What is the Effect of Cohabiting and Being Married on Job Satisfaction?

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1 Introduction

What is the effect of being in a union (cohabitation or marriage) on job satisfaction? There are at least three reasons why job satisfaction is an interesting variable when considering the effects of family context on labour market outcomes. Increase in cohabitation rates and decrease in marriage rates have raised the attention of researchers and public at large in the last 30 years (Smock 2000). There has been interest in studying the extent to which trends in marriage and cohabitation rates are related to changes in the economic environment, including the rise in female labour market participation and the decline in stability of young adults' careers (Clarkberg 1999, Oppenheimer 2003). Demographers and economists have asked to what extent changes in economic circumstances have led to changes in family formation patterns. In order to answer this question they have often considered economic benefits and costs associated with each marital status, however only little attention has been given to job satisfaction. This is regrettable because job satisfaction might well be an aspect that individuals take into account when deciding to marry or to cohabit.

Previous evidence shows that job satisfaction predicts a range of behaviours in the labour market, most notably quitting, absenteeism and productivity (Freeman 1978, Argyle 1989, Clark 2001, Sousa-Poza and Sousa-Poza 2007, Bockerman and Ilmakunnas 2012). For this reason job satisfaction can be considered a proxy for certain micro level risks that individuals might face in the labour market, including risk of remaining unemployed, being fired or of experiencing low wages in the future. Moreover, job satisfaction can also be considered as a measure of work attachment as high levels of job satisfaction increase the likelihood of remaining in employment and express the willingness to do so. My study on the association

between family formation processes and job satisfaction can therefore help understanding how different family states are related to uncertainty in the workplace and future labour market behaviours.

I argue that job satisfaction is a variable measuring an aspect of working life that is not measured by objective working conditions. This argument is supported by the evidence that job satisfaction has only a small association with income (Judge et al. 2010) and in general with job quality (Brown et al. 2012). This is a suggestion that variations in job satisfaction are explained by factors other than variables that are usually employed to measure well-being in the labour market. In particular, one useful interpretation of job satisfaction measures is to look at them as measures of the fit of one's job in one's life, which is the overarching working assumption of this study. Therefore variations in job satisfaction might well be explained by changes in private life and family context because such changes can make one's job more or less desirable. Indeed, from this perspective one could argue that family and private life context should be as much important in explaining job satisfaction as working arrangements.

Nevertheless, previous research has explained job satisfaction almost entirely in terms of working conditions, leaving the role of family context largely understudied. There is only scarce and mixed evidence regarding the relations between job satisfaction and family status. Older studies have shown that married workers are more satisfied than single ones (Bersoff and Crosby 1984; Clark 1996), but more recent ones have reported the opposite (Gazioglu and Tansel 2006). Furthermore, Clark (1997) shows that being married is positively associated to job satisfaction for women but not for men. On another note, the study by Georgellis et al. (2012) looks at the impact of a transition into marriage on job satisfaction rather than comparing married individuals to single: they show that marriage has only a short-term effect on job satisfaction and the direction of this effect is specific to gender and sector of employment. The authors report that marriage has a negative effect on job satisfaction for women only if they are employed in the public sector and conversely a negative effect for men only if they are private sector employees. However, their study has a series of conceptual limitations: it does not provide a holistic picture of the associations between transitions into marriage and job satisfaction and it does not consider the role of pre-marital cohabitation.

One limitation common to all these studies is that cohabitation is ignored as a partnership status. If the goal is to understand how family context affects job satisfaction, it is not sensible to exclude cohabitation, considering that nowadays in most Western countries the majority of individuals expect to cohabit at some point in their lives (Beaujouan and

Bhrolcháin 2011).

In order to answer my research question I use data from the British Household Panel Survey (BHPS) covering years 1991-2008. My study addresses two methodological challenges: selection into partnership and selection into employment. Selection into partnerships relates to the fact that individuals who remain single, cohabit to get married might be all have different unobservable traits that also affect their job satisfaction. Selection into employment instead relates to the fact that ob satisfaction is only observed for individuals who are in employment, therefore we do not know if the estimated results are due to being in a given marital status or are driven by some characteristics which are also correlated with the decision of remaining in employment. I will explain how I address these methodological challenges in sections 3 and 4.

In sum, my study makes at least three important contributions. First, I provide evidence on the associations between marital states and a dimension of well-being previously largely ignored, job satisfaction. Second, I clearly distinguish marriage from cohabitation and disentangle the meaning of being in each of these partnerships in terms of job satisfaction. Third, I provide a methodological improvement with respect to most literature on union formation effects by showing the role of selection into employment and marital status in driving the results.

The next section presents the theoretical background. In section 3 I will provide a description of the data, the main variables used and the methods adopted. Section 4 shows the analysis. Section 5 includes a critical discussion of the results and section 6 concludes.

2 Theoretical Framework

The association between marital states and job satisfaction could be spurious or causal. It is spurious if it is entirely explained by selection into marriage and employment, as already explained in the introductory section. The aim of this section is to formulate predictions regarding a possible causal effect of marital status on job satisfaction, that is how much of the variation in job satisfaction can be explained by changes in partnership status after selection into employment and marital status are controlled for. Given the conceptualization of job satisfaction explained in section 1, explanations of causal effects of marital status on job satisfaction invoke seeing partnership statuses as a source of variation in the fit of one's employment conditions in one's life.

One explanation of causal effects of marital status on job satisfaction is provided by *identity theory* (Stryker and Burke 2000; Akerlof and Kranton 2010). Identity theory postulates that individuals hold social positions which are associated with some behavioural expectations, which in my framework consist of gender categories and norms. By internalizing these expectations individuals construct identities. Partnership and employment states are example of social states to which are attached somewhat clear behavioural expectations, that is all those behaviours that make a good husband, a good wife (e.g. be faithful, care for the family) and a good worker. Clearly, although these behaviours are to some degree socially defined it is up to the single individuals to know what makes a good husband or a good wife. Moreover, individuals have several identities at the same time (e.g. worker and wife) and the behavioural expectations attached to each identity might conflict. I argue that variations in job satisfaction arise when there are trade offs between being a good worker and a good husband/wife/partner. The framework identified by Akerlof and Kranton (2010) can help make this clear. The approach consists in including an identity ingredient reflecting gender categories and norms in the utility function of individuals. A married working woman loses identity utility if her paid employment hinders performing household tasks to the level required by social norms. We can think that a low level of job satisfaction is signal of decreased identity utility because it shows that her paid employment is not a good fit in her life. In other words, the low level of job satisfaction can generate from a trade off between being a good wife and a good worker. On the other hand, a married working man loses identity utility if he commits to his job less than it is socially expected. Conversely, a married working man will see his identity utility enhanced if being a good husband makes it also easier to be a good worker.

The framework of *identity theory* also offers insights regarding the differences between cohabitation and marriage. Hoffert and Anderson (2003) show the importance of a legalised marital status for determining the degree of parental investment. The identity of a cohabitant is more ambiguous and less institutionalised than the one of married. Identity theory suggests that in the case of cohabitation expectations are uncertain and therefore individuals would not necessarily change their behaviours. Therefore we can expect fewer trade offs to arise between being good workers and good cohabiting partners, suggesting fewer differences in job satisfaction between cohabitants and single.

As it has been shown so far, *identity theory* offers a useful framework for thinking of how partnership states affect the way jobs fit in one's life, but in order to formulate hypothesis

regarding the direction of marital status effects we need to be more clear with respect to what type of behaviours are implied by each partnership status. Drawing from other theories I provide three possible changes in behaviours attached to different marital states that might be responsible for variations in job satisfaction.

2.1 *Work dedication*

When individuals form a new partnership their work dedication might change. Becker (1981)'s specialisation model postulates that in traditional breadwinner model households men benefit from an opportunity for increased specialisation at marriage, with marriage providing an opportunity for increased productivity in the labour market, while women would specialise in non-market work and eventually retrieve from the labour force. This argument suggests that there might be expectations on working women to dedicate a large amount of energy in non-market activities, which may conflict with being a good worker, generating therefore a trade off between being a good worker and a good wife. Men may be expected to increase work commitment also because they are expected to provide financially for the newly formed household. Strong work dedication may also be part of what one defines a good worker, so that being a good worker and a good husband go hand in hand. This line of argument therefore suggests that married women might have lower levels of job satisfaction than single ones, while married men should report higher levels than their single counterparts.

There is some evidence that cohabiting couples do not conform to the traditional breadwinner model that is at the basis of specialisation (Juster and Stafford 1991; Shelton and John 1993; Baxter 2005). Therefore there are no strong expectations regarding the work dedication of cohabiting partners. This would be evidence that cohabiting women be more satisfied with their job than married ones, but there is no clear indication regarding men.

2.2 *Time*

When individuals form a new partnership they might change the allocation of time between work and leisure activities. Time allocation models suggest that when individuals join in a partnership they face the trade off between spending time at home with the partner and at work. The relevant assumption here is that regardless of gender good partners spend a lot of time (at least up to a threshold) at home and good workers spend a lot of time at work. However, I argue that individuals might attach more importance to being good partners if

they are married than if they cohabit, this is because a failed marriage is much more costly than a failed cohabitation. Therefore, while both women and men will experience trade offs between being good spouses and good workers when it comes to allocate time, these trade offs will be stronger for married than cohabiting individuals. Thus, the implication is that *ceteris paribus* married individuals should have lower levels of job satisfaction than cohabiting ones.

2.3 *Reciprocal support*

Previous research has shown that marriage is positively associated with a vast range of well-being outcomes in many spheres of life: with respect to single individuals, married ones live longer, have better mental and physical health, engage less in antisocial and criminal behaviours, are happier, suffer less material hardship and also their children have better physical and emotional well-being (Waite 2000, Lerman 2011, Ribar 2004, Wilson and Oswald 2005)[1]. Authors argue that marriage might indeed have a causal effect on well-being as entering a marriage brings about well-being enhancing behaviours (Kuperberg 2012; Price 2011). In other words, marriage is institutionalised as a long-term contract whereby partners make commitments to each other, so that the two are guaranteed reciprocal social support and control. Therefore we can believe that there are expectations that each spouse look after the other. This might involve for instance sacrificing leisure time or doing extra chores. I argue that the support of a spouse may loosen up any existing trade off between being a good spouse and a good worker. For instance, if a woman is experiencing work life conflicts or work related stress her husband might give her material and/or psychological support to cope with her difficulties (Rudd and McKenry 1986). Some authors argue that cohabitation cannot provide the same incentives for well-being enhancing behaviours because it does not have the same degree of institutionalisation (Nock 1995). Therefore we can expect married men and women to have higher levels of job satisfaction than cohabiting ones.

To sum up, identity theory has at least two implications for this study. First, *ceteris paribus* it suggests clear gender differences as there are strong gender norms associated to the role of spouses and partners. Second, *ceteris paribus* it suggests differences between cohabitation and marriage in job satisfaction, but it is unable to predict a clear direction of these marital status effects, which remains an empirical question to be tested.

[1]Nevertheless, in general, benefits from marriage seem to be larger for men than women (Gove 1990).

A final remark is that so far I have distinguished cohabitation from marriage as marital states with different degrees of institutionalisation. However, marriage and cohabitation have in common the fact that they are both forms of shared living arrangements, which contrasts them from singlehood. The question is therefore whether what matters in terms of job satisfaction is living together or holding a more or less recognised marital status. If the first hypothesis is true then I would expect those who cohabited before marriage not to have significantly different levels of job satisfaction than when they were cohabiting. It would be indication that identities are formed through *de facto* living arrangements rather than institutionalised partnership status. Therefore testing whether the marriage effect on job satisfaction depends on whether people cohabited before or not is an important test regarding the mechanisms explaining the association between partnership status and job satisfaction and also it is a test on the nature and meaning of partnership status in terms of labour market experience.

3 Data and Methods

In this study I use all 18 waves of the British Household Panel Survey (BHPS) running from 1991 to 2008. The BHPS is a survey of private households in which at each wave all members of the household are interviewed. In this analysis I will only use the original sample of respondents which started out in 1991 with 5,500 households comprising about 10,300 individuals from Great Britain and has been increased overtime through the addition of members of households turning 16 and new members joining existing households (e.g spouses). The estimation sample is made up of all working age individuals who are observed working for at least two consecutive waves [2]. Individuals working under any type of contracts (full-time, part-time, self-employed, etc.) are retained in order to guarantee an adequate sample size.

At every wave, the BHPS questionnaire contains a question about job satisfaction. It requires respondents to state how satisfied they are with their jobs on a scale from 1 (not satisfied at all) to 7 (extremely satisfied). This question is asked to all respondents who did paid work the week before the interview, employee or self-employed, and also to those who did not do paid work the week preceding the interview, but did have a job from which they were away from.

In order to address the problem of selection into partnership explained in section 1 I adopt fixed-effect estimators. The difficulty of establishing causal effects of marriage has

[2]This is to guarantee the identification of the effect via fixed effect estimators

been noted by previous authors (Ribar 2004, Price 2011). The use of panel data allows controlling for time invariant unobservable characteristics that determine both the decision of changing partnership status and variations in job satisfaction: in other words fixed-effect estimators provide an estimation of the treatment effect by exploiting within-individuals variations of marital status. However, the identification of the effect fails if there are time variant unobservable characteristics determining job satisfaction and family status (e.g. change in personality traits). While the use of large survey panel data is a rather established procedure in the literature of marital status effects, it has scarcely been used in studies on the association between marital states on job satisfaction (the only exception being Georgellis et al. 2012).

Previous studies using subjective well-being measures as outcome variables have treated these ordinal constructs as cardinal variables and adopted models for continuous outcome variables. However, I argue that it is theoretically preferable to utilize a method that respects the ordinal nature of the data. For this purpose I adopt the estimator proposed by Baetschmann et al. (2011) which allows to estimate ordinal fixed effect (FE) logistic models (BUC estimator) [3]. Following Baetschmann et al. (2011) the BUC estimator is better than other ordinal FE logistic estimators because there are small sample sizes associated with some cutoff variables (there are only a few individuals with very low values of job satisfaction). In this case it is possible to show that the BUC estimator outperforms all existing ordinal FE logistic estimators.

The starting point is a latent variable model

$$Y_{it}^{*} = \beta_1 M_{it} + \beta_2 M_{it} Z_i + \beta_3 C_{it} + X_{it}'\gamma + \nu_i + \epsilon_{it}, \quad i = 1, ..., N \quad t = 1, ..., T \tag{1}$$

where Y_{it}^{*} is a latent measure of job satisfaction of individual i in period t, M_{it} a dummy indicator for being married in a given year, Z_i a time-invariant dummy tagging the group of premarital cohabitants, C_{it} a dummy indicator for being in cohabitation in a given year, X_{it}' a set of covariates and controls, ν_i a time-invariant unobserved component and ϵ_{it} is a error term. Equation (1) can be rearranged in a way that makes clear the role of the interaction:

$$Y_{it}^{*} = (\beta_1 + \beta_2 Z_i) M_{it} + \beta_3 C_{it} + X_{it}'\gamma + \nu_i + \epsilon_{it}, \quad i = 1, ..., N \quad t = 1, ..., T \tag{2}$$

The rationale for including the interaction term between the dummy for being married (M_{it}) and the dummy for being a premarital cohabitant (Z_{it}) rather than estimating two separate

[3] BUC is an acronym that stands for "Blow Up and Cluster".

marriage effects (for premarital cohabitants and for those marrying directly) is that the interaction allows testing directly the hypothesis whether the marriage effect on job satisfaction is different depending on whether individuals cohabited before marriage or not. Therefore, the effect of a direct marriage on job satisfaction is identified by β_1, whereas the effect of marriage preceded by cohabitation by $\beta_1+\beta_2$ and the effect of unmarried cohabitation by β_3.

However, Y_{it}^* is not observed and we only observe values of job satisfaction Y_{it} which are related to Y_{it}^* as follows

$$Y_{it} = k \quad if \quad \mu_k < Y_{it}^* \leq \mu_{k+1}, \quad k = 1, ..., 6 \tag{3}$$

where k is the number of cutoffs and the thresholds μ_{it} are assumed to be strictly increasing ($\mu_k < \mu_{k+1}$, $\forall k$) and $\mu_1 = -\infty$ and $\mu_{k+1} = \infty$. In simple terms we only observe individuals expressing their levels of job satisfaction at the cut offs 1 through 7 and we make the reasonable assumption that someone expressing job satisfaction level 1 is less satisfied with their job than someone expressing level 2 and so on. Define Γ_{it} the vector $(M_{it}, Z_i, C_{it}, X'_{it})$. Under the assumption that ϵ_{it} is IID logistic the probability of observing outcome k for individual i at time t is

$$Pr(Y_{it} = k|\Gamma_{it}, \nu_i) = \Lambda(\mu_{k+1} - \Gamma_{it} - \nu_i) - \Lambda(\mu_k - \Gamma_{it} - \nu_i) \tag{4}$$

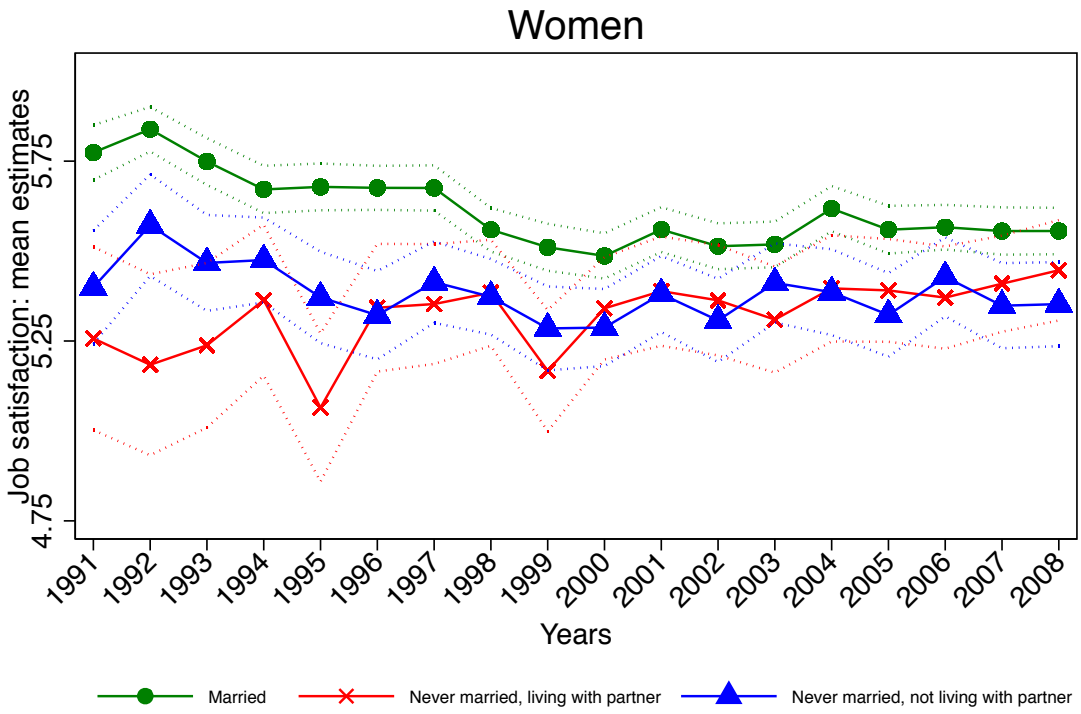
where $\Lambda(\cdot)$ denotes the logistic cumulative function. Coefficients β_1, β_2 , β_3 and γ cannot be estimated consistently from a direct estimation of (4). However, the BUC estimator involves a procedure that finds a way around this problem. Given a number K–1 of cutoffs in the dependent variable, the procedure implied by the BUC estimator involves creating a K–1 copies of each individual in the dataset, so that for each copy it is possible to dichotomize the dependent variable at each different cutoff. The model is then estimated on the expanded sample using the standard Chamberlain (1980) approach and under the constraint that $\beta_1 = \beta_2 = ... = \beta_k$, $\forall k$. Standard errors are clustered at the level of the respondent because some individuals contribute to several terms in the likelihood function.

4 Analysis

4.1 Descriptive Analysis

Given the lack of previous empirical evidence regarding the association of job satisfaction with marital states and the uncertain theoretical predictions on the direction of this associ-

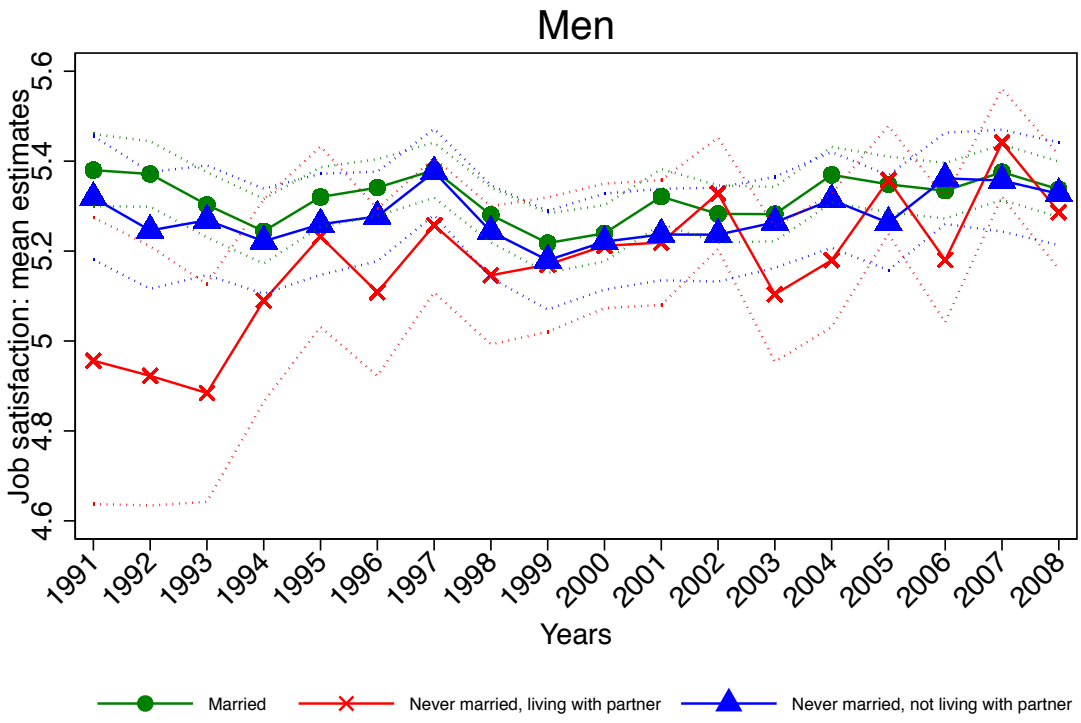
Figure 1: Mean job satisfaction score (with pointwise 95% confidence interval) by marital status



Note: job satisfaction scale ranges from 1 to 7.

ation it is useful to begin the analysis by considering the observed relationship among the variables of interest. In figure 1 and 2 I report the trend of mean estimates of job satisfaction conditional on marital status and wave for each gender respectively with 95% confidence interval. It is clear that married women are consistently more satisfied at work than their single and cohabiting counterparts. However the marriage job satisfaction advantage for women has declined overtime. There does not seem to be a relationship between job satisfaction and marital states for men. It is worth noting that the observed associations are likely to be confounded by factors that affect job satisfaction and partnership status. The rest of the analysis aims to establish a robust association between job satisfaction and partnership status by taking into account selection into marital status.

Figure 2: Mean job satisfaction score (with pointwise 95% confidence interval) by marital status



Note: job satisfaction scale ranges from 1 to 7.

4.2 Results

In table 1 I report the estimated coefficients from the ordinal logistic fixed effect models for men and women separately. In columns 1 and 4 I report the unadjusted estimates. Here the only covariate included is age (and its quadratic transformation), which is pre-determined and it is not affected by being in a specific marital status. Some would argue that it might be necessary to control for confounding factors; for instance, the arrival of a new baby or a change in job which might affect job satisfaction. Following this argument, columns 2, 3, 5 and 6 report the estimated treatment effects when private and working life related covariates are gradually introduced in the model [4]. Family life covariates include number of children, physical health status, mental health status (GHQ index) and regional dummies. Working life covariates include gross monthly income (logarithm), hours worked and job tenure [5]. However, in terms of a causal interpretation adjusting for concomitant covariates that are

[4] A description of the covariates included in the models is reported in the appendix.

[5] Job tenure is defined as the length in years one has worked in the same job.

affected by the treatment introduces bias in the estimated treatment effects (Rosenbaum 1984). For instance, in this particular case institutional knowledge suggests that most of the covariates included are known to be affected positively by being married (e.g. married individuals are more likely to have children and have better health status) so that the adjusted estimated effects for marriage are likely to be biased upwards. Therefore, in terms of making a causal claim regarding the effect of a marital status the unadjusted estimates in columns 1 and 4 should be preferred.

Table 1: Fixed effects ordered logit estimates of Job Satisfaction

	Women			Men		
	(1)	(2)	(3)	(4)	(5)	(6)
direct marriage	0.228***	0.114	0.162**	0.092	0.033	-0.002
	(0.002)	(0.157)	(0.048)	(0.285)	(0.723)	(0.987)
marriage after cohabitation	0.156**	0.097	0.103	0.066	0.040	0.033
	(0.032)	(0.209)	(0.194)	(0.363)	(0.623)	(0.700)
unmarried cohabitation	0.009	-0.031	0.008	-0.042	-0.102	-0.126
	(0.909)	(0.693)	(0.918)	(0.593)	(0.208)	(0.142)
age	0.076	0.056	0.052	-0.091*	-0.082	-0.996
	(0.165)	(0.313)	(0.391)	(0.078)	(0.151)	(0.120)
age^2	-0.000	0.000	0.000	0.0004***	0.0003	0.0008***
	(0.762)	(0.794)	(0.412)	(0.009)	(0.153)	(0.000)
children		0.156***	0.102***		0.064***	0.0855***
		(0.000)	(0.000)		(0.008)	(0.002)
health (good)		-0.160***	-0.159***		0.108***	-0.111***
		(0.000)	(0.000)		(0.001)	(0.002)
health (fair)		-0.233***	-0.212***		-0.296***	-0.302***
		(0.000)	(0.000)		(0.000)	(0.000)
health (poor)		-0.269***	-0.253***		-0.057	-0.047
		(0.000)	(0.001)		(0.476)	(0.588)
health (very poor)		-0.241	-0.208		0.099	0.138
		(0.127)	(0.209)		(0.632)	(0.546)
GHQ		-0.077***	-0.079***		-0.132***	-0.130***
		(0.000)	(0.000)		(0.000)	(0.000)
income (log)			0.159***			0.440***
			(0.000)			(0.000)
work hours			-0.016***			-0.017***
			(0.000)			(0.000)
job tenure			-0.053***			-0.052***
			(0.000)			(0.000)
Year dummies	✓	✓	✓	✓	✓	✓
Region dummies		✓	✓		✓	✓
Log-likelihood	-46623.89	-40411.103	-36242.972	-49764.757	-41888.735	-33789.445
Individuals	4221	4135	3929	4148	4064	3628
Observations	128769	115311	104238	134355	119457	97173

Notes: data source BHPS, waves 1991-2009. Figures are coefficients. P-values in parentheses.*/**/*** indicates statistical significance at 10%, 5% and 1% level. Cluster robust standard errors. The coefficient of *marriage after cohabitation* is obtained as the sum of β_1 and β_2. Standard errors of linear combination of coefficients are obtained via the lincom package in Stata. † indicates that the corresponding interaction ($M_{it}Z_i$) is significant. "Observations" denotes the number of person-years in the estimation sample; "individuals" denotes the number of unique persons in estimation sample.

In order to give a substantive interpretation to the estimated effects in table 2 I report factor changes computed as e^{β}. They are interpreted as the change in odds ratios of expressing a higher level of job satisfaction rather than a lower one associated to each marital status. For instance, the odds of reporting a higher level of job satisfaction rather than a lower one are 25.61% higher for a woman marrying directly than for a single woman.

Table 2: Factor changes: effect of being in a partnership status on the odds of expressing a higher level of job satisfaction (rather than a lower one)

	women	men
direct marriage	25.61%***	9.63%
marriage after cohabitation	16.88%**	6.82%
unmarried cohabitation	0.90%	-4.11%

Notes: */**/*** indicate statistical significance at 10%, 5% and 1% level. Figures are computed as exponentiated coefficients from the fixed effects ordered logistic regressions in table 1 using the results of columns 1 and 4.

The two main findings from the first analysis are the following. First, the interaction $M_{it}Z_i$ is not significant in any models suggesting that premarital cohabitation does not affect the direction of marriage effect on job satisfaction. Secondly, marriage is associated to an increase in job satisfaction for both men and women (although for men the coefficient is not significant). For women the size of this effect is much larger. Although neither coefficient for cohabitation is statistically significant, the direction of the effect seems to be negative for men and there seems to be substantially no effect for women.

4.3 Selection into employment

In section 1 I explained that selection into employment is the problem that individuals in employment might be different from those not working in a way that also affects levels of job satisfaction. This is especially a concern for women, who traditionally have lower work attachment. The literature on motherhood penalty has dealt with issues of selection into labour force predominantly adopting selection corrections based on observable characteristics (Korenman and Neumark 1992, Amuedo-Dorantes and Kimmel 2005, Glauber 2007). Surprisingly there has not been much concern about selection into employment on studies regarding marriage effects on labour market outcomes. Killewald and Gough (2010a) claim to be the first to take into account potential bias introduced by selective entry into the labour market in the estimation of women marriage premium. They also employ a selection model based on the assumption of selection on observables. I argue that for my particular research question the assumption of selection on observables is unlikely to hold, this is because it

is likely that unobserved characteristics as personality traits and career orientation are the most influential drivers of job satisfaction and decisions of remaining in employment. Although there is no obvious methodological solution, in order to take into account this issue of selection into employment and avoid making the assumption of selection on observables I will run my analysis stratified by a measure of career continuity. This is because if we believe that the hypothesis of selection into employment is true then we would expect marital states to have different effects on job satisfaction according to the degree of career continuity. In order to test whether the estimated effects are driven by selection into employment I construct a measure of career continuity as the proportion of waves an individual is observed in employment. Then I divide individuals in three groups according to whether they have high, medium or low career continuity. Someone has low career continuity if they have worked for less than 70% of the waves they have been interviewed, whereas they have high career continuity if they have worked each wave they have been interviewed. Someone is classified to have medium career continuity for values in between. I run models separately for each group. If selection into employment has no role in driving the results then I expect marital status effects to be similar across the three groups. The intuition behind this is that if individuals do not select themselves into employment it is equivalent to say that they drop out randomly from my sample. On the other hand, if only certain types of individuals remain employed then I expect partnership status effects to be different according to the level of career continuity.

Table 3: Women: Fixed effects ordered logit estimates of Job Satisfaction by career continuity

career continuity		low			medium			high	
proportion in group		27.36 %			22.25%			50.38%	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
direct marriage	0.136	0.014	0.162	0.286**	0.185	0.173	0.205*	0.101	0.153
	(0.372)	(0.932)	(0.329)	(0.018)	(0.180)	(0.213)	(0.067)	(0.397)	(0.213)
marriage after cohabitation	0.216	0.136	0.202	0.181	0.098	0.073	0.114	0.084	0.108
	(0.217)	(0.464)	(0.313)	(0.120)	(0.419)	(0.551)	(0.303)	(0.479)	(0.371)
unmarried cohabitation	-0.043	-0.098	-0.044	0.203*	0.162	0.176	-0.247**	-0.273***	-0.227*
	(0.777)	(0.560)	(0.388)	(0.077)	(0.167)	(0.139)	(0.049)	(0.039)	(0.095)
age	0.068	0.061	0.130	0.076	0.084	0.133	0.080	0.029	-0.054
	(0.583)	(0.626)	(0.332)	(0.393)	(0.378)	(0.172)	(0.352)	(0.751)	(0.568)
age^2	0.000	0.0004	0.0003	0.0002	0.0003	0.0003	-0.0004	-0.0004	0.000
	(0.952)	(0.391)	(0.580)	(0.391)	(0.259)	(0.323)	(0.150)	(0.160)	(0.921)
children		0.258***	0.131**		0.136***	0.101**		0.129***	0.099**
		(0.000)	(0.042)		(0.001)	(0.019)		(0.001)	(0.013)
health (good)		-0.281***	-0.262***		-0.083	-0.067		-0.180***	-0.201***
		(0.001)	(0.005)		(0.153)	(0.283)		(0.001)	(0.000)
health (fair)		-0.266**	-0.234**		-0.198**	-0.169**		-0.256***	-0.250***
		(0.015)	(0.049)		(0.011)	(0.040)		(0.000)	(0.001)
health (poor)		-0.268*	-0.232		-0.265**	-0.220*		-0.288***	-0.299***
		(0.093)	(0.168)		(0.014)	(0.055)		(0.010)	(0.009)
health (very poor)		-0.210	0.003		-0.149	-0.148		-0.449	-0.462
		(0.501)	(0.992)		(0.513)	(0.540)		(0.130)	(0.118)
GHQ		-0.067***	-0.066***		-0.078***	-0.080***		-0.086***	-0.085***
		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
income (log)			-0.001			0.199***		0.237***	0.239***
			(0.987)			(0.004)			(0.002)
work hours			-0.019***			-0.014***			-0.017***
			(0.000)			(0.000)			(0.000)
job tenure			-0.060***			-0.056***			-0.049***
			(0.000)			(0.008)			(0.000)
Year dummies	✓	✓	✓	✓	✓	✓	✓	✓	✓
Region dummies		✓	✓		✓	✓		✓	✓
Log- likelihood	-8179.7702	-7018.2591	-6053.0315	-18305.377	-15883.637	-14098.333	-20082.768	-17397.22	-15976.119
Individuals	1288	1243	1156	1299	1295	1243	1634	1597	1530
Observations	22106	19683	17154	50176	45010	40413	56487	50618	46671

Notes: data source BHPS, waves 1991-2009. Figures are coefficients. P-values in parentheses.*/**/*** indicates statistical significance at 10%, 5% and 1% level. Cluster robust standard errors. The coefficient of *marriage after cohabitation* is obtained as the sum of β_1 and β_2. Standard errors of linear combination of coefficients are obtained via the lincom package in Stata. † indicates that the corresponding interaction ($M_{it}Z_i$) is significant. "Observations" denotes the number of person-years in the estimation sample; "individuals" denotes the number of unique persons in estimation sample.

Table 4: Men: Fixed effects ordered logit estimates of Job Satisfaction by career continuity

career continuity		low			medium			high	
proportion in group		18.01 %			19.38 %			62.60%	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
direct marriage	0.107	0.057	0.093	0.112	0.132	0.252	0.061	-0.052	-0.177
	(0.694)	(0.855)	(0.814)	(0.442)	(0.407)	(0.136)	(0.599)	(0.668)	(0.223)
marriage after cohabitation	0.402	0.685*	0.541	0.070	0.025	0.083	0.035	0.0002	-0.026
	(0.219)	(0.066)	(0.183)	(0.572)	(0.847)	(0.570)	(0.707)	(0.998)	(0.814)
unmarried cohabitation	0.119	0.022	0.014	-0.044	-0.136	-0.120	-0.093	-0.131	-0.160
	(0.659)	(0.932)	(0.961)	(0.725)	(0.284)	(0.334)	(0.393)	(0.255)	(0.189)
age	-0.243	-0.160	-0.264	-0.055	-0.117	-0.095	-0.087	-0.056	-0.085
	(0.123)	(0.344)	(0.186)	(0.539)	(0.224)	(0.386)	(0.209)	(0.474)	(0.324)
age^2	0.001*	0.0007	0.002**	0.0004*	0.0002	0.0004	0.0004*	0.0004	0.001***
	(0.067)	(0.219)	(0.022)	(0.087)	(0.538)	(0.197)	(0.084)	(0.181)	(0.001)
children		0.068	0.133		0.047	0.062		0.075**	0.098***
		(0.430)	(0.199)		(0.287)	(0.243)		(0.014)	(0.005)
health (good)		-0.028	-0.095		-0.150***	-0.148**		-0.091**	-0.085*
		(0.792)	(0.422)		(0.010)	(0.020)		(0.032)	(0.079)
health (fair)		-0.197	-0.296*		-0.268***	-0.291***		-0.335***	-0.315***
		(0.151)	(0.056)		(0.001)	(0.001)		(0.000)	(0.000)
health (poor)		0.124	-0.024		-0.179	-0.218		-0.031	0.050
		(0.524)	(0.913)		(0.196)	(0.133)		(0.783)	(0.687)
health (very poor)		0.455	0.542		-0.107	-0.134		0.025	0.060
		(0.232)	(0.171)		(0.754)	(0.702)		(0.936)	(0.869)
GHQ		-0.116***	-0.109***		-0.127***	-0.128***		-0.138***	-0.137***
		(0.000)	(0.000)		(0.000)	(0.000)		(0.000)	(0.000)
income (log)			0.460***			0.423***			0.443***
			(0.000)			(0.000)			(0.000)
work hours			-0.013**			-0.018***			-0.017***
			(0.023)			(0.000)			(0.000)
job tenure			-0.025**			-0.066*			-0.052***
			(0.015)			(0.053)			(0.000)
Year dummies	✓	✓	✓	✓	✓	✓	✓	✓	✓
Region dummies		✓	✓		✓	✓		✓	✓
Log- likelihood	-4617.3568	-3818.8747	-3029.9896	-16089.072	-13472.786	-10742.699	-29006.492	-24492.809	-19897.857
Individuals	781	755	635	1131	1123	1037	2236	2186	1956
Observations	12431	10870	8667	42983	38031	30834	78941	70556	57672

Notes: data source BHPS, waves 1991-2009. Figures are coefficients. P-values in parentheses.*/**/*** indicates statistical significance at 10%, 5% and 1% level. Cluster robust standard errors. The coefficient of *marriage after cohabitation* is obtained as the sum of β_1 and β_2. Standard errors of linear combination of coefficients are obtained via the lincom package in Stata. † indicates that the corresponding interaction ($M_{it}Z_i$) is significant. "Observations" denotes the number of person-years in the estimation sample; "individuals" denotes the number of unique persons in estimation sample.

In table 5 I report the factor changes associated to the subgroup models.

Table 5: Factor changes: effect of being in a partnership status on the odds of expressing a higher level of job satisfaction (rather than a lower one)

		women			men	
career continuity	low	medium	high	low	medium	high
direct marriage	14.56%	33.11%**	22.57%*	11.29%	11.85%	6.29%
marriage after cohabitation	24.11%	19.84%	15.49%	49.48%	7.25%	3.56%
unmarried cohabitation	-4.21%	22.51%*	-21.88%**	12.64%	-4.30%	-8.88%

Notes: */**/*** indicate statistical significance at 10%, 5% and 1% level. Figures are computed as exponentiated coefficients from the fixed effects ordered logistic regressions in tables 3 and 4 using the results of columns 1,4 and 7.

4.3.1 Results for women

The findings confirm that selection into employment does play a role in explaining marital status effects for women. Indeed married women are more satisfied with their jobs than single and cohabiting ones, but the size of the effect is greater among women with medium and high career continuity. Moreover, the subgroup findings reveal an additional piece of information: the lack of cohabitation effect for women in the general model seems to be explained by a composition effect rather than the lack of effect in the general population. Cohabitant women are more satisfied at work than single ones if they have medium career continuity, but they are less satisfied at work than single ones if they have high career continuity. Also, cohabitation has a negative effect on job satisfaction for women with low career continuity but the size is small and not statistically significant.

4.3.2 Results for men

In previous sections I theorised that selection into employment would be less severe for men. This prediction is generally confirmed, although it does seem that men in the lower hand of the career continuity distribution behave somewhat differently. For this group there is a positive effect of cohabitation, while the cohabitation effect is negative for all others. It should be noted that this group is also quite small. However, none of the estimated effects are statistically significant, thus it is better not to overemphasise the results for men.

5 Discussion

Married women are more satisfied at work than single and cohabiting ones, regardless of whether they cohabited before marriage or not. Married women are observed to be more

satisfied at work than single and cohabiting ones both in cross-sectional comparisons and when individual fixed effects are controlled for, suggesting the observed estimates are not entirely the result of selection into marriage. However, the result can be partially explained with selection into employment, in the sense that women with low career continuity are less likely to experience an increase in job satisfaction after marriage than women with more continuous careers. Therefore, there is some evidence that the factors that make women decide to commit regularly to their careers might also be the factors determining high levels of job satisfaction when married. It is worth noting that the majority of women has medium and high career continuity, so that the result of a positive marriage effect on job satisfaction is actually generalisable to a large part of the female population.

On average, it seems that being a wife and a worker fit quite well together for women with a certain degree of career orientation. It is possible that working women particularly benefit from having a husband as a source of material and moral support, so that they feel more satisfied with their jobs when married than when single or cohabiting, so that the mechanism of reciprocal support seems to be the one at work here. Moreover, married women who cohabited before marriage are significantly more satisfied at work than when they were cohabiting, suggesting that it is the fact of being married *per se* rather than merely living together that matters in terms of job satisfaction.

The effect of being in a cohabitation on job satisfaction for women depends strongly on the degree of career continuity. I propose the following story to explain this unexpected finding: taking career continuity as a proxy for career orientation, we can think that women with high career continuity have a strong career orientation, whereas the others might be more family oriented or oriented towards combining work and family (Hakim 1991; Hakim 2000). Among the latter cohabitation may be seen just as a substitute for marriage in the sense that it allows to fulfil the desire of companionship and family in a similar way as marriage. In other terms, among these women the mechanism of reciprocal support might be at work when cohabiting as well. However, among the most career oriented ones cohabitation might have a different meaning. Marriage might allow planning ahead private and working lives because it is a stable and universally recognised institution; on the other hand, cohabitation introduces an element of uncertainty regarding the future because it is not a fully recognised partnership status. Interpreting these results through the lens of identity theory, there seems to be evidence that for women with strong career orientation there are conflicts between the identity of worker and the role of partner, whereas these conflicts disappear among women more family oriented.

Married men are slightly more satisfied at work than single and cohabiting ones and cohabiting men are slightly more satisfied than single ones (but not the small group of men with low career continuity). However, none of the estimates is statistically significant. Indeed, for men the most interesting piece of result is that partnership status does not matter much for job satisfaction. For men, the role of worker and partner or spouse do not seem to carry conflicting behavioural expectations. Also, if men benefit from their spouses' support, this mechanism is not strong enough to be evident in the data.

These findings suggest that the mechanisms of changes in work dedication and time which would create conflicts between being good partners and good workers do not seem to be confirmed empirically.

The biggest limitation of this analysis is the limited external generalisability, which comes from the nature itself of the problem under study. That is, the fact that observations on job satisfaction are truncated leads to a restriction of the marital status effect that can be estimated without bias. Nevertheless, the discussions about self-selection into employment are a first step in describing different types of counterfactual scenarios and constitute a methodological improvement with respect to previous literature on the effects of marital status effects as explained in the introduction (Ribar 2004; Killewald and Gough 2010a).

The second and a third limitations concern the internal validity of my study. The internal validity of the results is strictly dependent on the plausibility of the identification assumption that there are no time-varying unobservable characteristics that affect job satisfaction and family formation. The important point is that this assumption cannot be directly tested so that we should always take it into account when interpreting the effects in a causal fashion. In particular, I argue that the assumption is most unlikely to hold for young individuals, as it is likely that changes in personality traits would be more important for younger age groups.Moreover, the internal validity of the analysis is also challenged by arguments regarding the measurement of the variables included in the study. Pudney and Conti (2008) show that in the context of the BHPS women's self reported job satisfaction is more affected than men's by the mode and context of interview, suggesting considerations of measurement error might be more serious for this group.

The fourth limitation regards the inability of my model to take into account mechanisms that might manifest and impact job satisfaction at different years after the onset of a specific

union. To be sure, the timing at which various mechanisms might manifest is not clear: it is possible that the mechanism of reciprocal support arises just after marriage, but also that it develops with time. Also, conflicts between being good workers and good spouses arising by changes in work dedication and time allocation might take longer to develop, so that my estimates are confounded by the different lengths of the relationships. An analysis of transitions into marital statuses might be able to clarify these issues.

The fifth limitation concerns the effect of attrition. All the estimates reported are unweighted so that there is the risk the results might be biased due to selective attrition. In particular we should be concerned with two types of missing respondents: those who are unavailable for one or more waves and those who decide to leave the sample. Lynn (2006) has conducted a quality profile of the BHPS and shows that individuals that in wave 1 were aged 16-24 or never married or unemployed or those in the bottom 40% of the income distribution are under represented because they are more likely to fail to respond at one or more instances. Also those who were in single person households and those in poor health are more likely to drop out of the sample. The existence of attrition is problematic if those remaining in the sample have also systematically different levels of job satisfaction than those under represented, which is not a straightforward observation in this case. Nevertheless, the indications of Lynn (2006)'s study suggest some caution in generalising results to individuals from a disadvantaged background.

Lastly, the findings are relative to a single European country, the United Kingdom. It is possible that some structures of the society as for instance the degree of flexibility of the labour market, generosity and scope of the social protection system and gender norms, contribute to drive the results. It would be interesting for future research to evaluate whether similar findings can be confirmed in other countries as well.

6 Conclusions

In this study I have used a sample of individuals from the BHPS to estimate the effect of being in a cohabitation and of being married on job satisfaction. I have found that married women are more satisfied with their jobs than their single and cohabiting counterparts. The effect of cohabitation on job satisfaction of women instead depends strongly on the degree of career continuity - and possibly work orientation: cohabiting women with high career continuity are less satisfied at work than single women, but women with medium career continuity have higher levels of job satisfaction than single ones. Partnership status instead is

not a significant factor in explaining job satisfaction of men. Moreover, it is the legalisation of union through marriage that matters for job satisfaction, not just shared living arrangements.

Married women therefore enjoy a job satisfaction marriage premium, but men do not. The relevance and originality of this result can be gauged comparing it with two established findings regarding gender differences in economic well-being. First, studies looking at the effect of marriage on objective working conditions find that married women are disadvantaged in the labour market with respect to men and single women (England 2005; Lorber 2010). The finding of a job satisfaction marriage premium for women shows that it is a very limited approach to look only at objective working conditions when evaluating women's economic well-being. Moreover, the findings also lend support to the idea of job satisfaction as a measure of fit between working and family life, which is a dimension of well-being that cannot be captured by objective working arrangements. Furthermore, this result does not suggest that marriage hinders employment of the female population, rather, considering job satisfaction as a predictor of labour market behaviours, we can state that married women who remain in employment are more likely to be productive and not to change their job. Second, previous literature has shown that married men enjoy a marriage wage premium with respect to single and cohabiting ones (Korenman and Neumark 1991; Chun and Lee 2001; Cohen 2002), whereas the existence of a marriage wage premium is still a controversial issue for women (Killewald and Gough 2010b; Lerman 2011). Thus, it is interesting to see that the two genders seem to ripe different benefits from the institution of marriage.

Another central result of my study is the clear difference between marriage and cohabitation in terms of job satisfaction. This is in line with previous literature regarding marital effects. While it is not clear whether this is due to the degree of uncertainty of each partnership status or other factors, the implication for future research is that cohabitation cannot be ignored when studying the effect of family context on labour market well-being and also cohabitation and marriage should be kept separate. One corollary result of my research is that while the effect of being married for both men and women on job satisfaction is quite clear, the effect of being in cohabitation is ambiguous and it seems to interact with other variables (specifically career continuity). The implication is that more research is needed to understand the connection between cohabitation and different types of cohabitational unions on well-being.

The substantial empirical fact that has motivated my research is that marriage and cohabitation are life events that potentially change many aspects of well-being inside and

outside the workplace. I have focussed on job satisfaction as a measure of the fit between these two life dimension. The new and original findings from my research have shown that indeed using job satisfaction can help us combine previous literature looking at the effect of family context on economic and non well-being. However, what my findings really point at is that a holistic approach to well-being - that is one that considers objective and subjective measures and examines it within different spheres of life - should be the preferable one. Thus, my findings should be combined not only with previous literature looking at the effect of marital status on wages and working arrangements, but also with research looking at variations in satisfaction and well-being in other dimension of private life. For instance, while we have seen that for work oriented women cohabitation reduces job satisfaction, it would be interesting to see whether this drop in satisfaction in the work dimension is accompanied by changes in satisfaction for instance with their partner or with their leisure time. The findings of my research therefore call for a multidimensional approach to well-being.

My findings are only partially consistent with the recent increase in cohabitation rates and decrease in marriage rates in Western countries. In fact, as long as individuals receive the same benefits from cohabitation and marriage, it is a rational choice to choose cohabitation over marriage because the former is cheaper: both in terms of avoiding expenses related to marriage and avoiding the costly consequences of a failed union. However, this seems to be true only for women and only for women who are not very career oriented. More generally, speaking instead the institution of marriage remains the one most favourable to the well-being of the couple also in terms of job satisfaction.

I conclude with a methodological consideration; I have shown that considering how selection into employment changes the result not only allows interpreting the findings in a "causal" fashion, but it also highlights new relationships in the data. Therefore, future research should not ignore selection into employment when looking at the effects of private factors on labour market well-being, but it should also explore the mechanisms through which attitudes towards work interact with demographic behaviours in shaping economic well-being.

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7 Appendix

7.1 Appendix A: covariates

The covariates included in the fixed effects models have been chosen with the rationale of obtaining marital status effects net of the effect of some confounding events that are likely

to happen at the time of a marital status transition. All the covariates presented but age are not predetermined and are very much likely to be affected by the treatment. As already mentioned, in terms of obtaining a causal interpretation of the effects it is not an ideal strategy to present adjusted effects, as they are likely to be biased. Nevertheless, although not causal these partial associations remain of substantive interest. Table 6 reports the list of the covariates included and their description.

Table 6: Fixed effect models: description of covariates

Covariate	Description
Age	Age at year of interview.
Children	Number of children living in the household of the respondent.
Health	Self-reported physical health status. It is coded in 5 categories and the reference category is excellent health.
GHQ	General Health Questionnaire. This is a composite index assessing the mental health of respondents. It is a summary measure of 12 items related to concentration, sleeping problems, perception of role, capability in decision making, whether constantly under strain, perception of problems in overcoming difficulties, enjoyment of day to day activities, ability to face problems, loss of confidence, self-worth, general happiness, depression. Higher values of the index indicates worse mental health status.
Work hours	Normal hours of paid employment per week.
Job tenure	Number of years the respondent has spent working for the same employer (for employees) or doing the same job for self employed. It is constructed as: year of interview minus year the respondent started their current job.
Income	Natural logarithm of gross monthly labour income at January 2008 prices.
Region	Categorical variables with 10 categories representing the following macro areas: London, Southeast England, Southwest England, Midlands, Northwest, Yorkshire, North, Wales, Scotland and Northern Ireland.