbook treatment of the issue). Missing values for these variables were imputed using observed data on their gender, the SES status of their parents' occupations, the SES status of the occupations of individuals in their jobs when surveyed at wave two, their planned level of completed education and the socio-economic status of the area where they live.[3]

3.4. Sample sizes

The final sample numbers used in the analysis are presented in Table 1. After imputation, there were 3470 observations from the YIF data for analysis of the income expectations and 3280 for analysis of expected occupations. There were 2492 and 2099 observations of the same phenomena from HILDA.

3.5. Descriptive statistics: educational attainment, occupation and income

Educational attainment

The current cohort of young people from YIF plans to obtain much higher levels of education than those reached by recent cohorts of 30 year-olds in HILDA. Mostly, this difference is reflected in university-level education, as is evident in Table 2. While 36 and 30 per cent of females and males, respectively, from recent cohorts had completed a university qualification (degree or postgraduate) by age 30, 59 and 46 per cent respectively of the current cohort of

[3] The SES of where individuals lived is captured via two variables. One is the postcode-based ABS Education and Occupation Socio-Economic Indexes for Areas (SEIFA) index. The other is based on the average annual taxable income of people living in the postcode, derived from Australian Taxation Office regional data.

young people in the *YIF* data plan to do so. By contrast, the proportions either with or without Year 12 who expect to complete VET-level qualifications, the "Post-school qual" groups in the table, show little change for males or females from those observed among 30 year-olds. The proportions without post-school qualifications will fall by about 25 percentage points among females and 15 percentage points among males, implying very big shifts in educational attainment.

The educational classification contained in Table 2 classifies completed education into six categories, in increasing level of attainment. The categories combine level of schooling with the completion of post-school qualifications. The first two are for non-completers of Year 12, distinguished by whether they completed a subsequent post-school qualification. The remaining categories include individuals who have completed Year 12. The first without completing a post-school qualification, the second who complete a VET-level post-school qualification, the third who complete a university degree and the last who also complete a post-graduate qualification. A more detailed educational classification was also used in places, one that distinguished between different VET-level qualifications, but this detailed classification rarely shed more light than the one used. While not shown in Table 2, more disaggregated estimates show similar compositions of the VET-level qualifications between Certificates I & II, III & IV (including apprenticeships and traineeships) and diplomas in the plans of the young cohort as those completed by 30 year-olds in HILDA.

Occupation

The current cohort of young people expect to work in much higher skilled occupations at age 30 than those reached by recent cohorts of 30 year-olds. From Tables 3a (for females) and 3b (for males), it is evident that pattern reflects both the higher anticipated level of completed education of the YIF group compared to that found in the HILDA data, but that they also to expect to work in higher skilled occupations for any level of completed education and

training. For example, one in five females in both of the two lowest education and training levels expect to work as professionals by age 30, while almost none of them expect to work as labourers, a category which includes cleaners. This is despite the fact that almost one quarter of the lowest level education and training, those without post-school qualifications who did not complete Year 12, worked in that occupational category in the HILDA data. Another notable difference between the actual and expected occupational distributions relates to clerical workers. Almost one-quarter of employed 30 year-olds work as clerical workers in the HILDA data, yet less than one in ten young women in the YIF data expect to be employed as clerical workers at age 30.

The same kind of departure from the actual occupational outcomes is also apparent among the reported expectations of males in Table 3b, with a large shift in the proportion expecting to work as professionals at the expense of the proportion working in lower skilled occupations.

The same pattern is apparent in the occupational SES associated with the jobs of individuals. These are shown in the third and six columns of Table 4 for females and males, respectively. Overall, both males and females in the *YIF* data expect to be working in higher SES jobs at age 30 than did actual 30 years olds in the HILDA data. The aggregate increase in average SES is from 58.4 to 65.5, a substantial increase. This increase reflects both the higher expected levels of completed education and training (about half of the effect) and higher expected SES jobs for almost all of the education and training categories (the other half of the effect). In both the realised HILDA data and the expected *YIF* occupational data, the SES associated with jobs clearly rises with skill level of the education and training categories. Young people seem to understand that higher levels of completed education and training are associated with higher SES jobs.

The distributions of jobs by SES associated with each education and training level in the HILDA (left panel) and YIF (right panel) data are presented in Figure 1. The distributions have a bimodal structure, with peaks around 30-40 and 80. Many trades occupations have SES values in the 30-40 range, while many professional occupations have SES values around 80. The main features of the Figure are that all of the YIF distributions have very few people in the lowest SES jobs compared with the HILDA data and, even for the lowest education and training levels, there are more people who appear to expect to work in high SES jobs.

Income

Individuals in the YIF data also expect much higher levels of income at age 30 than those enjoyed by 30 year olds in the HILDA data. As noted earlier, it is not clear exactly what income concept in HILDA the YIF data should be compared with, but the numbers presented in the first and fourth columns of Table 4 for females and males, respectively, depart in a number of respects from the patterns in the HILDA data for individual income. While the HILDA income data broadly increase with education and training level for both males and females, the YIF data do not for males. Mostly, this seems to be because the lowest male education and training level groups have such high reported income expectations. The least educated groups of males anticipate average incomes far in excess of the most educated females and, indeed, higher incomes than even males with university degrees. For females, the more highly educated groups do anticipate substantially higher incomes than the less educated groups. Given these base income data, it is clear that the estimated income effects of education estimated from the YIF expectations are unlikely to match those estimated from the HILDA data for males, while the estimates for females should not depart so much from those observed in the actual data.

The income distributions associated with each education and training level in the HILDA and YIF data are presented in Figure 2. The main features are that all of the YIF distributions lie

to the right of the HILDA ones and that the YIF income distributions are much more compressed than those of the actual data in HILDA.

3.6. Regression methodology

The main element of the methodology involves estimation of identical regression equations explaining income (and occupations) at age 30 from the two data sets. However, with the HILDA data, the analysis will be undertaken on realized education, occupation and income outcomes, while for the YIF data it will be undertaken on expected outcomes. The analysis then focuses on the extent to which the expected education effects on income (based on the parameters from the equation estimated from YIF data) depart from the realized effects (based on the parameters from the equation estimated from HILDA data) and whether these vary for individuals from differing social backgrounds or for groups with other differing personal characteristics, such as by gender, or welfare receipt history.

That is, an equation of the following form is estimated for both income and the SES of occupations at age 30 from the two data sets:

$$\ln(Y_i) = X_{1i}'\beta + X_{2i}'\gamma + E_i'\delta + (X_{1i} * E_i)'\theta + u_i \quad (1)$$

where Y_i is a measure of income (or occupational SES), X_{1i} is the set of base individual characteristics; X_{2i} is a set of additional controls included to assess whether the parameters change; E_i is a set of education and training indicator variables; $\boldsymbol{\beta}$, γ, $\boldsymbol{\delta}$ and $\boldsymbol{\theta}$ are parameter vectors; and u_i is a random error term. The parameters of most interest for this study are δ and θ, the estimates of the main education and training effects and those on any estimated interaction with key individual characteristics (where they are included in estimation).

In this paper, the set of base characteristics include employment status, country of birth and language background, Indigenous background and whether the individual lives in a metropolitan region. The set of additional controls include an indicator of having experienced depression and a self-report of being below average achievement compared to their peers at school by the individuals.

4. Regression results

In the following sub-sections we describe the regression results as they relate to expected occupation, expected income and the robustness of the results in the face of allowing the estimated effects to vary across social groups.

4.1. Occupation at age thirty and its relationship with education

Like the simple means in Table 4, the estimated regression parameters on the variables explaining occupational SES show that both realized and expected occupational SES increase with education level. The regression parameters, for males and females separately, are presented in Table 5 and depicted graphically in the right hand panel of Figure 3. The estimates in table 5 are presented for both a six category educational classification that groups VET-level qualifications together but distinguished between those with VET-level post-school qualifications depending on whether they have complete Year 12 (already used in earlier tables), and a more detailed categorisation that distinguishes the VET-level qualifications into Certificate types and diplomas. While there are some differences between results from the broad and detailed classifications, these tend to be small. The main is that Diplomas, more than other types of VET-level qualifications, seem to be associated with employment in higher status occupations.

In general, the patterns in both the YIF and HILDA data, and for males and females, are quite similar. Compared with the realised and expected jobs of individuals who have not completed Year 12 or any post-school qualifications, those with Year 12, with or without a VET post-school qualification, work in jobs about 10 points higher, while people with a degrees or more work in jobs at least 30 points higher.

A handful of other variables appear in the occupation equation. These reflect the birthplace and language background of individuals, indigenous status and whether or not they live in a metropolitan part of Australia. By and large, the inclusion of these factors has little impact on

the equation or the magnitude of the education level variables and they are typically not individually significant, in either the actual data or for the expected occupation. An exception is that current full-time or part-time employment status have quite large effects on current 30 year olds in the HILDA data. The inclusion of additional variables, notably reported achievement relative to peers at school and having been diagnosed as depressed, did not have any substantive impact on the estimated education affects.

What is different between the two equations, however, is that the intercept of the equation estimated with the YIF data is 20 points higher than that of the HILDA data. So those individuals who have not completed Year 12 or any post-school qualifications in the YIF data expect to obtain much higher status jobs by age 30 than those who are already 30 have been able to obtain. Nevertheless, it appears that young people understand the relative impact of education on the occupational status of individuals – those intending to get more education have markedly higher occupational expectations than those who intend to get only low levels of education.

4.2. Income and its relationship with education and occupation

The current cohorts of young people also have much higher income expectations than existing cohorts of 30 years olds have been able to realize, as is evident from Figure 2 and Table 4. Once more, these higher expectations reflect higher expectations at each level of educational attainment.

As already noted, for males, the pattern in the expectations departs from that experienced by actual 30 year-olds substantially. The least educated groups expect incomes as large as those of the most educated (Table 4). This means that any estimated differences between education groups are unlikely to be large. This is reflected in the results presented in Table 6, which contains the estimated parameters for the income regression equation. Once more these are shown separately for males and females, with results for both the broad and detailed

educational classifications presented. For the actual data from HILDA, two sets of results are presented – one where the dependent variable is real personal income, the other where it is equivalised real household disposable income.

The estimated education parameters for males in the HILDA data do not differ much between the personal income and equivalised real household disposable income measures. In both, the estimated Year 12 effect is in excess of 15 per cent, while the degree and post-graduate qualification effects are also large and significant. The personal income effects appear larger than those for equivalised real household disposable income.

For females, the patterns between the two income concepts are very different. For the personal income measure, degree effects are not much more than 15 per cent, while Year 12 appears to be negatively related to income. Of course, many 30 year olds will be partnered and have children living in their household. The equivalised real household disposable income measure shows much more substantial education effects for females and provides results much more in line with the male estimates (and in line with regressions that focus on the earned income of those who work). Therefore, we prefer to compare the income expectations from YIF with the equivalised real household disposable income for females in HILDA.

The implied education effects in the YIF expected income data are very similar to those estimated from the equivalised real household disposable income measure for females in HILDA. The estimated degree and post-graduate effects are somewhere between 30 and 40 per cent, while the Year 12 effect is around 15 per cent. VET-level qualification effects on wages are negligible in both the expectations and the actual HILDA data for females. In the actual HILDA data, there appear to be wage effects associated with completion of a Diploma and an Apprenticeship or Traineeship. There also appears to a Diploma effect in the YIF expectations data.

In part, this seems to be because people expecting to be in low SES jobs expect to receive high incomes - the profiles across jobs are much flatter in Figure 3 (the right panel) in the YIF expectations data than in the data for actual 30 year-olds (in the left panel).

The results for both income and occupation are summarised in Figure 4, which depicts the size of the estimated parameters on varying education levels in the two surveys (compared to not completing Year 12 and having no post-school qualifications). The results for male incomes stand out - because the least educated group anticipate unrealistically high incomes at 30, the estimated returns to education are much lower than the reality. If we just focus on males who have completed at least Year 12, then it is the case that expected incomes increase with education

4.3. SES effects on expectations – any interactions with education?

The relationships between educational attainment and occupation and income in the YIF data were allowed to differ across the social background distribution (reflected by quartiles of parental occupational SES) and by family history of welfare receipt (intensive, modest or none).

There was no evidence that the estimated relationships did vary across different groups. The results of significance tests of the inclusion of the interaction effects for both parental occupational SES and family history of welfare receipt are presented in Table 7, as well as the results for the inclusion of the SES measures. All of the significance tests suggest that the SES measures and the interaction effects could be excluded from the equation, since the

possibility the variables true parameters were zero could not be rejected at the 10 per cent level in any of the tests.

Hence, we can conclude that the relationships between educational attainment and occupation and income in the YIF data did not differ across the social background distribution. Moreover, social background, as reflected in parental occupational SES and by family history of welfare receipt, had no impact on either the expected occupations of individuals at age 30 or on their expected incomes.

5. Conclusions

In this paper we have compared the expectations 20 year olds hold about their lives at 30 with the realizations of current cohorts of 30 year olds. The purpose was to see whether young people have an appreciation of the impact education has on people's lives. We were interested in whether patterns found in real lives – that job status and incomes rise with education would be reflected in young people's expectations about the future.

There was something of a mixed pattern in the data, of the education effects in the expectations matching that of real data. In general, young people had expectations that were accurate of the patterns of the relative impact that different levels of education have on the status of jobs. Everyone was too optimistic about the jobs they would hold at age 30, but the effects of having a degree or skilled vocational qualification relative to not completing Year 12 or any post-school education and training were quite close to the effects found in real data for both males and females.

People were too optimistic about their levels of future income as well. Once more, young women seemed to have an accurate picture of the relative impact of different levels of education have on income. But young men did not, notably because the group who had left school before completing Year 12 had wildly optimistic views of what their income would be at age 30. The average of their expectations was higher than the average of those who

expected to have completed a degree. In reality, we might expect the degree holders to have incomes a third higher than the lowest education groups at age thirty. The accurate and the inaccurate patterns in the expectations data are widely held in this analysis – we did not find evidence that they vary across the social background distribution.

It is hard to be so conclusive about what this means when there are limitation with the question that elicited the income expectations from young people. It was not so clearly specified as other questions used in the literature to elicit such information, so many of the things people had in their mind when they answered it are unclear – inflationary expectations, hours of work, career interruptions and so on. Further, questions that elicit expectations with and without particular qualification levels have considerable advantages where we are trying to estimate the impact of education young people have in their minds when they make human capital investment decisions.

The current group of 20 years olds plan to complete much more education than did the current cohort of 30 year olds. So, in one sense, even if they do not value education properly, their willingness to undertake it makes that error less important. Yet it is the least educated group of males – more than 20 per cent of all males – who have the most overly-optimistic view of their future incomes. Without wanting to crush their hopes, it does seem that some testing of the information they have about the consequences of particular choices they might make and the ways they use that information might be useful, if only to see whether career advice and planning during their schooling might be improved.

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Figure 1: Occupational SES distribution by educational attainment: HILDA and YIF

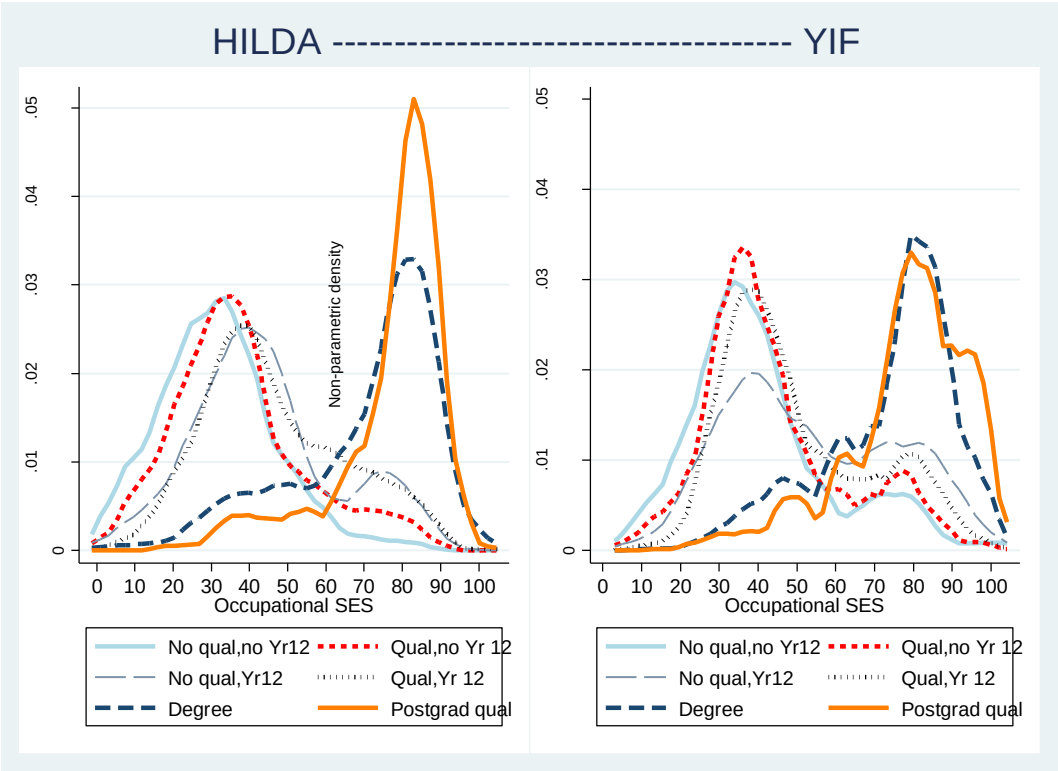

Figure 2: Income distribution by educational attainment: HILDA and YIF

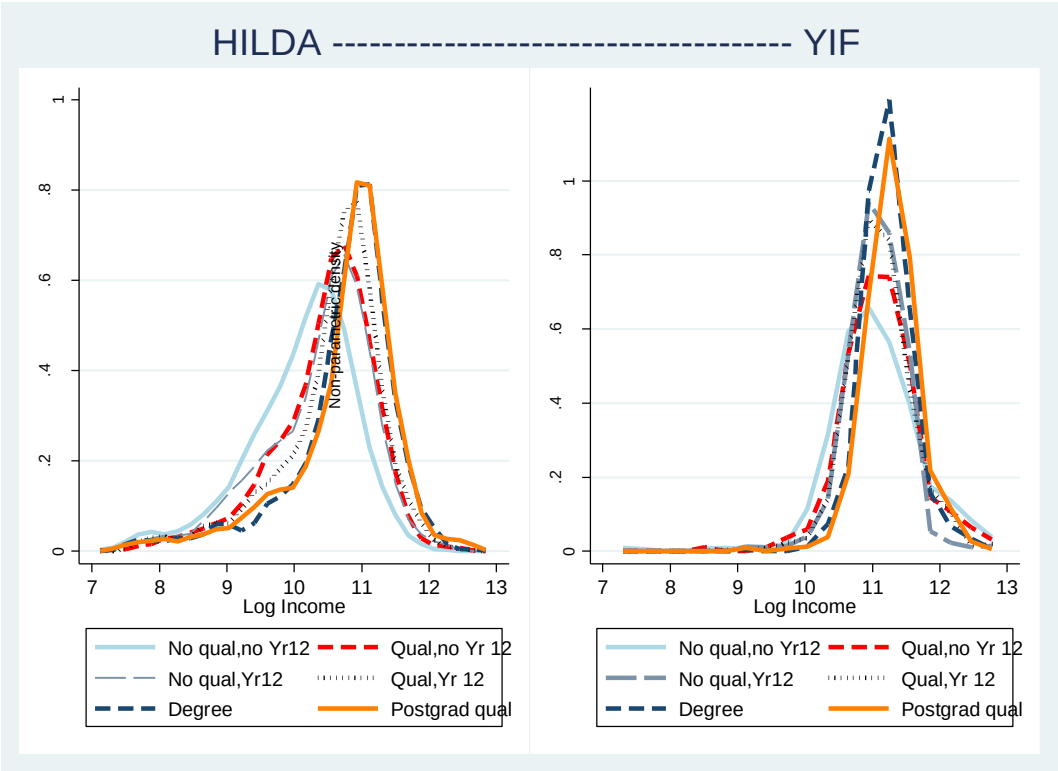

Figure 3: Relationship between occupation and income by educational attainment level: HILDA and YIF

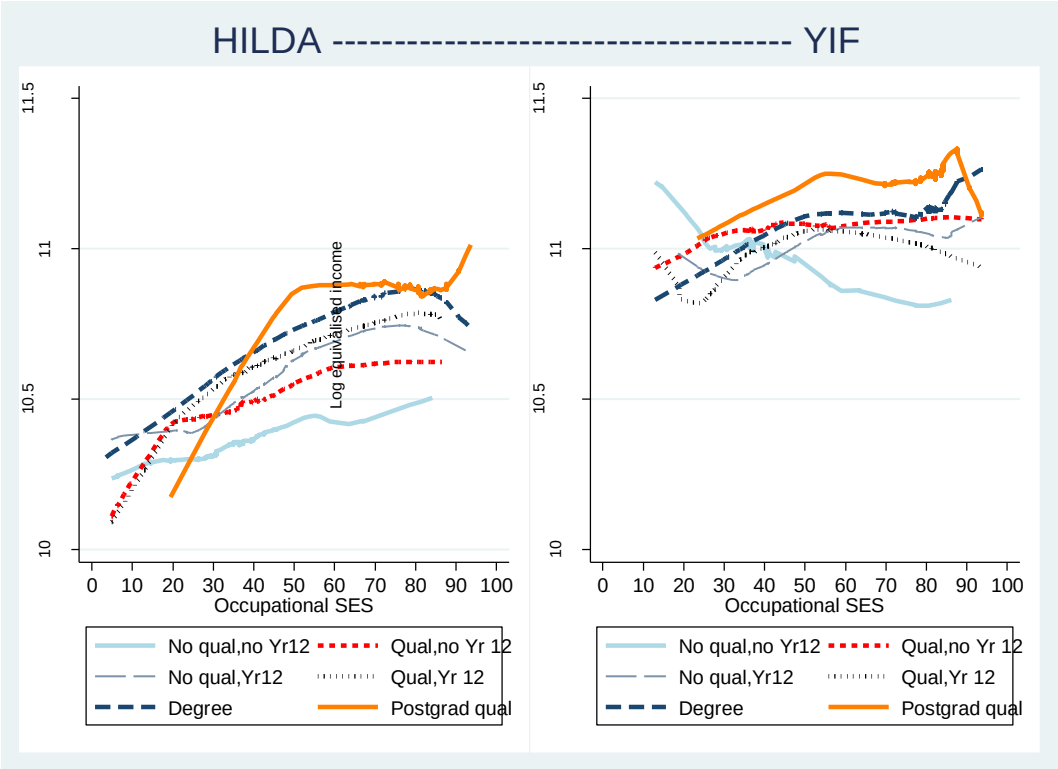

Figure 4: Parameter estimates

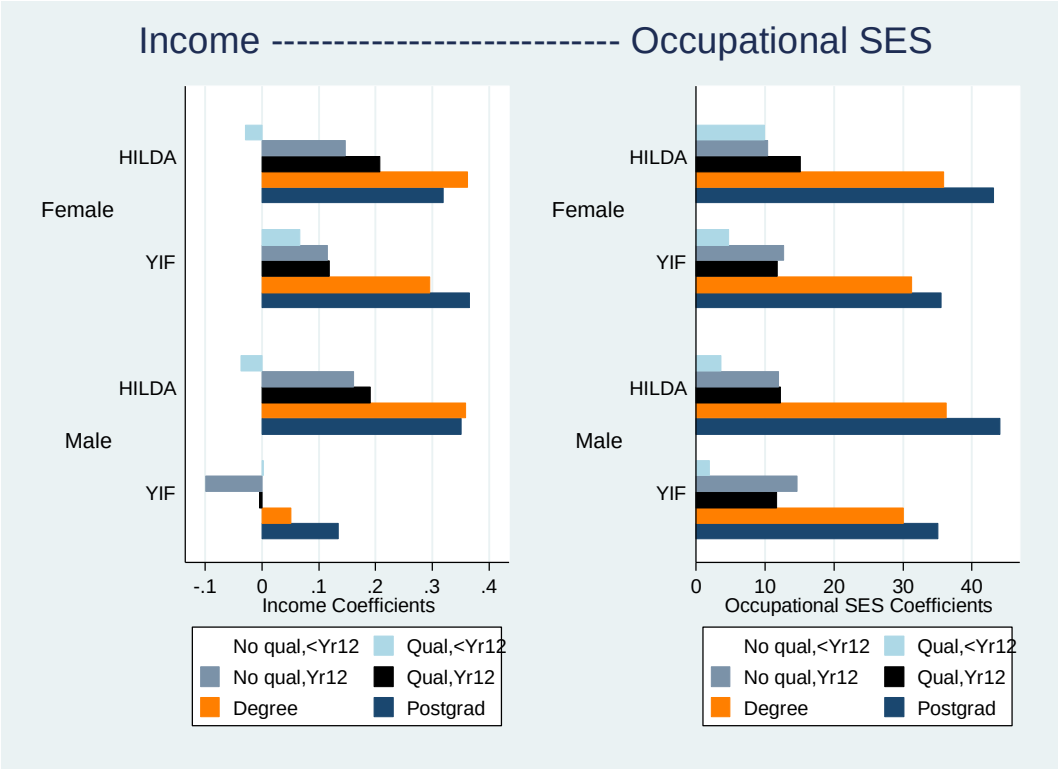

Table 1: Sample sizes: YIF and HILDA

	Youth in Focus			HILDA		
	Male	Female	Persons	Male	Female	Persons
Wave 2 re-interview	1069	1293	2362			
Wave 2 New Entrant	553	708	1261			
Total	1622	2001	3623	1249	1256	2505
With valid income	1432	1623	3055	1188	1304	2492
With valid occupation	1168	1520	2688	1126	973	2099
With valid or imputed income	1569	1901	3470			
With valid or imputed occupation	1436	1844	3280			

Table 2: Educational attainment - males and females; YIF and HILDA

	HILDA		YIF	
	Female	Male	Female	Male
	%	%	%	%
No postschool qualification, no Year 12	20.6	15.3	4.9	6.1
Postschool qualification, no Year 12	9.5	18.0	9.8	15.8
Year 12, no postschool qualification	18.1	17.5	8.3	9.9
Postschool qual, Year 12	15.7	19.4	18.3	22.3
Degree	26.1	21.1	39.0	31.0
Postgraduate qualification	10.1	8.7	19.8	14.9

Table 3a: Educational attainment and broad occupation, females: HILDA and YIF

	Managers	Professional	Technical & Trade	Comm, Pers Serv	Clerical	Sales	Machine op, drivers	Labourers
	%	%	%	%	%	%	%	%
HILDA								
No postschool qual, no Year 12	10.6	1.2	5.4	17.8	26.7	12.3	1.6	24.4
Postschool qual, no Year 12	12.9	9.1	6.5	17.9	33.0	9.8	1.0	9.9
Year 12, no postschool qual	8.5	11.6	2.6	9.1	43.7	14.0	3.5	7.1
Postschool qual, Year 12	9.5	23.6	7.2	23.4	20.8	8.2	2.2	5.1
Degree	8.0	64.5	3.2	4.6	14.8	4.0	0.0	1.0
Postgrad qual	12.3	75.0	1.4	4.2	5.8	0.5	0.0	0.8
Total	9.6	36.2	4.1	11.4	23.1	7.7	1.3	6.7
YIF								
No postschool qual, no Year 12	13.7	20.3	6.3	29.8	10.1	17.0	1.4	1.4
Postschool qual, no Year 12	23.2	20.4	13.5	26.3	13.1	3.5	0.0	0.0
Year 12, no postschool qual	15.5	34.7	6.6	16.8	20.8	3.6	0.0	2.0
Postschool qual, Year 12	17.2	27.2	9.4	24.7	18.7	2.8	0.0	0.0
Degree	10.6	77.8	0.9	6.8	3.7	0.1	0.0	0.1
Postgrad qual	10.1	81.6	1.5	4.2	2.4	0.3	0.0	0.0
Total	13.2	59.0	4.3	12.8	8.5	1.9	0.1	0.2

(a) Rows sum to 100.

Table 3b: Educational attainment and broad occupation, males: HILDA and YIF

	Managers	Professional	Technical & Trade	Comm, Pers Serv	Clerical	Sales	Machine op, drivers	Labourers
	%	%	%	%	%	%	%	%
HILDA								
No postschool qual, no Year 12	10.0	3.0	16.1	10.3	4.1	1.9	21.8	32.8
Postschool qual, no Year 12	11.1	4.2	48.8	4.6	2.1	3.1	9.6	16.5
Year 12, no postschool qual	21.4	15.1	13.4	7.1	15.9	5.0	10.6	11.6
Postschool qual, Year 12	14.3	9.5	37.6	7.1	7.6	7.3	3.0	13.6
Degree	15.5	54.0	9.3	3.6	7.2	3.7	4.2	2.4
Postgrad qual	12.9	74.8	6.2	1.6	3.1	0.6	0.0	0.8
Total	14.5	24.4	23.3	5.8	7.1	4.0	8.1	12.8
YIF								
No postschool qual, no Year 12	10.1	8.4	45.0	11.3	2.4	1.3	12.9	8.5
Postschool qual, no Year 12	15.6	11.8	50.1	5.8	1.7	0.5	8.8	5.8
Year 12, no postschool qual	11.2	33.6	25.0	11.4	8.0	0.8	6.4	3.6
Postschool qual, Year 12	13.9	21.4	49.4	6.6	3.1	1.3	2.6	1.8
Degree	14.3	64.8	7.2	5.2	6.7	0.9	0.3	0.5
Postgrad qual	15.0	68.8	4.2	4.6	6.2	0.0	0.8	0.4
Total	14.0	41.0	27.0	6.4	4.9	0.8	3.5	2.4

(a) Rows sum to 100.

Table 4: Educational attainment and broad occupation, females: HILDA and YIF

	Female			Male		
	Income	% of base	Occup SES	Income	% of base	Occup SES
	$	%		$	%	
HILDA						
No postschool qual, no Year 12	32,336		33.6	38,265		30.3
Postschool qual, no Year 12	28,802	89.1	44.5	49,035	128.1	34.8
Year 12, no postschool qual	29,004	89.7	45.5	54,031	141.2	44.3
Postschool qual, Year 12	35,922	111.1	50.4	54,393	142.1	43.4
Degree	47,613	147.2	70.1	66,454	173.7	67.5
Postgrad qual	47,334	146.4	78.2	72,479	189.4	76.1
Total	37,466		53.5	55,030		48.0
YIF						
No postschool qual, no Year 12	52,879		43.3	95,018		38.2
Postschool qual, no Year 12	60,825	115.0	48.0	95,784	100.8	41.9
Year 12, no postschool qual	60,580	114.6	55.8	78,982	83.1	54.0
Postschool qual, Year 12	59,604	112.7	54.7	91,167	95.9	51.2
Degree	69,919	132.2	74.6	88,553	93.2	70.1
Postgrad qual	82,096	155.3	79.1	97,093	102.2	75.0
Total	67,537		65.5	91,086		58.4

Table 5: Occupational SES regression estimates: YIF and HILDA data, males and females, broad and detailed educational classifications

	YIF occupational expectations				HILDA actual occupation			
	Broad education		Detailed Education		Broad education		Detailed Education	
	Female	Male	Female	Male	Female	Male	Female	Male
Born o/s, English-speaking country	3.347	-0.713	3.326	-0.998	-3.359	10.078**	-5.301	9.516*
	(3.062)	(3.265)	(3.052)	(3.248)	(5.002)	(5.103)	(4.928)	(4.992)
Born o/s, non-English-speaking country	0.822	-0.330	0.699	-0.796	-10.777**	-0.662	-12.957***	-1.037
	(1.811)	(2.108)	(1.814)	(2.072)	(4.845)	(4.945)	(4.774)	(4.833)
Employed full-time					15.405***	3.777	15.194***	3.711
					(2.151)	(3.059)	(2.121)	(2.993)
Employed part-time					10.776***	0.473	10.695***	-0.415
					(2.278)	(3.566)	(2.241)	(3.489)
Currently employed	-1.566	-3.423**	-1.609	-2.810*				
	(1.222)	(1.523)	(1.226)	(1.525)				
Indigenous	-5.788**	-3.389	-5.542**	-3.176	2.923	-7.911*	4.767	-7.323
	(2.573)	(3.012)	(2.582)	(2.988)	(4.654)	(4.765)	(4.581)	(4.660)
Metro	2.026*	1.054	1.682	0.316	0.409	6.071***	0.047	5.356***
	(1.062)	(1.257)	(1.072)	(1.257)	(1.329)	(1.361)	(1.308)	(1.340)
Education level effects								
Cert not described, no Year 12			1.142	3.846			-17.231	7.591
			(5.179)	(4.510)			(17.381)	(14.496)
Cert I or II, no Year 12			-0.877	-3.264			9.503	-0.755
			(5.523)	(6.988)			(5.877)	(6.532)
Cert III or IV, no Year 12			2.689	0.295			3.892	1.017
			(3.938)	(3.843)			(2.766)	(1.982)

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Table 5: Occupational SES regression estimates (continued)

	YIF occupational expectations				HILDA actual occupation			
	Broad education		Detailed Education		Broad education		Detailed Education	
	Female	Male	Female	Male	Female	Male	Female	Male
Apprent, traineeship, no Year 12			-1.630	-0.888				
			(5.769)	(3.271)				
Diploma, no Year 12			6.496*	11.541***			21.692***	29.001***
			(3.674)	(4.014)			(3.431)	(4.543)
Postschool qual, no Year 12	4.811	2.002			9.973***	3.634*		
	(3.282)	(2.806)			(2.336)	(1.958)		
Degree, no Year 12			20.691***	21.268***			38.720***	48.522***
			(4.255)	(4.001)			(6.096)	(9.157)
Postgrad qual, no Year 12			38.361***	28.898***				
			(8.371)	(6.410)				
Year 12 only	12.809***	14.684***	11.536***	14.982***	10.464***	12.115***	10.620***	12.190***
	(3.669)	(3.003)	(3.028)	(2.857)	(1.955)	(1.984)	(1.919)	(1.939)
Cert not described, Year 12			10.608**	9.791*				
			(4.246)	(5.089)				
Cert I or II, Year 12			8.658	14.138**				
			(6.806)	(7.191)				
Cert III or IV, Year 12			7.522**	8.668**			8.510***	9.204***
			(3.280)	(3.688)			(2.538)	(2.056)
Apprent, traineeship, Year 12			-0.851	5.838*				
			(5.608)	(3.409)				
Diploma, Year 12			12.206***	19.965***			19.942***	18.672***
			(2.940)	(3.027)			(2.245)	(2.536)

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Table 5: Occupational SES regression estimates (continued)

	YIF occupational expectations				HILDA actual occupation			
	Broad education		Detailed Education		Broad education		Detailed Education	
	Female	Male	Female	Male	Female	Male	Female	Male
Postschool qual, Year 12	11.786***	11.711***			15.178***	12.262***		
	(3.028)	(3.154)			(1.998)	(1.931)		
Degree	31.266***	29.962***	30.191***	30.987***	36.049***	36.300***	36.222***	36.238***
	(2.796)	(2.800)	(2.398)	(2.445)	(1.791)	(1.931)	(1.765)	(1.893)
Postgrad qual	35.527***	35.007***	33.947***	35.688***	43.227***	44.012***	43.437***	44.135***
	(3.079)	(3.033)	(2.652)	(2.695)	(2.158)	(2.367)	(2.119)	(2.312)
Constant	43.279***	42.019***	45.101***	41.829***	22.485***	24.656***	22.790***	25.218***
	(2.928)	(2.818)	(2.507)	(2.583)	(2.581)	(3.287)	(2.540)	(3.214)
R-squared					0.482	0.439	0.504	0.467
n	1,770	1,393	1,770	1,393	969	1,117	969	1,116

Notes: Standard errors in parentheses. *, ** and *** denote significance at the 10, 5 and 1 per cent levels respectively.
The "Postschool qual." category in the Broad education classification includes the "Cert not described", "Cert I or II" , "Cert III or IV", "Apprent, traineeship" and the "Diploma" categories from the Detailed education classification.
The "Degree, no Year 12" and "Postgrad qual, no Year 12" categories from the Detailed education classification are included in the "Degree" and "Postgrad qual" categories in the Broad education classification, so the results for these qualifications are not strictly comparable between the Broad and Detailed classifications. There are just a handful of observations in the "Degree, no Year 12" and "Postgrad qual, no Year 12" categories in both data sets.

Table 6: Log income regression estimates: YIF and HILDA data, males and females, broad and detailed educational classifications

	YIF Income expectations				HILDA actual incomes							
					Personal income				OECD equivalised household disposable income			
	Broad education		Detailed Education		Broad education		Detailed Education		Broad education		Detailed Education	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Born o/s, English-speaking country	-0.017	-0.077	-0.026	-0.072	-0.278**	-0.033	-0.297**	-0.024	0.063	0.215	0.049	0.217
	(0.084)	(0.089)	(0.082)	(0.089)	(0.142)	(0.192)	(0.142)	(0.192)	(0.096)	(0.137)	(0.097)	(0.138)
Born o/s, non-English-speaking country	0.103**	0.067	0.095*	0.057	-0.286**	-0.521***	-0.310**	-0.513***	-0.014	-0.216	-0.027	-0.210
	(0.052)	(0.056)	(0.050)	(0.056)	(0.132)	(0.185)	(0.132)	(0.185)	(0.089)	(0.132)	(0.089)	(0.133)
Employed full-time					1.211***	0.971***	1.214***	0.966***	0.495***	0.637***	0.485***	0.633***
					(0.049)	(0.072)	(0.049)	(0.072)	(0.033)	(0.050)	(0.033)	(0.050)
Employed part-time					0.551***	0.162	0.551***	0.154	0.207***	0.167**	0.196***	0.163**
					(0.055)	(0.103)	(0.056)	(0.103)	(0.037)	(0.072)	(0.037)	(0.072)
Currently employed	0.082**	0.056	0.073**	0.057								
	(0.034)	(0.040)	(0.033)	(0.040)								
Indigenous	-0.062	-0.069	-0.029	-0.060	0.149	0.069	0.166	0.061	-0.094	-0.151	-0.088	-0.156
	(0.077)	(0.094)	(0.074)	(0.095)	(0.123)	(0.179)	(0.123)	(0.179)	(0.083)	(0.128)	(0.084)	(0.128)
Metro	0.060**	0.010	0.061**	0.014	-0.033	0.051	-0.032	0.041	0.088***	0.092**	0.090***	0.087**
	(0.029)	(0.033)	(0.029)	(0.033)	(0.046)	(0.051)	(0.046)	(0.051)	(0.031)	(0.036)	(0.031)	(0.036)
Education level effects												
Cert not described, no Year 12			0.117	-0.034			0.075	0.187			-0.402**	0.001
			(0.154)	(0.127)			(0.290)	(0.574)			(0.197)	(0.412)
Cert I or II, no Year 12			-0.054	-0.205			-0.102	0.224			-0.054	0.060
			(0.153)	(0.180)			(0.182)	(0.229)			(0.124)	(0.164)

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Table 6: Log income regression estimates: YIF and HILDA data, males and females, broad and detailed educational classifications (continued)

	YIF Income expectations				HILDA actual incomes							
					Personal income				OECD equivalised household disposable income			
	Broad education		Detailed Education		Broad education		Detailed Education		Broad education		Detailed Education	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Cert III or IV, no Year 12			0.123	0.012			-0.095	0.024			-0.002	-0.065
			(0.100)	(0.111)			(0.097)	(0.074)			(0.065)	(0.053)
Apprent, traineeship, no Year 12			0.219	0.044								
			(0.170)	(0.085)								
Diploma, no Year 12			0.214**	0.116			-0.180	0.352**			0.000	0.174
			(0.100)	(0.111)			(0.129)	(0.173)			(0.087)	(0.124)
Postschool qual, no Year 12	0.068	0.002			-0.111	0.066			-0.029	-0.037		
	(0.077)	(0.078)			(0.077)	(0.072)			(0.053)	(0.051)		
Degree, no Year 12			0.139	0.057			0.204	0.021			0.411**	-0.128
			(0.114)	(0.118)			(0.257)	(0.335)			(0.174)	(0.240)
Postgrad qual, no Year 12			-1.479***	-0.097			-0.007				-0.411	
			(0.208)	(0.175)			(0.627)				(0.425)	
Year 12 only	0.115	-0.099	0.170**	-0.057	-0.257***	0.228***	-0.256***	0.230***	0.147***	0.162***	0.149***	0.164***
	(0.079)	(0.082)	(0.072)	(0.074)	(0.064)	(0.073)	(0.064)	(0.073)	(0.044)	(0.052)	(0.043)	(0.052)
Cert not described, Year 12			0.191*	0.231*								
			(0.113)	(0.121)								
Cert I or II, Year 12			0.068	-0.071								
			(0.192)	(0.182)								

(continued next page)

Table 6: Log income regression estimates: YIF and HILDA data, males and females, broad and detailed educational classifications (continued)

	YIF Income expectations				HILDA actual incomes							
					Personal income				OECD equivalised household disposable income			
	Broad education		Detailed Education		Broad education		Detailed Education		Broad education		Detailed Education	
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male
Cert III or IV, Year 12			0.081	0.058			-0.157*	0.162**			0.134**	0.184***
			(0.079)	(0.095)			(0.087)	(0.078)			(0.059)	(0.056)
Apprent, traineeship, Year 12			0.319**	-0.020								
			(0.149)	(0.083)								
Diploma, Year 12			0.162**	-0.056			0.021	0.313***			0.268***	0.211***
			(0.070)	(0.084)			(0.081)	(0.099)			(0.054)	(0.071)
Postschool qual, Year 12	0.119*	-0.004			-0.057	0.208***			0.208***	0.192***		
	(0.070)	(0.075)			(0.067)	(0.072)			(0.045)	(0.051)		
Degree	0.296***	0.051	0.345***	0.070	0.136**	0.475***	0.134**	0.487***	0.363***	0.360***	0.366***	0.370***
	(0.067)	(0.075)	(0.060)	(0.067)	(0.062)	(0.072)	(0.062)	(0.072)	(0.041)	(0.051)	(0.042)	(0.051)
Postgrad qual	0.367***	0.135*	0.444***	0.166**	0.161**	0.483***	0.163**	0.487***	0.319***	0.351***	0.330***	0.354***
	(0.071)	(0.081)	(0.063)	(0.074)	(0.078)	(0.089)	(0.078)	(0.089)	(0.053)	(0.064)	(0.053)	(0.064)
Constant	10.661***	11.173***	10.629***	11.153***	9.580***	9.662***	9.579***	9.673***	9.984***	9.842***	9.988***	9.848***
	(0.068)	(0.079)	(0.059)	(0.071)	(0.055)	(0.083)	(0.055)	(0.083)	(0.038)	(0.058)	(0.038)	(0.058)
R-squared			.	.	0.393	0.303	0.395	0.308	0.299	0.308	0.305	0.313
n	1,881	1,534	1,881	1,534	1,299	1,179	1,298	1,178	1,313	1,186	1,312	1,185

Notes: Standard errors in parentheses. *, ** and *** denote significance at the 10, 5 and 1 per cent levels respectively.
The "Postschool qual." category in the Broad education classification includes the "Cert not described", "Cert I or II" , "Cert III or IV", "Apprent, traineeship" and the "Diploma" categories from the Detailed education classification.
The "Degree, no Year 12" and "Postgrad qual, no Year 12" categories from the Detailed education classification are included in the "Degree" and "Postgrad qual" categories in the Broad education classification, so the results for these qualifications are not strictly comparable between the Broad and Detailed classifications. There are just a handful of observations in the "Degree, no Year 12" and "Postgrad qual, no Year 12" categories in both data sets.

Table 7: Outcome of tests of whether interaction terms should be included in YIF equations

	SES quartiles		Welfare stratification	
	Interaction	Base variables	Interaction	Base variables
Occupation				
Females	0.725	0.481	0.532	0.601
Males	0.681	0.568	0.901	0.625
Income				
Females	0.915	0.858	0.686	0.931
Males	0.203	0.294	0.415	0.101

(a) Based on the ratio of the OLS to the IV estimate of the parameter on lagged achievement.