

# **Marriage and Money: The Impact of Marriage on Men's and Women's Earnings**

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## **ABSTRACT**

A growing body of literature has investigated the wage penalty of motherhood showing that motherhood has a negative impact on women's earnings. Explanations for this pattern focus on the impact of motherhood on work experience and job productivity, as well as employer discrimination. There is also a substantial body of research on the marriage premium for men showing that married men earn more than single men. The explanation for this pattern is usually that marriage is associated with higher levels of productivity, either because men who are more productive are more likely to marry, or that marriage leads to higher levels of productivity. This paper uses data from the Negotiating the Life Course Project in 1996/97 to investigate the impact of marital status on men and women's earnings.

## INTRODUCTION

A large body of research shows that marriage, family, and work are all interconnected, and that choices in one area may be made in consideration of, or have consequences for the other areas. One issue that has been examined extensively is the effect of marriage and family on wages for men and women. In this paper we want to look at the effect of marriage on wages. The bulk of the research on women's wages investigates the wage penalty for motherhood, where women who have children are found to earn less income than those who don't have children. It is commonly argued that it is not marriage that impacts women's wages, but the presence of children. For men on the other hand there is a substantial body of research on the marriage premium, that finds married men earn more than single men.

Explanations for the wage penalty for motherhood are centred on the impact of motherhood on work experience and job productivity, as well as employer discrimination. Studies investigating the wage penalty for motherhood, including marriage as a control, have had mixed results over time. Early studies, that examined wages in the 1970's and 1980's, have found either a marriage penalty for women or no association between marriage and wages (Korenmen and Neumark 1992). This pattern may however have changed with more recent studies, especially those using longitudinal data, reporting a marriage premium for women, that often persists after controlling for a number of family, human capital, and job characteristics (Budig & England 2000; Waldfogel 1997).

Researchers investigating the marriage premium for men have consistently found that married men earn more than never married men irrespective of the independent variables used to predict wages (Gorman 1999; Loh 1996). It is usually argued that,

for men, marriage is associated with higher levels of productivity (role specialisation), or there are selection effects where attributes rewarded in the labour market are also valued in the marriage market. One interesting trend is that recent studies using longitudinal data have found a decline in the marriage premium to married men (Gray 1997).

In summary recent research has found a wage premium for women, in conjunction with a decline in the size of the wage premium for men.

## **METHODS/VARIABLES**

### **Sample:**

The sample has been restricted to men and women who were in the labour market, and employees (self-employed have been excluded), with a final sample size of 1220 people. We have separated the sample into 3 groups: full-time employed men, full-time employed women and part-time employed women. There are a large number of missing values for the hours worked variable, so the retrospective work history variable was used to determine work force status in current job (Q15A96 for respondents interviewed in 1996, and Q15A97 for respondents interviewed in 1997). Women who are employed both full-time and part-time are included, but only full-time men because less than 10% of the men in our sample were employed part time and the numbers became too small. We acknowledge that the restriction of the sample by these criteria may result in selection effects for women, because those characteristics that keep women in the work force may also determine wages. Sample characteristics are shown in table 1.

## **Variables**

The dependent variable is net annual income variable from the Wave 1 data (net2A).

The primary independent variable is marital status, which consists of 3 dummy variables: 'never married' (reference group), 'separated/divorced/widowed', and 'married/defacto'. The married and defacto includes people who may have been divorced/separated and have re-coupled.

We have taken a nested model approach to the analysis, with a total of 5 models. The basic model, with no controls, is net annual income with marital status. The rest of the variables are divided under the following headings, Human Capital; Family Status; and Job Characteristics. These groups of variables are added to the models in a variety of combinations, with all variables included in the final model.

### **Human Capital**

The human capital variables include age, and age centred and squared (AGE2) to adjust for the curvilinear relationship between age and wages. The years of education variable was constructed by assigning 'year values' to the response categories for Q62 (levels of schooling), and year values were also assigned to any post-school qualifications completed (Q53 and Q56), all these values were then summed together. There were a lot of missing cases for this variable (due primarily to large numbers of missing cases for Q53 and Q56), and we are looking at alternative ways of constructing it, but here a dummy for missing years of education has been included. We also included a dummy for dummy for bachelor degree or higher (degree or better). Years of work experience was generated by regressing years of full-time experience with age, so this is experience net of any influence of age, and experience centred and squared was included to adjust for the curvilinear relationship between experience and wages.

## **Family**

Family status was measured by a series of dummy variables for number of children including no children, one child, two children, and three children, with no children as the reference category. A dummy for the presence of a pre-school child in house was also included.

## **Job Characteristics**

To indicate occupational class we took the nine major sub-groups and collapsed them into four groups, captured by a series of dummy variables including ‘management and administration’, ‘professions and para-professions’, ‘white collar’, and ‘blue collar’ with management and administration as the reference category. A dummy for missing occupation was also included. A dummy was also included for whether the respondent worked for government or not.

## **ANALYSIS**

Initially we ran ordinary least squares regression models, and conducted diagnostics on the wages variable, this preliminary analyses found that there were a large number of influential outliers, which is often typical of wage variables. We then ran the models using a robust regression, which identifies cases of extreme outliers and down weights them so that they do not have undue influence on the model. Any extreme observations are automatically dropped from the analysis.

## RESULTS

Table 2 shows the results of the regression models for full-time employed men.

These results support the literature where married men have significantly higher wages than never married men, irrespective of the variables included in the model.

Human Capital and Job Characteristics explain the most variance in wages; family status appears to have very little impact on wages. In the basic model men that are separated, divorced, or widowed have significantly higher wages than men never married, but as soon as controls are included the differences are non-significant.

Table 3 presents the results of the regression models for full-time employed women.

Here we find no association between marital status and wages for any of the models.

This supports the findings in earlier literature that used OLS cross-sectional models to estimate the relationships between marriage and wages for women, and found no associations. The family status variables also did not have a lot of impact on wages.

Table 4 shows the regression results for part-time women. Here we find an association for the basic model, but there is no association for any of the models with controls added – again family status has a small impact on wages.

We felt that there was a strong possibility that selection effects were responsible for the small impact of family status on wages for women. A bit of further investigation found that only around 40 of the full-time employed women had pre-school children, a higher proportion of part-time employed women had pre-school children. But at least half of the women who had pre-school children were not in the work force. So it will be important to deal with that issue.

## QUANTILE REGRESSIONS

A quantile regression models quantiles of the conditional distribution of the response variables and expresses them as functions of observed covariates (Koenker & Hallock 2000, Koenker 2001). The quantile regression answers questions like: does marriage have different effects on wages for people of different ranks/ends of the distribution? The graphs in diagrams 1 to 3 present results comparing the robust regressions with the quantile regressions. Overall these findings suggest that the robust regression accurately predicts the effect of marriage on wages at all points of the conditional distribution.

Take full-time men for example (the first graph on diagram 1), the quantile regression points follow the robust regression until the 7<sup>th</sup> quantile where the marriage premium drops, suggesting that for men earning high income that other factors come into play. So the quantile regression does offer us some more information than the robust regression line, but for the most part it is satisfactory.



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**Table 1: Mean and Standard Deviations (in parentheses) of Model Variables**

	Full-Time Men (N=544)		Full-Time Women (N=394)		Part-Time Women (N=282)	
Dependent:						
Net Annual Income (\$)	31870.21 (19685.72)		24660.45 (8918.84)		11800.27 (6716.71)	
Primary Independent:						
Mar/Def	.65		.57		.66	
Div/Sep/ Wid	.09		.15		.13	
Human Capital Variables:						
Age	36.4	(8.9)	35.6	(9.8)	36.2	(9.9)
Age#2 <sup>1</sup>	79.9	(86.8)	95.3	(92.6)	97.5	(101.6)
Years of Education	13.0	(3.5)	13.3	(3.4)	11.9	(3.9)
Degree or better	.26		.30		.16	
Yrs Experience <sup>2</sup>	-0.03	(2.5)	-0.07	(3.9)	-0.09	(4.9)
Yrs Experience#2 <sup>3</sup>	6.2	(13.1)	15.0	(29.3)	23.5	(40.1)
Family Status Variables:						
Pre-school child	.20		.09		.23	
One Child	.15		.15		.23	
Two Children	.22		.18		.31	
Three, or more Children	.12		.05		.18	
Job Characteristics:						
Govt Sector	.28		.38		.30	
Professional Occ	.35		.47		.28	
White Collar Occ	.15		.40		.55	
Blue Collar Occ	.36		.07		.15	

1. This is age centred and squared and was included in the model to adjust for the curvilinear relationship between age and wages.

2. Yrs Experience includes full time experience only and it was residualised to get an expression of experience net of the influence of age.

3. This is residualised experience centred and squared and was included in the model to adjust for the curvilinear relationship between experience and wages.

**Table 2: Results of Robust Regression models for full-time employed men**

	1. Baseline Model (no controls)	2. Baseline + Human Capital	3. Baseline + Human Capital + Job Characteristics	4. Baseline + Human Capital + Family Status	5. All Variables
Married/Defacto Dummy	7,781.74**	4,265.58**	3,557.63**	4,813.33**	3,668.42**
Sep/Div/Wid Dummy	4,162.64*	1,233.37	1,449.65	1,250.44	1,420.88
Never Married	-	-	-	-	-
Constant	24,221.26	11,146.99	23,120.73	10,320.19	22,314.34
Observations	544	544	544	544	544
R-squared	0.11	0.25	0.34	0.26	0.34

\* significant at  $P < .05$ ; \*\* significant at  $P < .01$

**Table 3: Results of Robust Regression models for full-time employed women**

	1. Baseline Model (no controls)	2. Baseline + Human Capital	3. Baseline + Human Capital + Job Characteristics	4. Baseline + Human Capital + Family Status	5. All Variables
Married/Defacto Dummy	1,393.17	-195.64	-883.63	246.49	-423.68
Sep/Div/Wid Dummy	1,758.63	317.85	-68.86	1,107.72	703.59
Never Married	-	-	-	-	-
Constant	23,085.96	7,647.45	19,076.66	7,676.02	19,247.70
Observations	394	394	394	394	394
R-squared	0.01	0.31	0.36	0.32	0.38

\* significant at  $P < .05$ ; \*\* significant at  $P < .01$

**Table 4: Results of Robust Regression models for part-time employed women**

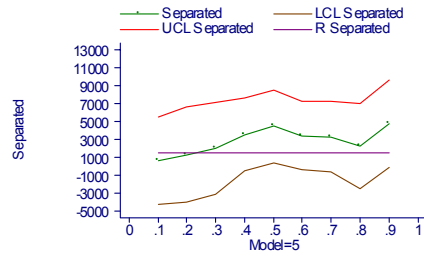
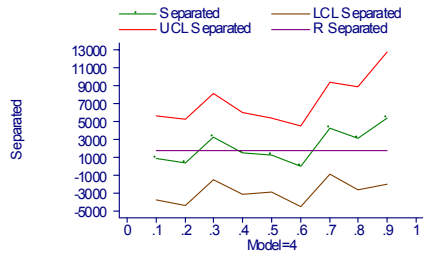
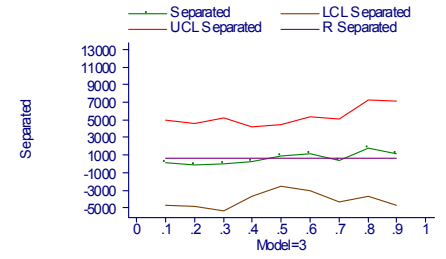
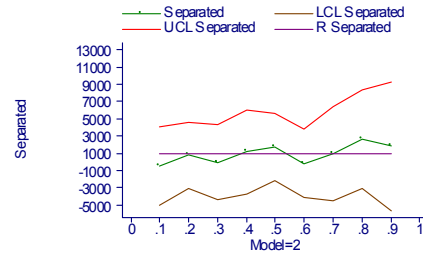
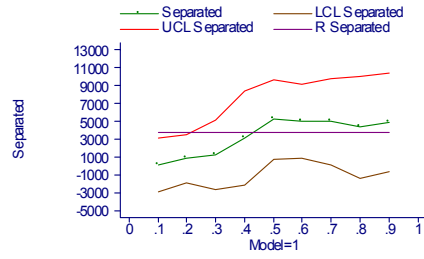
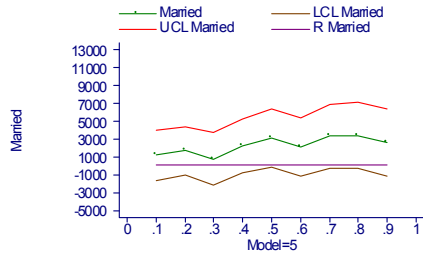
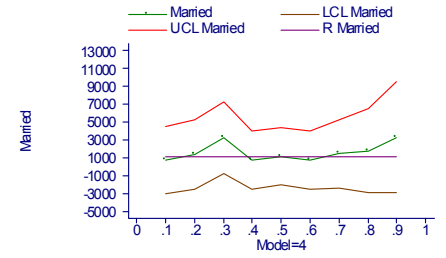
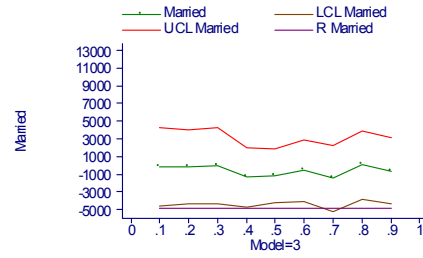
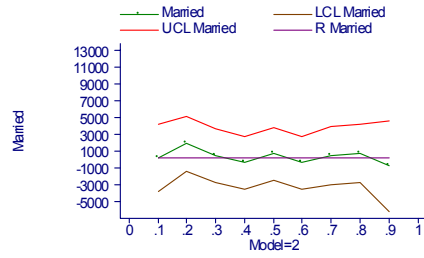
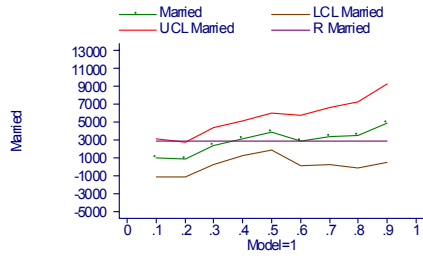
	1. Baseline Model (no controls)	2. Baseline + Human Capital	3. Baseline + Human Capital + Job Characteristics	4. Baseline + Human Capital + Family Status	5. All Variables
Married/Defacto Dummy	2,779.60**	131.71	-867.68	1,071.91	132.96
Sep/Div/Wid Dummy	3,570.05*	927.66	599.83	1,720.80	1,481.39
Never Married	-	-	-	-	-
Constant	9,175.55	3,493.33	14,732.12	3,406.22	14,331.71
Observations	282	282	282	282	282
R-squared	0.03	0.11	0.19	0.14	0.21

\* significant at  $P < .05$ ; \*\* significant at  $P < .01$





### Diagram 3



## Part Time Women