Earning Motivation and The Conventional Earning Function[1]

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ABSTRACT

People have different motivation for having a paid job, and this might came from different expectation, value and also gender roles. However, most analysis of earning determinant has neglected this possibility. Using data from Household, Income and Labour Dynamics (HILDA)[3] in Australia in 2001 and 2004, this paper investigates the structure of human capital earning equation and its stability after controlling for earning motivation. The results suggest that some measure of earning motivation have effects. However, even after controlling for earning motivation, the returns to schooling and experience do not change significantly. This suggests that the conventional earning function is stable and robust with respect to the influences of earning motivation.

Keywords: return to education, earning motivation, wage, HILDA
JEL Classification:

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1 This paper is submitted as an assignment in Case Studies in Applied Econometrics at ANU, November 2007

2 E-mail: mpurnagunawan@gmail.com. The author would like to thank Prof. Bruce Chapman for his supervision and data support. I also benefited from discussions with and comments from Daniel Suryadarma, Ditya Nurdianto, and other students of Case studies in applied econometrics at ANU, 2007. All remaining errors are solely mine.

3 'This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (MIAESR). The findings and views reported in this paper, however, are those of the author and should not be attributed to either FaHCSIA or the MIAESR.'

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1. Introduction

In analysis of wage and income determinant, return to schooling is mostly the focus of attention, since it will affect individual decision on education investment and participation. In the search of the magnitude of returns to schooling, Mincer (1974) proposed an earning function based on the human capital theory that later become widely accepted and used. Nevertheless, this conventional earning function implicitly assumed that investment in human capital in terms of education attainment is decided based on the expected monetary value, the wage that received by individual. It ignores the fact that earning is not the sole motivation for individual to invest in education and engage in work. It most likely true that motivation will determine people productivity and hence the money they earn. We would expect that highly motivated people are expected to have higher wage. However, other highly motivated and educated people would not mind getting lower wage as long as they can have flexible time, have a job that can help others or even just to have high job security.

Potential bias is likely to occur from the exclusion of earning motivation in estimating the return to schooling. However, most of return to schooling studies focused more on solving potential ability bias rather than potential motivation bias. This phenomenon is likely due to the availability of several measures of ability, such as test score, IQ, knowledge of the world of work (KWW), etc. that can be used as proxies of ability while there is limited to none information related to worker motivation. The limitation and weakness of using a measure of ability as proxy for ability trigger abundant studies using another approach such as instrumental variables (for example**;** Levin and Plug, 1999; Leigh and Ryan, 2005) and using sample of twins and siblings (Ashenfelter and Krueger, 1994, Miller, et al, 2006).

Then the question is: will the earning function and return to schooling still stable if we control for earning motivation of workers? Recent studies by Swaffield, 2000 and Chevalier, 2004 emphasize the importance of incorporating worker motivation as wage determinant. Using data on UK graduates, Chevalier (2004) found that 44 percent of gender wage differential is due to motivation and expectation. Similarly, Swaffield (2000) suggests that female wage is affected significantly by labour market motivation and argues that the impact 'is driven by permanent than the transitory component'.

In Australia, return to schooling has been analysed using a large sample of twins (Miller, Mulvey and Martin, 1995, 2006), using different instrumental variables (Rummery, Vella and Verbeek, 1999; Leigh and Ryan, 2005), but has not been estimated by controlling for earning motivation. This study will tackle the problem by using different measure of earning motivation: earning motivation that is triggered by perception on gender roles and earning motivation that come from current job and career expectation. In addition, this study also adopts an IV approach that relies family dependent instrument, that include number of sibling and whether a person is the oldest child as instruments for schooling, which also has not been done for Australian case.

This paper proceeds in the following way. Following the introduction, section 2 presents theoretical background and review literature on the return to schooling. Econometric model for earning function is then derived and modified to incorporate earning motivation and will be discussed at section 3, while section 4 will focus on some issues related to data used in this paper. Discussion about the estimation results and its interpretation is presented in section 5, followed by shortcoming and future research in section 6. The paper is concluded in section 7.

2. Literature Review

Human capital model and Screening model are often used to explain the relationship between education and wage. Although both model suggest that education is positively associated with wages, but the argument behind it is very different. Human capital model suggests that education will provide information and skills that could be very useful in the future. Individual will invest in education through schooling to gain skill and productivity that can be 'rented out' to employers (Ehrenberg and Smith, 2005). In line with this view, Rosenzweig (1995) argue that schooling may also boost productivity by improving access to sources of information such as instruction manuals or by enhancing the ability to interpret and understand new information. As productivity increases, the hourly wage is expected to increase as well. On the other hand, the screening model suggests that education does not necessarily increase productivity, but merely signal one's inherent productivity. So, a person with inherently high productivity/ability will get more schooling merely because it enables them to signal their inherent productivity. This also explains why the average self employed individuals have less schooling that average employee, because they do not really need to signal their inherent productivity. However, by surveying empirical evidence that support both model, Quiggin (1995) concluded that empirical evidence strongly support human capital model while 'screening model generally not supported by empirical test, except where they coincide with those of the human capital model'

A further question about the relation of education and wage is then, how much is the return to schooling? Many methodologies have been proposed to answer this question, but one that becomes a cornerstone in this empirical research is human capital earning function that is proposed by Mincer (1974) that reveal how wages related to schooling and work experience. However, the model is not flawless. It still suffers from some

potential bias, especially to individual-specific productivity component that is not reflected in the usual human capital measures (Blackburn and Neumark, 1995). This ability and motivation component may be correlated with both wages and schooling that makes the OLS estimates may bias upwards and downwards.

Many research have try to deal with ability bias by using different approach such as: using twin data and exploiting the difference in wage and education between twins (Ashenfelter and Krueger, 1994; Miller, et al, 2006) and using explicit proxy variable for ability such as test score, IQ and KWW. Another approach that is widely used is instrumental variable method. However a valid instrument is difficult to find. Furhermore, Ichino and Ebner (1999) argue that the return of schooling are heterogenous in population and highly depend on instrument used.

Another individual-specific productivity component that might cause a potential bias but has not been treated appropriately is motivation. Most of the previous research implicitly assumes that money is the sole objective of human capital investment. In fact, people have different motivation that will definitely determine individual effort and expectation in their job. Only few research that accommodate motivation in their analysis of wage and education, but the finding is evident. For example, Chevalier (2004) based on data of UK graduates argue that gender stereotypes are evident where 'women tend to be more altruistic and less career oriented than man' and suggests that women expectation about childrearing affect their wage and career. Swaffield (2000) strengthen this view and argue that labour market motivation is a permanent component that affect female wage significantly.

3. Econometric Model and Specification

The main theory for econometric specification of this study is based on human-capital earning function proposed by Mincer (1974), which focus on relationship between observed earnings, potential earning and human capital investment. Investment in human capital usually represented by formal schooling and on post-school investment pattern which measured by years of schooling and experience respectively.

The human capital earning function was developed as follows[4]. Let E_j be gross earning at time j, C_{j-1} be the investment expenditure in period t-1 and k_j be the ratio of investment to gross earning in period j. Rate of return on investment in human capital is by r. Then we have:

$$E_j = E_{j-1} + rC_{j-1} = E_{j-1}(1 + rk_{j-1}) \tag{1}$$

By repeated substitution, therefore: $E_j = \prod_{t=0}^{j-1}(1 + r_j k_j)E_0$

Assuming relatively small r and $k \leq 1$, a logarithmic approximation yields:

$$\ln E_j = \ln E_0 + \sum_{j=s}^{j-1} r_j k_j \tag{2}$$

Separating formal schooling and post-school experience and assume rate of return on investment in human capital is constant over each period, during and after schooling period, by r_s and r_e respectively. Then, we can write:

$$\ln E_j = \ln E_0 + r_s \sum_{t=0}^{s-1} k_j + r_e \sum_{t=s}^{j-1} k_j \tag{3}$$

Furthermore, during schooling period we assume that $k_j = 1$, that results in:

$$\ln E_j = \ln E_0 + r_s s + r_e \sum_{t=s}^{j-1} k_j \tag{4}$$

Mincer (1974) further assume that post-school investment is decline over time and can be approximated by including quadratic terms of experience. Quadratic form of

[4] The derivation is closely follow Mincer (1974)

experience is used as a proxy to capture depreciation of human capital over time and also reduced investment in later life due to increasing opportunity cost and less time to enjoy returns on any human capital investment as age increases (Preston, 1997). Therefore, we have earning function that has a standard linear and quadratic term in years of experience and linear term in years of schooling.

$$\ln wage_i = \beta_0 + \beta_1 YOS_i + \beta_2 Exper_i + \beta_3 Exper_i^2 + X\delta + u_i \quad (5)$$

where wage is hourly wage, YOS is years of schooling and Exper and $Exper^2$ is actual experience in labour market measured by time spent in paid work and its square term. X is a vector of control variables for individual characteristic which includes dummy for states, union membership, marital status and health status

Following the existing literature, β_1 could be described as rate of return to an additional year of formal education or schooling. The coefficient of β_1 will possibly be biased if earning motivation and ability is not included in earning function. The bias will be more severe the higher correlation between education and motivation and ability (Ashenfelter, et al., 1999).

As stated in previous section, individual motivation and attitudes toward paid job will most likely affect their productivity and hence their wage. To overcome this potential bias, I will use proxy for earning motivation. Following the above argument, the more formal representation of the model can be sketched as follows:

$$\ln wage_i = \beta_0 + \beta_1 YOS_i + \beta_2 Exper_i + \beta_3 Exper_i^2 + X\delta + M\phi + u_i \quad (6)$$

where M is the vectors of earning motivation.

Potential bias from ability might still be a problem even though we already controlled for earning motivation. To tackle this problem proxy for ability will also be used. So, the model will be:

$$\ln wage_i = \beta_0 + \beta_1 YOS_i + \beta_2 Exper_i + \beta_3 Exper_i^2 + X\delta + M\phi + A\theta + u_i \qquad (7)$$

where M is the vectors of earning motivation and A is the vectors of ability.

Another solution to the omitted ability bias problem is to instrument for years of education. A valid instrumental variable must meet two conditions: it must be correlated with years of schooling, and it must be uncorrelated with wage. Various instruments have been used in this line of literature. The usual instruments use in explaining return to schooling includes: quarter or month of birth (Angrist and Krueger, 1991; Leigh and Ryan, 2005), family dependent instrument, such as sibling's sex, number of sibling (Butcher and Case 1994; Levin and Plug 1999), and rank-order instrument (Rummery *et al* 1999).

Following Levin and Plug (1999), number of sibling and sibling rank is used as instrument variable in this paper. However, since HILDA does not provide information about number of younger and older siblings or order of birth, I use dummy for oldest child instead for our instrumental variables. Numbers of sibling and birth order are expected to affect schooling due to several reasons. Levin and Plug (1999) suggest that since there might be a constraint in income, as number of siblings gets larger the allocation of education fund for each child likely to be affected negatively. There also possibility that first born or oldest child is given more allocation for education fund. Following the above argument, the more formal representation of the model can be sketched as follows:

The first-stage equation is:

$$YOS_i = \omega + \xi(\text{number of sibling})_i + \psi(\text{oldest child})_i + \tau Z_i + \upsilon_i \qquad (8)$$

where Z includes Exper, Exper^2, X and M.

The second-stage equation is

$$\ln wage_i = \beta_0 + \beta_1 YOS_i + \beta_2 Exper_i + \beta_3 Exper_i^2 + X\delta + M\phi + u_i \qquad (9)$$

In general, a positive relationship between years of schooling and wage is expected, while I would expect a positive with a decreasing rate relationship between labour market experience and wage. I also expect being a union member, a married person and person with no health problem in average has higher wage than a non-union member, a single person and person with health problem, respectively.

4. Data

The empirical evidence is based data set from Household, Income and Labour Dynamics in Australia (HILDA) that is managed by Melbourne Institute of Applied Economics and Social Research (MIAESR) and funded by the Commonwealth Department of Family and Community Service (FaCS). HILDA is a very comprehensive and relatively recent survey on household and labour situation which covered very detailed information on household structure, family background, education, past and present employment and income, job search activity, satisfaction, health, etc. In addition HILDA has different module each year that focus on specific issues such as family background and personal history variables in 2001 (wave 1) and private health insurance, and youth in 2004 (wave 4). This empirical study uses data from wave 1 and wave 4, that specifically contain information about earning motivation and attitudes toward paid job, which involves 13,696 and 12,408 people respectively.

For the purpose of this study, the sample is limited to full time employee that has positive hourly wage. Full time employee is defined as those who work from 35 hours and above per week. Hourly wage is obtained from imputed weekly gross wages and

salary from all jobs divided by hours per week usually worked in all jobs. Finally I drop individuals with missing value on the variables of interest. This leaves us with a sample of 3705 from wave 1 and 1136 from wave 4.

HILDA does not provide information for years of schooling directly, so it has to be constructed using information on highest educational level attained and highest year of school completed or currently attending. Those who finished primary school are assigned 7 years of schooling, except for those who live in New South Wales, Victoria, Tasmania and ACT which is assigned 6 years of schooling. Those currently attending or have completed secondary school assigned accordingly. Individuals with certificates as the highest level of education achieved are all treated the same and given 13 years of schooling, while those with advanced diploma or a diploma are assigned 14 years. Individuals with graduate diplomas and bachelor's degrees as the highest levels are assigned 17 and 16 years respectively. Respondents who have post-graduate qualification, master or doctorate, are assigned 18 years of schooling. By using this definition, some respondents are penalized especially those who has more than one degree at the same education level. Doctorate graduates are also penalized and given the same years of education as master graduates.

Additional variables are employed to control for other individual characteristic. The control variables include union membership, marital status and health condition. Table 1 presents summary statistics for the main variables. We could see from table 1 that although average years of schooling and health condition are relatively the same for wave 1 and wave 4, the average labour market experience and percentage of married people in wave 4 is significantly lower because its only account for young people aged between 15 to 29 years.

Table 1. Statistical Characteristics of main variables

	Wave 1			Wave 4		
Variable	**Male**	**Female**	**% Difference**	**Male**	**Female**	**% Difference**
Hourly wage ($)	21.478	18.064	18.90***	17.318	17.175	0.83
	(11.006)	(6.786)		(6.761)	(5.995)	
Years of schooling	13.172	13.392	-1.64***	12.845	13.582	-5.43***
	(2.457)	(2.686)		(2.029)	(2.119)	
Experience	21.148	17.464	21.09***	5.441	5.333	2.03
	(11.080)	(10.067)		(3.319)	(3.202)	
Potential Experience	20.975	19.700	6.47***	5.823	5.227	11.40***
	(10.796)	(11.542)		(3.153)	(3.198)	
Union member	0.361	0.364	-0.74	0.217	0.209	4.02
No Health Problem	0.882	0.895	-1.38	0.902	0.906	-0.40
Married	0.635	0.479	32.53***	0.182	0.206	-11.63
Number of sibling	2.811	2.914	3.53	2.186	2.285	4.33
Oldest	0.357	0.345	3.48	0.370	0.337	9.79
Observations	**2283**	**1422**		**543**	**383**	

Note: Standard deviations in parentheses. Differences are calculated with respect to female (i.e $(X_{male}-X_{female})/ X_{female}$). *, **, *** denote statistical significance at the 10%, 5% and 1% respectively

Measure of earning motivation.

HILDA is a unique datasets as it include information about earning motivation and attitude toward paid job, which is seldom seen in other data set. In wave 1, we could extract information about earning motivation that associated with individual perception on gender roles. The information is obtained from selected question, using answer coded on a 7 point scale from strongly disagree (1) to strongly agree (7), from self completed questionnaire on gender roles and attitudes towards paid work. In general the answer distribution of male and female are different, except for question on woman's most important role in life is still that of being a mother despite the career she may have. The distribution of answer to these earning motivation questions are reported in table A1.

On the other hand, since the focus of HILDA survey in wave 4 is on youth issue, the measure of earning motivation is available only for young people. The measurement is constructed based on perception on current job and employment career expectations. The answer is coded on an 11 point scale from not all important (0) to very important (10) is used for those questions. Male seem to care more on career and money that they will get in the age of 35 than woman, while woman seems to care more about job that will enable them to balance between family and work, flexibility of time and job that they can enjoy. The distribution of answer to these earning motivation questions are reported in table A2 and A3 in the appendix.

5. Estimation Results and Diagnostic Testing

This section will presents and analyze the estimation results of the proposed model and followed by diagnostic test. Since we have two separate cross-sectional data, Ordinary Least Squares will be employed to estimate model represented in equation 5 to equation 8, while equation 9 will be estimated using instrumental variables.

5.1 Results and interpretation

We begin by estimating basic earning function using OLS without incorporating earning motivation and ability. Four additional choice variables are included in this basic equation: whether respondent is a union member, married, has no health problem and also states dummies. In this specification, the returns to an additional year of education are 6.5% for male and 5.5% for female in wave 1, while for young respondent aged below 30 in 2004 the return to an additional year of formal education or schooling are relative higher at more than 7% for both male and female. These

results comparable to previously reported for Australia. Miller, et al. (2004) found return to schooling for twin is also around 6 percent.

Table 2. OLS results for conventional earning function.

	WAVE 1 (2001)		WAVE 4 (2004)	
	Male	**Female**	**Male**	**Female**
	(1)	**(2)**	**(a)**	**(b)**
Years of schooling	0.065***	0.055***	0.075***	0.071***
	(0.004)	(0.004)	(0.007)	(0.008)
Experience	0.024***	0.028***	0.107***	0.097***
	(0.003)	(0.004)	(0.017)	(0.018)
Experience_Squared/100	-0.038***	-0.054***	-0.526***	-0.472***
	(0.007)	(0.009)	(0.130)	(0.141)
Union member	0.092***	0.065***	0.115***	0.092***
	(0.018)	(0.022)	(0.034)	(0.031)
No health problem	0.119***	0.096**	0.095*	-0.022
	(0.031)	(0.039)	(0.057)	(0.045)
Married	0.061***	0.005	0.015	0.030
	(0.020)	(0.021)	(0.040)	(0.038)
State dummy	Yes	Yes	Yes	Yes
Observation	2,283	1,422	543	383
R-squared	0.211	0.211	0.349	0.401

Note: Robust standard error in parentheses. *, **, *** denote statistical significance at the 10%, 5% and 1% respectively

Results presented in table 2 also show that wage increase with experience at a diminishing rate, as expected by the theory. In 2001, an additional year of experience, evaluated at 10 years of experience, increased the wage of male by 1.63 percent while the female wage increase by 1.75 percent. In contrast, the return from experience in 20004 is much lower at around 0.2 percent for both male and female. This is due to our sample in 2004 is limited only for young people. Furthermore, from the result we could infer that in 2001 male individual could achieve his maximum wage at 31.3 years of experience, while woman at 26.3 years of exprience[5].

[5] Years of experience that maximized wage could be calculated from $\frac{\partial wage}{\partial \exp er} = \beta_1 + 2\beta_2 Exper = 0$.

Therefore we have wage maximizing experience: Exper = β_1 / 2 β_2.

As for the control variables, union membership has positive significant effect for all groups in both years, where union member in average has 6.5% to 11.5 % higher than non union member, holding other variables constant. People with no health problem on average has higher wage, except for female in 2004 which is indifference in wage with female with heath problem. Regarding marital status, the wage in average is higher for married man in 2001, but the same for young people in 2004.

We now focus on estimation of this model by controlling earning motivation and ability. As I note previously, the conventional earning function will likely have omitted variable bias if earning motivation is not included in the equation. Proxies for earning motivation is then created and included in the conventional earning function. For wave 1, gender roles and selected attitude towards paid job is used as proxies for earning motivation while information on importance of career and money and employment career expectations are used as proxies for earning motivation for young person in wave 4. In addition, I also try to minimize potential bias that might arise from omitted ability bias by employing individual perception on complexity and difficulty of their job and perception on skill and ability necessary to do their job as proxy for ability.

The regression results for 2001 in table 3 indicates that the returns to an additional year of education for male and female in 2001 only decrease slightly by around 5 percent after controlling for earning motivation (column 3 and 6). However, it decreases by 17 percent for male and 18.2 percent for female if we use both proxies of motivation and ability (column 4 and 7). This suggests that conventional earning function might over predict the return to education as predicted.

Table 3 Estimation results for Wave 1 (2001)

	Male			Female		
	OLS (3)	OLS (4)	IV (5)	OLS (6)	OLS (7)	IV (8)
Years of schooling	0.062***	0.054***	0.116*	0.051***	0.045***	0.131
Experience	0.024***	0.022***	0.022***	0.028***	0.026***	0.031**
Experience_Squared/100	-0.037***	-0.034***	-0.031**	-0.052***	-0.050***	-0.054**
Union member	0.090***	0.088***	0.091***	0.065***	0.056***	-0.031
No health problem	0.118***	0.114***	0.109***	0.098**	0.099**	0.103**
Married	0.061***	0.054***	0.031	0.008	0.008	0.006
Have a paying job	0.007	0.008	0.017*	0.002	0.002	0.009
Job no money	-0.003	-0.005	-0.011	-0.002	-0.002	-0.008
Mothers:no money no work	-0.008	-0.007	-0.003	-0.007	-0.007	0.008
Father role	-0.007	-0.006	-0.008	0.004	0.007	0.030*
Mother role	-0.002	-0.003	0.005	-0.015	-0.015	-0.026*
Father earn	-0.012**	-0.011*	-0.003	-0.006	-0.004	0.010
Mother earn	-0.010	-0.012*	-0.000	-0.000	-0.002	-0.006
Job is complex and difficult		0.035***			0.031***	
Use skills & abilities in job		0.007			-0.004	
State dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observation	2,283	2,283	2,283	1,422	1,422	1,422
R-squared	0.218	0.235		0.216	0.231	
Instruments test result						
F-test on excluded instruments			18.850***			15.740***
Hansen J statistic			1.725			6.180**

Note: Robust standard error in parentheses. *, **, *** denote statistical significance at the 10%, 5% and 1% respectively. Results are from modified earning function: after controlling for earning motivation [Column (2) and (4)], after controlling for earning motivation and ability [column (3) and (5)] and using instrumental variable [column (4) and (6)].

Earning motivation that arises from perspective of gender roles found to be significantly affected male wage, but not female. This might be caused by work interruption that likely happen to female than male[6]. The importance of having a paid job is has a positive sign as expected although not statistically significant. Surprisingly, for a person who strongly agree that it is better for every one if man earn money and woman take care home and children (father earn) the average wage is lower by around 8.2 percent than male that strongly disagree[7]. One possible

[6] A lot of studies limit their sample only to male to avoid this complication.
[7, (5)] Change in wage is calculated by changing father earn (compex and difficult) from 1 (strongly disagree) to 7 (Strongly agree)

explanation is that people who likely to disagree has higher education and wage and has more tolerance for working woman.

As proxy for ability, individual perception on job complexity and difficulty has positive and statistically significant impact on wage as expected. Individual that strongly agree that they have difficult and complex job has an average wage around 20 – 24 higher than those who think that their job is easy and simple (answering strongly disagree to the question)[5].

Similarly to the results for wave 1 (2001), earning motivation is also found to be jointly significant affected male wage, but not female even the sample is young people only. In this regard, Chevalier (2004) argue that women motivation and expectation, especially on childrearing and career expectation, will affect wages and career early from beginning of their career. Nevertheless I still find some component of earning motivation that significantly affect female wage. Female financial motivation, which is represent by making a lot of money now and at age 35, is significantly affected wage in 10 percent significant level. A female put more concern to make a lot of money now (at 35) is gaining higher (lower) wage, ceteris paribus. As for man, perception on career at age of 35 has a negative significant impact while perception on making a lot of money now has a positive significant impact on wage. One possible explanation is to have better career at the age 35, man willing to be paid lower wage that might be related with period of training or additional formal education.

Table 4. Estimation results for Wave 4 (2004)

	Male			Female		
	OLS	**OLS**	**IV**	**OLS**	**OLS**	**IV**
	(2)	**(3)**	**(4)**	**(6)**	**(7)**	**(8)**
Years of schooling	0.074***	0.071***	0.151*	0.070***	0.067***	-0.107
Experience	0.104***	0.104***	0.089***	0.093***	0.092***	0.172**
Experience_Squared/100	-0.492***	-0.495***	-0.392**	-0.433***	-0.430***	-1.119**
Union member	0.128***	0.123***	0.134***	0.096***	0.085***	0.241*
No health problem	0.131**	0.134**	0.133**	-0.022	-0.016	0.054
Married	0.026	0.026	-0.030	0.025	0.030	0.188
Succesful career (now)	0.016*	0.016*	0.011	0.004	0.002	0.039
Succesful career (35)	-0.034***	-0.034***	-0.038***	0.010	0.011	0.002
Make a lot of money (now)	0.026**	0.026**	0.042**	0.023*	0.024**	0.026
Make a lot of money (35)	0.011	0.012	0.011	-0.022*	-0.022*	-0.030
Job you enjoy	0.017	0.020	0.003	0.006	0.005	0.038
Job help others	-0.028***	-0.028***	-0.022**	-0.021**	-0.020**	-0.026*
High status/prestigious	0.008	0.008	0.006	0.011	0.010	0.004
Job security	-0.034***	-0.035***	-0.006	-0.001	-0.001	-0.057
Balance work and family	0.012	0.013	0.013	0.002	0.004	0.015
Control over time	-0.001	-0.001	0.001	-0.011	-0.011	-0.007
Job is complex and difficult		0.016			0.014	
Use many of my skills & abilities in my job		-0.019*			-0.002	
State dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observation	543	543	543	383	383	383
R-squared	0.404	0.410		0.433	0.436	
Instruments test result						
F-test on excluded instruments			3.967**			1.266
Hansen J statistic			1.086			0.036

Note: Robust standard error in parentheses. *, **, *** denote statistical significance at the 10%, 5% and 1% respectively. Results are from modified earning function: after controlling for earning motivation [Column (2) and (4)], after controlling for earning motivation and ability [column (3) and (5)] and using instrumental variable [column (4) and (6)].

One interesting finding on earning motivation is related on people expectation on job that can help other. The effects of this variable are significant for both male and female and have a negative sign, which mean that 'nice people getting punished'. People that really want the job that can help other (with the variable score of 10) will have around 28 percent lower wage than people that does not want the job that help other (with the variable score of 0).

As proxy for ability, individual perception on job complexity and difficulty does not jointly significant affecting wage for both male and female. This arise a concern about the robustness of these variables as a proxy for ability. Therefore, I also employ an instrumental variables technique to tackle the omitted ability bias. Number of sibling and dummy for oldest child are used for the instruments. Instrumental variable regression results are shown in columns 5 and 8 of table 3 for 2001 and columns d and h of table 4 for 2004. Surprisingly, the returns to schooling are now around twice as large as the conventional earning function and still have statistically positive significant impact, except for female sample in 2004 where the return to schooling change sign but not statistically significant even at 10 percent of significance. However, before we jump into conclusion, we should test for validity of the instruments

A valid instrumental variable for this study must meet two conditions: it must be correlated with years of schooling, and it must be uncorrelated with wage. To test the first condition, we could use F-test on excluded instrument which is a joint significance test for the instruments used in the first stage equation. Test for the second condition requires over-identified condition. Since our IV model is overidentified, Sargan-Hansen test of overidentifying restrictions could be performed to check the validity of instruments. Basically the purpose this test is to see whether the instrument variable (number of siblings when grown-up and dummy for oldest people) have any direct influence on wage or correlated with error term. The results from this exercise can be seen in at the lower part of column 5 and 8 of table 3 and columns e and h of table 4. We could see that for male performs well. The instruments are significantly correlated with years of schooling as shown by high F statistics of excluded instruments for both years. In addition, Hansen J statictics for

the instruments shows that the instruments are uncorrelated with the error. However, for female sample the instrument does not pass the validity test. It correlated with error in wave 4 regression, which possibly make the sign of years of schooling to be negative, and it does not correlated with years of schooling in wave 1. These results suggest that the instruments used is not quite satisfactory for female sample, but valid for male sample.

Focusing on the male sample, the results of instrumental variables method show that the returns to schooling are much higher than OLS estimates, which suggests that OLS estimates are under predict and biased downward. This results contradicts with another Australian study from Leigh and Ryan (2005) and Miller et al (2006) which suggest that the OLS is biased upwards. Leigh and Ryan instrumenting schooling with two sets of instruments, month of birth and changes in school leaving laws, while Miller et al using IV with twin pair fixed effect in estimating the return to schooling. These contradiction emphasize that the return to schooling is highly depend on instrument used and therefore we should be more careful in implementation of instrumental variables in this case.

In addition to rate of return from an additional year of education, rate of return of different education degree is also analyzed. From regression results in table 5, we could infer that in general people that have higher education degree associated with higher wage. On average a postgraduate earns 31.5 to 48.1 percent higher, a person with bachelor-degree earns 27 to 46 percent more and a diploma holder earns 13 to 31 percent more than people with 11 years of education or less. Holding a certificates degree gives different impact for male and female. While certificate degree is not statistically significant for a female to earn more than female with 11 years of

education or less, male with certificates degree earns around 7 to 11 percent higher than male who did not finish secondary school. Nevertheless, if compared to a secondary school graduate the difference is slightly smaller. This might happen because I group all different certificate holders as one group.

Table 5. Estimation results for using educational level dummy

	Conventional Earning Equation				**Controlled for Mobility and Ability**			
	WAVE 1		**WAVE 4**		**WAVE 1**		**WAVE 4**	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Post Graduate:	0.481***	0.387***	0.442***	0.380***	0.403***	0.315***	0.434***	0.358***
	(0.033)	(0.034)	(0.095)	(0.092)	(0.035)	(0.035)	(0.084)	(0.095)
Bachelor	0.421***	0.326***	0.461***	0.443***	0.358***	0.271***	0.435***	0.406***
	(0.031)	(0.035)	(0.047)	(0.069)	(0.033)	(0.035)	(0.050)	(0.075)
Diploma	0.235***	0.173***	0.289***	0.272***	0.182***	0.132***	0.292***	0.241***
	(0.043)	(0.035)	(0.046)	(0.082)	(0.042)	(0.035)	(0.049)	(0.085)
Cert I, II, III, IV& etc	0.093***	0.010	0.096**	0.125*	0.068***	-0.007	0.109**	0.105
	(0.022)	(0.033)	(0.043)	(0.072)	(0.022)	(0.033)	(0.045)	(0.077)
Year 12	0.157***	0.072**	0.106**	0.156**	0.136***	0.056*	0.115***	0.122*
	(0.031)	(0.031)	(0.044)	(0.065)	(0.031)	(0.031)	(0.043)	(0.069)
Experience	0.027***	0.028***	0.112***	0.098***	0.025***	0.026***	0.107***	0.094***
	(0.003)	(0.004)	(0.018)	(0.019)	(0.003)	(0.004)	(0.018)	(0.019)
$Experience^2/100$	-0.044***	-0.056***	-0.524***	-0.496***	-0.039***	-0.052***	-0.487***	-0.456***
	(6.8E-5)	(8.6E-5)	(1.3E-3)	(1.4E-3)	(6.8E-5)	(8.6E-5)	(1.3E-3)	(1.5E-3)
Union member	0.095***	0.065***	0.121***	0.091***	0.092***	0.056***	0.130***	0.081**
	(0.018)	(0.022)	(0.035)	(0.031)	(0.018)	(0.021)	(0.035)	(0.032)
No health problem	0.124***	0.098**	0.108*	-0.023	0.119***	0.100**	0.144**	-0.016
	(0.031)	(0.039)	(0.057)	(0.047)	(0.031)	(0.039)	(0.057)	(0.046)
Married	0.060***	0.0014	0.0125	0.0343	0.053***	0.0038	0.0233	0.0305
	(0.019)	(0.021)	(0.039)	(0.036)	(0.019)	(0.021)	(0.037)	(0.039)
State dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Motivation and Ability	No	No	No	No	Yes	Yes	Yes	Yes
Observation	2,283	1,422	543	383	2,283	1,422	543	383
R-squared	0.221	0.220	0.361	0.415	0.244	0.239	0.419	0.448

Note: Robust standard error in parentheses. *, **, *** denote statistical significance at the 10%, 5% and 1% respectively

5.2 Quality assurance

To identify inadequacies in estimated models, several diagnostic tests which include testing for heteroskedasticity and specification test are performed as follows:

5.2.1 Testing for Heteroskedasticity

Analysis using cross-section data is likely to suffer from heteroskedasticity. The presence of heteroskedasticity will make the usual reported statistics not valid because the standard error is not correct. Nevertheless, although the estimators are inefficient, the OLS estimates are still unbiased and consistent.

To test the presence of heteroskedasticity, Breusch-Pagan test is used in this study. Under null hypothesis of homoskedasticity, the test involves an auxiliary regression wherein the squared term of residuals obtained from estimating the earning function is regressed on all original explanatory variables (as shown in equation 10) and computing an LM statistics or an F-statistics from this auxiliary regression. The idea is to see whether the residual is related to one or more explanatory variables in the tested model.

$$\ln \hat{u}_i^2 = \varpi_0 + \varpi_1 YOS_i + \varpi_2 Exper_i + \varpi_3 Exper_i^2 + X\varpi + \nu_i \qquad (10)$$

Using Breusch-Pagan test for heteroskedasticity in all OLS estimation, existence of heteroskedasticity is shown in most of the cases, as can be seen in table 6. Therefore, to correct the problem, robust standard error will be reported in the presence of heteroskedasticity.

Table 6. Heteroskedasticity test

				Heteroskedasticity Test		
				Chi2	p-value	Conclusion
Wave 1		OLS	(1)	5.89	0.015	Heteroskedasticity
		OLS	(2)	2.13	0.144	Homoskedastic
	Male	OLS	(3)	5.68	0.017	Heteroskedasticity
		OLS	(5)	0.05	0.831	Homoskedastic
		OLS	(6)	0.08	0.782	Homoskedastic
	Female	OLS	(7)	0.79	0.374	Homoskedastic
Wave 4		OLS	(1)	13.93	0.0002	Heteroskedasticity
		OLS	(2)	25.01	0	Heteroskedasticity
	Male	OLS	(3)	27.31	0	Heteroskedasticity
		OLS	(5)	23.36	0	Heteroskedasticity
		OLS	(6)	33.48	0	Heteroskedasticity
	Female	OLS	(7)	35.87	0	Heteroskedasticity

5.2.2 Sensitivity Analysis

For sensitivity analysis, I use two different approaches: changing the sample and changing the measure of experience. I change the sample size by dropping individual that has more one job and individual aged more than 65 years to see the robustness of our estimates. This is done because the measure of hourly wage is obtained from information on weekly earning and hours of work per week from all jobs, therefore we will have some people that have full time job and part time at the same time. In addition, I also have individual with age more than 65 years that is older than the mandated retired age. Both groups is likely to be the 'extreme' which has longest working hour and highest experience.

Another approach for sensitivity analysis is to use different measure of experience. Rather than actual experience, I also use potential experience to see whether the results are robust or not. Potential experience is measured by age minus years of schooling minus five. This calculation is based on assumption that a person enters the labor market straight after completed their formal schooling without any interruption

and that the formal schooling is started at the age of 5. The use of potential experience is suggested by Blackburn and Neumark (1995) to reduce potential bias due to endogeneity of actual experience. However, potential experience is also not a perfect measure since it likely to over value the post-schooling investment, especially for women.

The results for those two approach show that our estimate are robust to sample change and different measure of experience. However a caution should be note in using potential experience for young people, since it is likely to make the return to schooling bias upward and reduce the impact of experience. All results from sensitivity analysis are presented in appendix B.

6. Shortcoming and extensions

Although different measure of earning motivation has been applied here, they might be not the best to capture the individual earning motivation and attitudes toward paid job. A better and standardized measure of earning motivation could be constructed and used in future research. Another shortcoming of this paper is that it did not explore to the analysis of wage differential between male in female which can be done by using wage decomposition.

For the future research, if HILDA is still conducted continuously in near future, it would be interesting to examine the impact of career and type job expectation of young Australian, which is available in wave 4, on the selection of education, occupation and industrial sector of their job which is more likely to alter the conventional return to schooling

7. Conclusion

In this paper I examine the effect of earning motivation on stability of the conventional earning function for Australian and Australian youth using HILDA dataset in 2001 (Wave 1) and 2004 (Wave 4). Based on the availability of the data, different measures of earning motivation are used for each period. Earning motivation that based on the perception of gender roles are derived for the analysis in 2001, while for young Australian in 2004 the earning motivation is derived based on career and career expectation. In addition, I also control for potential ability bias by including job perception on job complexity and the use of ability and skill as proxies of ability

We find that a year of additional schooling is approximately associated with an increase in wages by around 4.5 to 6 percent in 2001 and around 7 percent in 2004. Furthermore, we find that earning motivation is more likely to affect earning of man but not woman. However, despite the inclusion of different measure of earning motivation, I conclude that the adjusted estimate of returns to schooling and experience is not significantly different from the conventional earning function estimate.

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Appendix A.1 Attitudes towards paid work for Wave 1 (percentage distribution)

Variable	Female							Male						
	Strongly Disagree	2	3	4	5	6	Strongly Agree	Strongly Disagree	2	3	4	5	6	Strongly Agree
In order to be happy in life it is important to have a paying job	6.61	7.10	6.61	14.49	17.02	20.46	27.71	4.20	3.85	5.08	10.60	15.55	22.47	38.24
I would enjoy having a job even if I didn't need the money	5.41	5.34	7.88	17.58	23.28	23.28	17.23	9.24	7.93	8.54	17.39	22.38	19.54	14.98
Mothers who don't really need the money shouldn't work	28.76	17.72	14.63	14.91	9.99	6.05	7.95	13.93	16.91	14.37	19.62	9.90	10.69	14.59
Whatever career a man may have, his most important role in life is still that of being a father	6.68	5.06	5.56	11.88	12.24	17.58	41.00	4.69	4.34	6.22	12.53	13.97	23.39	34.87
Whatever career a woman may have, her most important role in life is still that of being a mother	5.98	4.57	5.98	13.78	13.64	19.13	36.92	3.99	3.46	4.47	12.57	15.81	24.79	34.91
It is much better for everyone involved if the man earns the money and the woman takes care of the home and children	36.15	18.57	10.48	14.91	8.30	5.56	6.05	19.80	17.56	10.95	20.11	12.00	10.34	9.24
Children do just as well if the mother earns the money and the father cares for the home and children	2.53	2.74	4.43	13.99	14.49	27.64	34.18	2.93	3.81	6.35	20.94	16.69	25.67	23.61

Appendix A.2 Thinking about the type of employment career you would like to have, how important to you are each of the following (Wave 4)

	Distribution (percentage)										
Female	**Not at all**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Very important**
Doing the kind of work you enjoy?	0.22	0.00	0.00	0.00	0.00	0.45	2.46	6.26	21.92	21.92	46.76
Having a job that helps others?	0.67	0.22	0.89	1.57	1.12	8.72	9.84	19.02	24.83	15.44	17.67
Having a high status or prestigious job?	4.03	2.24	4.47	7.16	9.17	21.25	14.32	16.55	12.53	3.58	4.70
Job security?	0.22	0.00	0.00	0.00	0.67	2.01	3.13	9.62	19.24	24.38	40.72
The flexibility and time to balance work and family life?	0.22	0.00	0.00	0.22	0.45	2.24	2.91	10.29	20.36	20.36	42.95
Having control over the times you work?	0.45	0.00	0.67	1.34	2.24	8.05	7.83	18.12	25.50	17.00	18.79

Male	**Not at all**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Very important**
Doing the kind of work you enjoy?	0.15	0.00	0.00	0.29	0.15	1.02	1.89	9.29	22.93	25.54	38.75
Having a job that helps others?	1.16	0.87	1.16	2.47	2.76	10.89	13.79	21.34	19.59	10.89	15.09
Having a high status or prestigious job?	3.48	2.76	5.37	4.93	6.53	17.85	15.82	16.11	14.80	6.53	5.81
Job security?	0.00	0.00	0.00	0.58	0.29	2.03	3.63	9.14	21.92	22.93	39.48
The flexibility and time to balance work and family life?	0.15	0.15	0.15	0.00	0.58	2.76	3.92	11.32	22.64	19.01	39.33
Having control over the times you work?	0.44	0.15	1.02	1.74	2.18	9.72	10.89	19.16	20.03	12.34	22.35

Appendix A.3 Thinking about the type of employment career you would like to have, how important to you are each of the following (Wave 4)

	Distribution (percentage)										
Female	**Not at all**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Very important**
now : Having a successfull career?	0.89	0.89	1.12	2.68	1.57	6.71	7.38	12.53	26.85	17.00	22.37
at age 35: Having a successfull career?	1.57	0.45	0.67	2.46	1.34	8.05	6.94	14.09	23.49	17.23	23.71
now: Making a lot of money?	0.67	0.45	1.12	2.91	3.36	10.07	12.53	24.61	23.04	12.08	9.17
at age 35: Making a lot of money?	0.00	0.45	0.67	1.57	1.12	10.29	8.50	19.24	27.07	17.45	13.65

Male	**Not at all**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**Very important**
now : Having a successfull career?	0.44	0.44	0.44	2.03	2.47	7.26	5.95	14.51	21.19	14.51	30.77
at age 35: Having a successfull career?	0.15	0.00	0.29	1.02	1.16	2.90	3.92	9.72	22.79	19.59	38.46
now: Making a lot of money?	0.44	0.15	0.44	1.31	2.90	9.29	11.90	19.16	22.35	11.76	20.32
at age 35: Making a lot of money?	0.44	0.00	0.29	0.58	1.60	5.52	8.56	18.43	24.82	15.82	23.95

Appendix B - Sensitivity analysis

Sample : Full time employee with only one job and with age 15 - 65 years

Wave 1

	Male				Female			
	OLS (1)	OLS (2)	OLS (3)	IV (4)	OLS (5)	OLS (6)	OLS (7)	IV (8)
Years of schooling	0.067***	0.064***	0.055***	0.109***	0.055***	0.051***	0.045***	0.124***
Experience	0.025***	0.025***	0.023***	0.023***	0.032***	0.031***	0.030***	0.035***
Experience_Squared/100	-0.040***	-0.039***	-0.035***	-0.032***	-0.063***	-0.061***	-0.059***	-0.064***
Union member	0.091***	0.089***	0.087***	0.092***	0.054**	0.054**	0.045**	-0.035
No health problem	0.110***	0.111***	0.109***	0.101***	0.100***	0.102***	0.104***	0.100**
Married	0.059***	0.060***	0.053***	0.035	0.008	0.012	0.012	0.012
have a paying job	1.647***	0.008	0.009*	0.016*	1.709***	0.001	-0.000	0.007
job no money		-0.002	-0.004	-0.009		-0.006	-0.006	-0.010
Mothers:no money no work		-0.008	-0.007	-0.003		-0.007	-0.007	0.006
Father role		-0.006	-0.005	-0.007		-0.003	-0.002	0.024
Mother role		-0.004	-0.006	0.001		-0.006	-0.006	-0.020
Father earn		-0.013**	-0.012**	-0.006		-0.009	-0.007	0.005
Mother earn		-0.011*	-0.012**	-0.004		-0.000	-0.002	-0.007
Job is complex and difficult			0.036***				0.031***	
Use many of my skills & abilities in job			0.008				-0.002	
State dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observation	2,113	2,113	2,113	2,113	1,299	1,299	1,299	1,299
R-squared	0.225	0.232	0.250		0.228	0.235	0.251	

Note: Robust standard error in parentheses. *, **, *** denote statistical significance at the 10%, 5% and 1% respectively

Appendix B - Sensitivity analysis

Sample : Full time employee with only one job and with age 15 - 65 years

Wave 4

	Male				Female			
	OLS	**OLS**	**OLS**	**IV**	**OLS**	**OLS**	**OLS**	**IV**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**
Years of schooling	0.079***	0.077***	0.073***	0.132*	0.074***	0.071***	0.069***	-0.115
Experience	0.110***	0.109***	0.109***	0.094***	0.090***	0.087***	0.086***	0.165**
Experience_Squared/100	-0.517***	-0.499***	-0.503***	-0.390**	-0.425***	-0.388**	-0.384**	-1.057**
Union member	0.148***	0.162***	0.154***	0.168***	0.085**	0.092**	0.081**	0.245*
No health problem	0.114**	0.151***	0.156***	0.152**	-0.010	-0.011	-0.002	0.023
Married	-0.003	0.008	0.009	-0.032	0.021	0.021	0.027	0.182
Succesful career (now)		0.018*	0.018*	0.016		0.007	0.006	0.044
Succesful career (35)		-0.035***	-0.035***	-0.039***		0.010	0.010	-0.000
Make a lot of money (now)		0.026**	0.027**	0.038**		0.017	0.019	0.025
Make a lot of money (35)		0.014	0.015	0.013		-0.021*	-0.021*	-0.032
Job: you enjoy		0.013	0.017	0.002		0.008	0.008	0.039
Job: help others		-0.027***	-0.026***	-0.023**		-0.025**	-0.024**	-0.026*
High status/prestigious		0.005	0.005	0.004		0.015*	0.013	0.014
Job security		-0.040***	-0.040***	-0.017		-0.005	-0.004	-0.068
Balance work and family		0.017	0.017	0.018*		0.001	0.002	0.016
Control over time		-0.002	-0.002	-0.002		-0.008	-0.009	-0.005
Job is complex and difficult			0.019**				0.015	
Use many of my skills & abilities in my job			-0.019*				-0.007	
State dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observation	506	506	506	506	350	350	350	350
R-squared	0.375	0.433	0.440		0.408	0.445	0.448	

Appendix B - Sensitivity analysis

Using Potential Experience as proxy for post-school investment

Wave 1

	Male			Female		
	OLS	**OLS**	**IV**	**OLS**	**OLS**	**IV**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Years of schooling	0.068***	0.056***	0.120***	0.056***	0.045***	0.132***
Experience	0.023***	0.022***	0.022***	0.020***	0.019***	0.019***
Experience_Squared/100	-0.037***	-0.033***	-0.026***	-0.038***	-0.034***	-0.020*
Union member	0.095***	0.092***	0.091***	0.080***	0.069***	-0.022
No health problem	0.125***	0.120***	0.120***	0.095**	0.098**	0.112***
Married	0.067***	0.059***	0.029	0.010	0.012	0.001
have a paying job		0.008	0.017*		0.002	0.010
job no money		-0.005	-0.012		-0.003	-0.010
Mothers:no money no work		-0.007	-0.002		-0.007	0.007
Father role		-0.006	-0.008		0.008	0.025
Mother role		-0.003	0.006		-0.016	-0.023
Father earn		-0.011**	-0.005		-0.006	0.003
Mother earn		-0.011*	0.001		-0.002	-0.005
Job is complex and difficult		0.036***			0.032***	
Use many of my skills & abilities in job		0.008			-0.002	
State dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observation	2,283	2,283	2,283	1,422	1,422	1,422
R-squared	0.209	0.233	0.151	0.191	0.214	0.006

Note: Robust standard error in parentheses. *, **, *** denote statistical significance at the 10%, 5% and 1% respectively

Appendix B - Sensitivity analysis

Using Potential Experience as proxy for post-school investment

Wave 4

	Male			Female		
	OLS	OLS	IV	OLS	OLS	IV
	(1)	(2)	(3)	(4)	(5)	(6)
Years of schooling	0.096***	0.092***	0.134*	0.094***	0.092***	-0.184
Experience	0.092***	0.083***	0.074***	0.088***	0.082***	0.144**
Experience_Squared/100	-0.329**	-0.260*	-0.143	-0.341**	-0.287*	-1.294
Union member	0.126***	0.135***	0.147***	0.087***	0.081**	0.293
No health problem	0.106*	0.145**	0.146**	-0.018	-0.018	0.094
Married	-0.008	0.000	-0.045	0.004	-0.003	0.297
Succesful career (now)		0.015*	0.014		0.002	0.062
Succesful career (35)		-0.029**	-0.029**		0.010	-0.017
Make a lot of money (now)		0.024**	0.031*		0.027**	0.030
Make a lot of money (35)		0.011	0.010		-0.018	-0.045
Job: you enjoy		0.019	0.011		0.003	0.030
Job: elp others		-0.032***	-0.030***		-0.021**	-0.023
High status/prestigious		0.009	0.008		0.008	0.004
Job security		-0.027***	-0.017		0.005	-0.078
Balance work and family		0.020*	0.020*		0.010	0.035
Control over time		-0.007	-0.006		-0.016*	0.003
Job is complex and difficult		0.018*			0.011	
Use many of my skills & abilities in my job		-0.019*			0.002	
State dummy	Yes	Yes	Yes	Yes	Yes	Yes
Observation	543	543	543	383	383	383
R-squared	0.360	0.420		0.420	0.458	

Note: Robust standard error in parentheses. *, **, *** denote statistical significance at the 10%, 5% and 1% respectively