The Importance of Pecuniary and Non-Pecuniary Rewards in Job Choice*

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Abstract

A positive correlation between pecuniary and non-pecuniary job returns does not necessarily invalidate Adam Smith's thesis about compensating wage differentials. Compensation should still occur within a given set of job opportunities for each individual. This paper tests empirically a model that distinguishes between factors which affect the number and types of potential jobs open to a person, and, preferences which determine the ultimate choice from these options. It was found that women, especially women with children under 18 years of age, people who are more religious and people from English speaking backgrounds appear to value non-pecuniary job advantages more highly than other groups, *ceteris paribus*. Other labour market characteristics, such as further schooling, and maturity appear to make people select pecuniary job rewards over intrinsic satisfaction.

JEL classification : J3
Key words: Job satisfaction, non-pecuniary returns, wages, labour supply, employment

1. Introduction

A positive correlation between pecuniary and non-pecuniary job returns does not necessarily invalidate Adam Smith's thesis about compensating wage differentials. Compensation should still occur within a given set of job opportunities for each individual. This paper tests empirically a model that distinguishes between factors which affect the number and types of potential jobs open to a person, and, preferences which determine the ultimate choice from these options.

The pecuniary attraction of alternative jobs and occupations is the main conventional variable used to explain observed labour supply behaviours from locational and job mobility (Boskin 1974, Harper 1995), to labour force participation (Dawkins et al. 1998) and educational decisions. In contrast, the role of non-pecuniary rewards has been relatively neglected, primarily because of measurement ambiguities and a paucity of relevant data (Crockett 1991 is an exception). Nevertheless, existing studies have found relationships between job satisfaction and job mobility (Freeman 1978, McEvoy and Cascio 1985, Akerlof et al. 1988, Clark et al. 1998) and absenteeism (Clegg 1983). There is a richer array of literature on this topic in the sociological and psychological literature.

This paper uses micro-data, from a random sample of nearly 4000 individuals across Australia from 1984 to 1995, to model the determinants of both pecuniary and non-pecuniary returns to working. In so doing, it distinguishes between factors which affect the number and type of potential jobs open to a person, from preferences which determine the ultimate choice. Section 2 presents conventional models of job satisfaction and, in the light of their deficiencies, introduces an alternative way to model 'revealed job choice'. Section 3 discusses the data set and section 4 describes major characteristics associated with

varying levels of non-pecuniary job satisfaction. Section 5 applies the model to the data and section 6 finishes with a short conclusion.

2. Determination of comparative job rewards

Most empirical studies model job satisfaction in the following manner:

$$u = u(y, h, in, job) \tag{1}$$

where u is an individual's utility from working, y is income, h is hours of work and *in* and *job* are sets of individual and job parameters respectively (Clark and Oswald 1996 p 361, Watson et al. 1996, Drakopoulos and Theodossiou 1997, Clark 1997, Ward and Sloane 2000). This approach immediately combines both pecuniary and non-pecuniary returns to working with a view to examining an overall measure of job satisfaction.

Variations on the above basic model exist and include the introduction of a benchmark measure against which individuals compare themselves. The associated loss (or gain) in utility arising from such comparisons can be viewed as being one of the key mechanisms for the smooth operations of a competitive economy. Clark and Oswald (1996), Clark (1997) and Ward and Sloane (2000) assume the model

$$u = u(y, y^*, h, in, job) \tag{2}$$

where y^* is a comparison or reference income level. They find that measures of comparison income are significantly and negatively correlated with overall job satisfaction. However it is possible that y^* is correlated with important unobserved characteristics that play a greater role in causality than y^* itself. Furthermore it is not clear that, if benchmarks are going to be examined, they should be restricted to an income measure. It is also unclear how individuals form such benchmarks and therefore how they should be constructed to enable empirical examination. The benchmarking approach is not followed in this paper.

There are other difficulties with model such as (1) and (2), some of which can be addressed. First, total returns to working and human capital (or other characteristics) are likely to be interdependent. Human capital characteristics may be endogenous to an individual's preferences for pecuniary and non-pecuniary rewards. Individuals who receive high total returns from working are more likely to be satisfied with their employment and may be more likely to invest in further employment-specific human capital. To the extent that high total returns reflect high labour productivity, an employer is more likely to encourage the investment in employment-specific human capital by that individual, *ceteris paribus*. A reinforcing virtuous or vicious cycle may set in.

Second, people who have low levels of pecuniary and non-pecuniary job satisfaction are more likely to leave the labour force than the more satisfied, biasing the sample. A Heckman selection model is required to test and control for biased selection.

Third, some of the independent variables may be outcomes of the other variables, for example, personal characteristics (such as ability), and social class may determine qualifications.

A final, but more serious, difficulty with the above models is that they do not clearly explain why the listed variables should be regarded as determinants of job satisfaction. Usually, *job* in the above equations includes industry, occupation and firm characteristics. It is possible that some work characteristics such as occupation and industry are associated with certain levels of non-pecuniary job satisfaction, but do not necessarily determine satisfaction. For example, a person may choose a low paying but intrinsically rewarding job because of their personal preferences and available choices, but the job does not cause this choice. Similarly, a strong preference for pecuniary reward will encourage the individual to chose a job with longer working hours, but longer working hours is not a casual factor in this choice (although sex and family structure may be). A regression estimation of (1) or (2)

should be interpreted as a multi-dimensional cross tabulation rather than a causal relationship.

Unconstrained utility maximisation as depicted by (1) or (2) above makes little intuitive sense. The model used for this paper begins with the postulate that observed job matches are chosen by utility maximising individuals subject to a limited job opportunity set.[1] Most people have more than one potential job available to them and each job varies according to how much it pays and how much non-pecuniary satisfaction it offers. These jobs are represented as dots in Figure 1. An individual's labour market characteristics, where they live and the state of the economy will determine how many jobs are potentially open to them. It is assumed that individuals' preferences for pecuniary versus non-pecuniary satisfaction determines which job from this set they will chose. The outer boundary of available jobs forms a 'jobs opportunity frontier' and is shown in Figure 1. In this paper it is assumed that this frontier, F_i, for each individual i, is determined by the state of the macro-economy and local labour market, M, the individual's qualifications and schooling, Q_i and other characteristics that reflect work skills, X_i. The latter may include age, sex, years worked (as a proxy for the generic skills acquired through working) and weeks spent unemployed in the last year.

$$F_i = f\left(M, X_{i,} Q_i\right) \quad \forall i = 1,...n. \tag{3}$$

The total job satisfaction function is represented by:

$$U = N^{\alpha} W^{\beta} \tag{4}$$

where U represents a measure of total job satisfaction, N represents units of non-pecuniary satisfaction and W is units of pecuniary satisfaction. The parameters α and β reflect individuals preferences and are a function of a person's individual characteristics such as

[1] While obvious objections can be made against the rational and utility maximising assumption, it simplifies the analysis and works sufficiently well for the purposes of the model.

age, social background and family structure. For a given job opportunity frontier, an individual can choose among jobs according to their mix of non–pecuniary and pecuniary returns. This constraint can be represented in linear form as:

$$F_i \geq a_i N + b_i W \,. \tag{5}$$

Optimisation subject to this constraint is illustrated in the Figure 1 below:

It is assumed that each individual maximises (4) subject to (3)

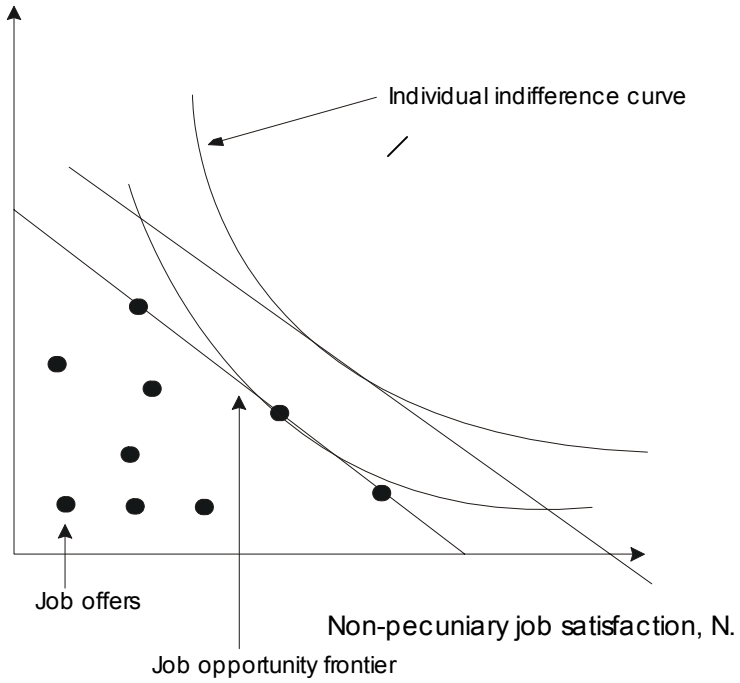

Figure 1

Maximising (4) subject to (5) and using (3) gives:

$$W = \left(\frac{\beta}{\alpha b} + \frac{1}{b} \right) f\left(M, X_i, Q_i\right) \tag{6}$$

Similarly:

$$N = \left(\frac{\alpha}{a\beta} + \frac{1}{a} \right) f(M, X_i, Q_i) \qquad (7)$$

(6) and (7) give a pseudo 'expansion path' which represents the chosen locus of jobs (for given frontier and utility functions)[2]. It states that the individuals' chosen (and thus observed) jobs are a function of the determinants of their job opportunity set, *M, X_i* and Q_i, and the parameters of their utility function, α and β. It is expected that alternative factors which expand a person's job opportunity set, will enable them to select a job providing either higher pecuniary and/or non-pecuniary returns. In these cases no trade-off between the two types of reward is required. It is only different personal preferences arising in part from socio-economic circumstances that determine how far individuals are prepared to trade off non-pecuniary satisfaction for pecuniary satisfaction. If the factors affecting job opportunity dominate the factors that influence personal choice, then pecuniary and non-pecuniary rewards will be positively correlated, as is most frequently the case in empirical studies of this type. It does not eschew some trade-off between pecuniary and non-pecuniary rewards according to the potential jobs on offer.

Employment characteristics such as occupation and industry are inherent to the job but are not determinants of the job choice unless they explicitly enter the measured levels of *N* or *W* or affect the parameters α, β, *a* and *b*. If they do enter into these measured levels then they are more likely to be part of the non-pecuniary returns of a particular employment that an individual will consider when making their employment choices. Under this methodology non-pecuniary job satisfaction may be correlated with firm and job characteristics but it is not appropriate to see causality as running from one to the other.

[2] This expansion path is not necessarily continuous across economics agents since individuals are likely heterogeneous in their budget constraints and in their preferences regarding combinations of N and W.

3. International Social Science Survey Data

The data has been taken from the International Social Science Surveys Australia (IsssA) which have been conducted annually or biannually in Australia since 1984. These surveys cover a range of psychological, sociological and economic issues and are in individual level format. However some questions asked in these surveys have not been consistent over time and there have also been variations in the response choices. These factors necessitated the manipulation of the data and the omitting of certain years.[3] The surveys used in this analysis were restricted to 1984, 1986, 1987, 1994 and 1995.

Non-pecuniary job satisfaction has been measured as the sum of the responses to five job satisfaction questions. Are you satisfied with: the importance of your work and the feeling of accomplishment it gives you? The chance to use you skills and abilities? The people you meet? The security and predictability or your future? and, How satisfied are you with how interesting your work is, and the enjoyment you get from it? Each statement is ranked on a 1 to 8 scale from 'Delighted' to 'Terrible'. According to Larsen et al (1985 p 13), a multi-item scale of satisfaction performs better than single-item scales[4]. These five items are all positively correlated with each other and significant at the 0.05 level.

In addition, it is necessary to account in some way for the disutility arising from longer hours of work. Ideally, this disutility should be included in the non-pecuniary advantages of a particular job. However adding (transformed) hours of work to the existing five indices described above is problematic as the correlation between the five questions and hours is low (below 0.1 in most cases). The low correlation means that the final summary measure of non-pecuniary satisfaction can be sensitive to the weight assigned to

[3] Incomplete raw data, in terms of the partial combining new and panel respondent's information, also meant that certain years could not be used.

[4] A multi-item measure uses more than one question to establish some measurement of well being. Larsen et al (1986 p 13) found multi-item scales more reliable over time, less susceptible to response bias, less

hours compared with the other questions. Accordingly, the weight given to hours in the overall non-pecuniary satisfaction measure has been determined empirically. Hours has been squared and placed on the right hand side of the regression equation. This is equivalent to using the coefficient as the weight in the overall non-pecuniary dependent variable.

A similar process has been followed to control for the possibility that some individuals are innately more optimistic than others and will accordingly over-rate the satisfaction derived from working. Three life satisfaction questions were standardised and summed to create a proxy for innate pessimism or optimism. [How do you feel about] Your hobbies, garden sports and such? Your sense of purpose and meaning in life? and, How do you feel about your marriage? This measure of optimism, weighted by the coefficient on optimism from the regression equation, has been subtracted from the non-pecuniary job satisfaction variable. The estimated coefficients on both the hours and the optimism variables were both highly significant (t-statistics over 6).

Data on respondents' pre-tax income from wage and salary jobs were available in grouped categories and the mid-point was were deflated using the CPI.[5] Post-school qualifications were grouped into five broad types – higher degree, bachelor degree, diploma qualification, trade qualification and 'other' certificate qualification[6]. 'Other' certificate qualifications is a heterogeneous group that may include individuals that have received a secretarial, typing and shorthand certificate as well as specialist certificates in nursing,

affected by the wording of the question as well as providing an assessment of the separate components of subjective well being.

[5] Individuals with wages and salary figures of zero and greater than 499999 were omitted as outliers due to unobserved characteristics of the respondents.

[6] Graduate diploma was reclassified as a higher degree and unidentifiable qualification level was coded as system missing because of the small number of cases in those categories. Trade qualifications were further identified by the four major trade areas: building, electrical, metal and vehicle but this was only possible for the years 1984, 1986, 1987 and 1993.

dentistry or veterinary science.[7] An individual's highest school grade completed was reclassified as: did not complete year 9, completed year 9, completed year 10, completed year 11 and completed year 12.

Individual's subjective assessment of their ability at school was used to reflect academic ability.[8] In addition, variables on the number of weeks over the past year spent unemployed, and the number of years the person has worked part-time and full-time were used to reflect the individual's work accumulated skills.

A variable to represent an individual's social class included a self-enumerated question on class when growing up and fathers' school education.[9] Chapman (1981) has argued that parents' socio-economics class can produce values that aspire to 'higher order' non-pecuniary objectives. Other variables that are included are whether a person has a non-English speaking background, frequency of attendance at a place of worship, whether the individual has children under 18 years of age (interacted with sex) and age. All of these variables may be associated with people who have different values regarding pecuniary and non-pecuniary returns.

As a final step, the following variables were converted into a series of dummy variables according to their various categories: highest qualification, highest school grade completed, subjective assessment of ability at school, social class, father's school completion status, non-English speaking background, sex and parental status. There is no clear *a prioi* hypothesis for how these affect an individual's work preferences, however, if they are significant it would be interesting to see if these results are observed elsewhere (Clark 1997 for example finds systematic differences between the sexes).

[7] In 1994 and 1995 the response choices were restricted to apprenticeship certificate, diploma, bachelor degree and higher degree. These were recoded to reveal an individual's highest qualification in order to be consistent across years.

[8] This was recoded to the categories of somewhat above average, above average, average and below average to give enough cases in each category.

4. Relative prevalence of job satisfaction

Tables 1 to 5 present the mean index of non-pecuniary job satisfaction according to selected socio-economic variables. With the exception of trade qualifications, workers with post-school qualifications report significantly higher levels (at the 0.05 level) of non-pecuniary job satisfaction than unqualified workers. While people who possessed a higher degree had higher mean non-pecuniary satisfaction than bachelor degree and 'other' qualification holders, this difference was not significant (0.05 level).

Table 1: Non-pecuniary job satisfaction by highest post-school qualification type, Australia, 1984 to 1995

Post-school qualifications	Mean	Frequency
Higher degree	0.15	324
Bachelor degree	0.09	779
Diploma qualification	0.14	537
Trade qualification	-0.07	1177
'Other' qualification certificate	0.12	573
No qualification	-0.05	421
Missing	0.10	1955

N=5766
Source: International Social Science Surveys (Australia), 1984, 1986, 1987, 1994 and 1995.

A similar relationship does not also hold between average satisfaction and years of schooling shown in Table 2. While workers with higher levels of secondary school education reported generally higher levels of satisfaction, few of these differences were significant at the 0.05 level.

People who experienced no recent unemployment were significantly more likely to be employed in a job with higher rated non-pecuniary job satisfaction than people who had experienced some unemployment (Table 3). Years of full-time work experience had no association with job satisfaction. Even though the mean level of satisfaction tended to rise with years of experience the difference between the categories was not significant.

[9] Father's education was re-categorised into whether he had completed secondary school or not.

Table 2: Non-pecuniary job satisfaction according to school education, Australia, 1984 to 1995

School education	Mean	Frequency
Did not complete year 9	0.02	479
Completed year 9	0.12	631
Completed year 10	0.00	1342
Completed year 11	0.00	814
Completed year 12	0.03	2416
Missing	-0.18	84

N=5766
Source: International Social Science Surveys (Australia), 1984, 1986, 1987, 1994 and 1995.

Table 3: Non-pecuniary job satisfaction according to measures of work skills, Australia, 1984 to 1995

Work Skills	Mean	Frequency
Weeks spent unemployed in past year		
0	0.04	5288
1-20	-0.15	249
21-40	-0.19	97
40+	-0.06	117
Missing	-0.12	15
Years spent in full-time employment		
Up to 10	0.01	1903
11-20	0.04	1588
21-30	0.01	1039
31-40	0.05	609
40+	0.05	395
Missing	-0.06	232

N=5766
Source: International Social Science Surveys (Australia), 1984, 1986, 1987, 1994 and 1995.

Table 4 presents mean non-pecuniary satisfaction by a selection of personal characteristics. Regularity of attendance at places of worship may be regarded as a proxy variable for personal preferences which may correlate with occupational preferences. People who never attend a service are significantly more likely to work in a less satisfying job than people who attend infrequently or weekly. Workers from Non-English speaking backgrounds reported lower mean levels of non-pecuniary satisfaction than other workers but this difference was not significant. Women with children are significantly more likely to derive non-pecuniary satisfaction from their job than women without children, who in turn derive more non-pecuniary satisfaction than their male counterparts. However, there is no

significant difference between the non-pecuniary job satisfaction derived from women without children under 18 and men with children.

Young workers (under 30 years of age) assume jobs offering significantly less non-pecuniary satisfaction than older workers. Beyond 30 however, the level of job satisfaction stabilises and while it appears to rise for workers who are over the age of 60, and still in a job, this difference was only just significant compared with the 31 to 40 year old group.

Table 4: Non-pecuniary job satisfaction according to highest post-school qualification type, Australia, 1984 to 1995

Other personal characteristics	Mean	Frequency
Attendance at place of worship		
Never	-0.02	1748
Yearly	0.03	2771
Monthly	0.05	322
Weekly	0.09	847
Missing	-0.04	62
Country background		
English speaking background	0.06	4230
Non-English speaking background	-0.05	490
Missing	-0.07	1038
Family type		
Female without children under 18	0.07	1062
Female with children under 18	0.15	865
Male without children under18	-0.02	1465
Male with children under 18	0.03	1350
Missing	-0.08	1024
Age		
Under 30	-0.06	1426
31 to 40	0.04	1529
41 to 50	0.06	1414
51 to 60	0.06	793
Over 60	0.15	166
Missing	-	0

N=5766
Source: International Social Science Surveys (Australia), 1984, 1986, 1987, 1994 and 1995.

Finally, according to Table 5, higher skilled occupations appear to impart more non-pecuniary satisfaction than lesser skilled jobs. Professional workers followed by managers and administrators reported the highest levels of satisfaction and plant and machine

operators and drivers reported the lowest. Tradespeople, clerks and sales and personal service workers reported average levels of satisfaction.

Table 5: Non-pecuniary job satisfaction by occupation, Australia, 1984 to 1995

Occupation (ASCO1)	Mean	Frequency
Managers and administrators	0.16	539
Professionals	0.25	776
Para-professionals	0.11	346
Tradespersons	0.02	511
Clerks	0.06	666
Salespersons and personal service workers	0.02	470
Plant and machine operators and drivers	-0.26	240
Labourers and related workers	-0.16	335
Missing	-0.07	1883

N=5766
Source: International Social Science Surveys (Australia), 1984, 1986, 1987, and 1995.

5. Model results

Although the tables above indicate characteristics associated with non-pecuniary job satisfaction, they do not necessarily indicate the main determinants of either the job opportunity set or the individual's choice between comparative job advantages. This requires an estimation of our model as per equations 6 and 7.

The first step in estimating the model is to test for the possibility that the sample of working people was a biased sample of the whole working age population. A full maximum likelihood Heckman selection model yielded no evidence of selection bias and the model was estimated using OLS, with robust standard errors.

Given the individual's labour supply decision (with respect to the decision to provide a given number of hours to the labour market) and their ability to attain a job, the model should indicate which factors affect their job opportunity frontier and which factors alter their choice between pecuniary and non-pecuniary returns.

The dependent variables in the chosen final regressions were non-pecuniary job satisfaction (hours squared plus 18 were included with a weight of -0.096)[10] and pre-tax wage and salary income.

A variable which has the same signed effect on both pecuniary and non-pecuniary returns represent situations where the variable has shifted the individual's job opportunity frontier function outwards or inwards, *ceteris paribus.* Variables that have a differentially signed effect on pecuniary and non-pecuniary returns may reflect different preferences (by the different individuals) over job rewards or may indicate situations where the individual's opportunity frontier has pivoted in favour of one type of return over the other. As such the results from the two equations need to be jointly interpreted.

Table 6 presents results from the two equations with all variables listed above and Table 7 presents the preferred equations, which eliminates self-enumerated ability and social class. Although one of the social class variables are significant in both equations in Table 6, neither is significant if inserted in each equation alone.

[10] This assumes that a marginal disutility from working sets in after the 18th hour of work per week. From 0 to 18 hours, total utility rises marginally. While 18 is an arbitrary setting, it does not appear reasonable *a priori* to assume that no positive utility is gained from working a limited number of house.

Table 6: Determinants of non-pecuniary job satisfaction and wages and salaries[a]

	Non-pecuniary satisfaction			Wages and salaries $		
	Coeff		*t*	Coeff		*t*
Post school qualification						
× 1Higher degree	0.07		*0.887*	12585	***	*6.299*
× 1Bachelor degree	-0.01		*-0.103*	9866	***	*6.766*
× 1Diploma qualification	0.03		*0.352*	5591	***	*3.506*
× 1Trade qualification	-0.12	*	*-1.882*	-297		*-0.242*
× 1Other qualification/certificate	0.18	**	*2.028*	4202	***	*2.881*
School education						
× 1Completed year 9	-0.04		*-0.424*	-568		*-0.302*
× 1Completed year 10	-0.11		*-1.236*	4155	**	*2.166*
× 1Completed year 11	-0.06		*-0.585*	6109	**	*2.562*
× 1Completed year 12	-0.06		*-0.613*	5878	***	*2.697*
Work skills						
Weeks spent unemployed in the past year	-0.01	***	*-3.252*	-457	***	*-6.832*
Years spent in part-time employment	-0.01		*-0.902*	-442	**	*-2.320*
Years spent in full-time employment	0.00		*-1.120*	200	**	*1.994*
× 1Above average at school[b]	0.22	*	*1.714*	767		*0.352*
× 1Average at school[b]	0.23	*	*1.699*	190		*0.083*
Access to jobs						
Annual unemployment rate	-0.10	***	*-3.504*	337		*0.435*
Grow up in city (1=farm, 6=metro)	0.00		*-0.092*	662	***	*2.696*
Social class						
× 1Father finished secondary school	0.10	**	*2.411*	-772		*-0.633*
Social class when young (1=high, 5=low)	-0.01		*-0.580*	-772	**	*-1.978*
Other personal characteristic						
Religious (1=never, 4>=once week)	0.01		*0.513*	-734	*	*-1.741*
× 1Non-English speaking background	-0.15	**	*-2.490*	-2576	*	*-1.833*
× 1Female with children under 18	0.15	**	*2.505*	-11819	***	*-8.608*
× 1Male with children under 18	-0.02		*-0.428*	2330	*	*1.924*
× 1Female with no children under 18	0.07		*1.494*	-7118	***	*-6.526*
Age	0.01		*0.903*	1884	***	*4.618*
Age squared	0.00		*-0.045*	-20	***	*-3.731*
Constant term	0.35		*0.905*	-20640	**	*-2.467*
Method	OLS robust errors			OLS robust errors		
N	1571			1632		
R^2	0.27			0.32		

Note: Base case: no post-school qualifications, did not complete year 9, father did not finish secondary school, lower social class, below average at school, ESB, male with no children.

a Pre-tax income

b Self enumerated rating

× 1 indicates dummy 1=yes, 0=no.

* Statistically significant at the 0.10 level

** Statistically significant at the 0.05 level

*** Statistically significant at the 0.01 level

Source: International Social Science Surveys (Australia), 1984, 1986, 1987, 1994 and 1995.

Table 7: Determinants of non-pecuniary job satisfaction and wages and salaries[a]

	Non-pecuniary satisfaction			Wages and salaries $		
	Coeff		*t*	Coeff		*t*
Post school qualification						
× 1Higher degree	0.06		1.131	13833	***	9.130
× 1Bachelor degree	0.03		0.812	10417	***	8.784
× 1Diploma qualification	0.07		1.479	5263	***	4.723
× 1Trade qualification	-0.12	***	-3.556	-340		-0.454
× 1Other qualification/certificate	0.09	*	1.869	4086	***	3.210
School education						
× 1Completed year 9	0.08		1.288	2567	**	2.021
× 1Completed year 10	-0.01		-0.093	4595	***	3.798
× 1Completed year 11	0.00		0.036	8161	***	4.996
× 1Completed year 12	-0.01		-0.141	7462	***	5.389
Work skills						
Weeks spent unemployed in the past year	-0.01	***	-3.832	-243	**	-2.496
Years spent in part-time employment	-0.01	**	-2.139	-408	***	-3.529
Years spent in full-time employment	0.00		-1.361	270	***	3.809
Access to jobs						
Annual unemployment rate	-0.08	***	-3.444	-249		-0.436
Grow up in city (1=farm, 6=metro)	0.01		1.132	525	***	2.980
Other personal characteristic						
Religious (1=never, 4>=once week)	0.02	**	1.811	-791	**	-2.556
× 1Non-English speaking background	-0.15	***	-3.511	-1717		-1.572
× 1Female with children under 18	0.20	***	4.498	-9505	***	-7.783
× 1Male with children under 18	0.06	*	1.735	2318	**	2.451
× 1Female with no children under 18	0.09	***	2.581	-7085	***	-8.517
Age	-0.01		-0.608	1157	***	3.864
Age squared	0.00		1.627	-13	***	-3.401
Constant term	0.60	**	2.307	-1659		-0.237
Method	OLS robust errors			OLS robust errors		
N	3602			3715		
R^2	0.18			0.23		

Note: Base case: no post-school qualifications, did not complete year 9, father did not finish secondary school, lower social class, below average at school, ESB, male with no children.
a Pre-tax income
× 1 indicates dummy 1=yes, 0=no.
* Statistically significant at the 0.10 level
** Statistically significant at the 0.05 level
*** Statistically significant at the 0.01 level
Source: International Social Science Surveys (Australia), 1984, 1986, 1987, 1994 and 1995.

While the model distinguishes between the determination of the opportunity set and preferences, the model is collapsed for empirical implementation. Accordingly, the latter cannot determine whether the variable is having an impact via the opportunity set of preferences, this interpretation is left to a priori reasoning. Table 7 indicates that most the

variables have the effect of altering the final trade-off between non-pecuniary and pecuniary returns although a few factors appear to enhance job choice and thus permit more of both types of reward. Similar results are found if hours are excluded from the measure of non-pecuniary returns which indicates that this effect is not due to the inclusion of hours in the non-pecuniary variable, where a clear trade off is expected.

All post-school qualifications, except trade qualifications, are associated with higher pecuniary and non-pecuniary returns (although only 'other' certificate was significant at the 0.10 level) compared with unqualified workers, *ceteris paribus*. The largest margins for non-pecuniary satisfaction are associated with diplomas and 'other' certificates where the margins for earnings are smallest. People with trade qualifications appear to derive lower non-pecuniary satisfaction but similar earnings compared with people without qualifications. The pattern for years of schooling differs. Further years of education appear to lead people to take out their job returns in the form of higher earnings rather than more non-pecuniary returns.

Indicators of better work skills should shift the job opportunity frontier out and this effect appears to be present in the data (to an extent). More weeks of recent unemployment shifts the frontier inwards as the coefficients in both equations have the same sign. Years spent in part time work also shift the frontier inwards, possibly because it is an indicator of casual work with limited skill acquisition opportunities. Years of full time work appear to affect earnings but not non-pecuniary satisfaction.

Greater access to jobs due to a more buoyant labour market and growing up in the city where job opportunities are greater should shift the job opportunity frontier outwards and this pattern is found to be partially true in the data. A higher macroeconomic unemployment rate was associated with a significantly lower level of achieved non-pecuniary satisfaction. The coefficient on wages and salaries was correctly signed but not

significant. Living in larger community when young had the effect of raising earnings and non-pecuniary returns but the latter effect was small and not significant.

More religious people appear to take jobs that offer greater non-pecuniary satisfaction and less earning (as expected). Being a female with children also tilts job choice towards non-pecuniary satisfaction compared with childless men. Preferences for non-pecuniary returns appear stronger for women than men, as childless females are also more likely than childless males to trade-off non-pecuniary for pecuniary satisfaction. It is not clear why men with children get jobs with more of both attributes than childless men.[11] Workers from non-English speaking backgrounds appear prepared to accept jobs with less non-pecuniary satisfaction for given earnings compared with Australian and English speaking background born workers.

Finally, age affects earnings but not non-pecuniary satisfaction. Older people chose to take higher earnings rather than a more satisfying job as their job opportunity set expands, *ceteris paribus*.

6. Conclusion

While the pecuniary and non-pecuniary advantages from working have been found in our data set to be positively and significantly correlated, the coefficient - at 0.11 - is low. This implies that studies which consider the attractiveness of comparative jobs, occupations, industries and employers cannot assume that earnings are a comprehensive measure nor that other advantages of employment are highly correlated.

Some groups of workers are more likely than others to base their job choice upon non-pecuniary characteristics. Women, especially women with children under 18 years of age, people who are more religious and people from English speaking backgrounds appear

[11] Although not shown in Table 3, marital status was not significant in either the non-pecuniary or earnings equations.

to value non-pecuniary job advantages more highly than other groups, *ceteris paribus*. Other labour market characteristics, such as more schooling and maturity, appear to cause people to take out the potential for additional advantages in the form of more pay and less intrinsic satisfaction. However, there is some evidence that acquiring a post-school qualification expands a person's choice of jobs and allows them to chose a job with more pecuniary and non-pecuniary rewards.

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