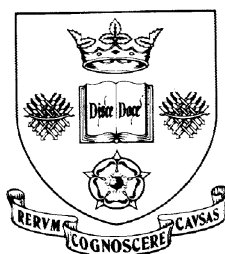


Sheffield Economic Research Paper Series

SERP Number: 2010021

ISSN 1749-8368



Jenny Willson and Andy Dickerson

Part time employment and happiness: A cross-country analysis

December 2010

Department of Economics
University of Sheffield
9 Mappin Street
Sheffield
S1 4DT
United Kingdom
www.shef.ac.uk/economics

PART TIME EMPLOYMENT AND HAPPINESS: A CROSS-COUNTRY ANALYSIS

Jenny Willson and Andy Dickerson

Department of Economics
University of Sheffield

13 December 2010

Abstract

The relationship between part time employment and job satisfaction is analysed for mothers in Germany, Denmark, the Netherlands, Finland, France, Spain and the UK. The impact of working part time on subjective life satisfaction and mental well-being is additionally analysed for British mothers. Cultural traditions concerning women's role in society, and institutional differences between the countries are exploited. Results indicate that poor quality jobs can diminish any positive well-being repercussions of part time employment. The results additionally suggest that part time mothers in the UK experience higher levels of job satisfaction but not of overall life satisfaction as compared to their full time counterparts.

Keywords: part time work; job satisfaction; well being

JEL classification codes: J28; J16; J13; I31

Address for correspondence: Jenny Willson, Department of Economics, University of Sheffield, 9 Mappin Street, Sheffield, S1 4DT. Email: j.willson@sheffield.ac.uk. Telephone: +44 (0)114 222 3421. Fax: +44 (0)114 222 3458.

Acknowledgements: Jenny Willson thanks the University of Sheffield for financial support. We are grateful to the Data Archive, University of Essex, for supplying the British Household Panel Surveys, and to Eurostat for supplying the European Community Household Panel Dataset. Finally, we would like to thank Aki Tsuchiya and Arne Risa Hole for their very useful comments on a previous version of the paper.

PART TIME EMPLOYMENT AND HAPPINESS: A CROSS-COUNTRY ANALYSIS

1. Introduction

This paper investigates the relationship between part time employment and various aspects of well being; including job satisfaction, life satisfaction and mental well being. The well being implications of working in part time, relative to full time, employment are analysed for working age mothers from Germany, Denmark, the Netherlands, Finland, France, Spain and the UK.

Barnett and Gareis (2000) argue that the benefits associated with part time employment include having more time for oneself, feeling less exhausted, and having more time to cope with the demands of work and of the family. Thus, any benefits associated with part time employment are mostly likely to be felt by those with the most acute work and family time demands i.e. mothers of pre-school aged children. Part time employment helps to ease the pressures on their work life balance, it allows the benefits of increased leisure and flexible work hours, whilst they still benefit from the social connection, positive self-esteem, and adherence to social norm aspects common to all types of employment (Carrol, 2007; Clark, 2003; Frey and Stutzer, 2002a). In this respect, part time employment is likely to increase an individual's well being. Additionally, research has shown a direct link between spending time with the family (relative to spending time at work) and well being; Greenhaus et al (2003) have shown that for individuals who invest a lot of time in both work and family roles, those who spend more time on family than on work are likely to have higher levels of overall life satisfaction.

However, if it is the case that part time jobs are intrinsically unsatisfying, working part time may decrease well being relative to working full time. This issue is of particular concern for part time workers in the UK. Connolly and Gregory (2008) have found that 14 percent of mothers in the UK moving from full time to part time work will suffer occupational downgrading. Furthermore, Connolly and Gregory (2009) find that for British women switching to part time employment involves a pay penalty of 7 percent which persists over

time. Evidence from other countries suggests that this phenomenon is not unique to the UK. Russo and Hassink (2005) find a lower rate of promotions in part time jobs in the Netherlands as compared to full time jobs, and Chalmers and Hill (2007) indicate that for Australian women, the fewer promotion and human capital development opportunities available in part time employment generates a scarring effect on wages.

It has been noted above that the relationship between part time employment and well being is likely to be a function of the value placed on flexibility and spending time with the family, as well as the quality of part time jobs. This paper exploits differences in cultural norms concerning women's role in society, and differences in the quality of part time jobs between the 7 countries examined in order to provide some understanding of what is driving the relationship between part time employment and well being.

Measuring the job and life satisfaction implications of part time employment will provide some understanding of its welfare enhancing properties (Frey and Stutzer, 2002a). This is of particular importance given the large proportion of women deciding to balance work and family life by working part time in the UK and in other Western European countries. Currently in the UK, just over 40 percent of women work part time, and nearly 90 percent of part time workers are women (ONS, 2008). Any welfare enhancing aspects of part time employment will act to offset the negative occupational and wage implications associated with part time employment. An understanding of the relationship between part time employment and job satisfaction will further complement arguments for greater flexibility in hours in the labour market.

Currently, throughout Europe, mental illnesses are increasingly being recognised as a significant problem, with 40 percent of all disability due to mental illness according to WHO (2008). Furthermore, a recent study by the UK Department for Work and Pensions (DWP) found that 34 percent of incapacity benefit claimants with a health condition or disability suffered from depression, and 30 percent of these individuals suffered from stress or anxiety (DWP, 2007). Being in a good state of well being means that an individual is not only in the absence of pain and discomfort but also that their basic needs are being met, they hold a

sense of purpose, are able to achieve goals and participate in society (Frey and Stutzer, 2002a). Therefore, research into the determinants of mental well being has important implications for raising the quality of living standards, increasing the productivity of the work force and reducing costs of health and social care.

2. Background

Part time employment, relative to full time employment, is likely to affect job and life satisfaction through three different channels. Firstly, by better allowing mothers to fulfil their role as a homemaker and therefore adhere to social norms, part time employment may increase satisfaction with hours worked, as well as overall well being. Previous research has recognised that the negative relationship between unemployment and well being is partly a result of failure to comply with the social norm, resulting in psychic and social costs (Carrol, 2007; Clark and Oswald, 1994; and Frey and Stutzer, 2002b). Similarly, satisfaction with part time, relative to full time employment, is likely to be partially determined by social norms regarding gender roles present in any country. Akerlof and Kranton (2000) show that following the behavioural prescriptions for one's gender affirms one's identity as a man or a woman, and can increase the utility derived from such actions; the so-called 'gender identity' hypothesis. If the gender identity hypothesis holds, we would expect that working part time, relative to full time employment, would increase women's satisfaction with working hours and overall life satisfaction. However, this hypothesis ignores those who choose, and prefer, not to adhere to their prescribed gender role.

Secondly, satisfaction with part time, relative to full time, employment is likely to be driven by whether part time employment is a socially acceptable form of employment. If part time employment is viewed as a purely marginal form of employment, as for instance in Spain where part time employment is used as a tool for managing fluctuations in demand and uncertainty in needs (Ruivo et al, 1998), or if there is a very strong cultural traditions of hard work and full time employment amongst both sexes (as in Finland for example, Pfau-Effinger, 1998), then part time employment may not be viewed as a social norm. In such

circumstances, part time employment may have negative implications for life satisfaction and overall job satisfaction.

Satisfaction with part time employment is further likely to be determined by the quality of part time jobs. Clark (2005) found that individuals in 7 OECD countries rated type of job the most important aspect of the job. If part time jobs are found in low skill level occupation groups, then this may generate feelings of low self esteem and boredom as women carry out routine tasks below their capabilities. The quality of part time jobs offered to women is a result of the employment policies and the institutional setting of part time employment within a country, and will impact on an individual's overall job satisfaction and satisfaction with the type of work done. Recent research undertaken in the UK confirms that part time jobs are often segregated into low skill level occupation groups (Connolly and Gregory, 2008; Manning and Petrongolo, 2008) and that this is likely to be a result of maintaining social norms as well as trends of deregulation.

Previous work examining the impact of part time employment on job and life satisfaction has produced some evidence that the positive implications of part time employment outweigh any negative effects possibly associated with poor job quality. Booth and Van Ours (2009) have found that part time women in Australia are more satisfied with their hours of work than are their full time counterparts, and that partnered full time women's life satisfaction suffers as a result of working full time. In a study of British women, Booth and Van Ours (2008) predict that women will experience greater satisfaction with hours of work and greater life satisfaction as a result of working part time rather than full time, due to the increased flexibility in combining work and family life. They additionally predict that due to the poor nature of part time jobs, women who work part time will experience lower levels of overall job satisfaction. The findings suggest that part time employment increases satisfaction with hours of work and also overall job satisfaction, but has no implications for life satisfaction. Booth and Van Ours suggest that these findings may indicate that there are societal constraints which make it difficult for women to combine work and family life and therefore women working reduced hours of employment are likely to be more satisfied with

their jobs than are their full time counterparts. Similarly, Bardasi and Francesconi (2004) used a sample of British women to observe the life and job satisfaction implications of working in temporary or part time employment. Neither part time nor temporary employment has any significant impact on life satisfaction, however working part time acts to increase job satisfaction.

The statistics presented in table 1 indicate that fairly high rates of female and motherhood employment are found in all of the countries considered in this paper. Spain (63 percent) has the lowest female employment rate out of all the countries analysed, and Denmark and Finland have the highest (83 and 82 percent respectively). However, there is a considerable variation in the rates of female part time employment between the countries; whilst just 9 percent of employed females work part time in Spain, this rises to 40 percent in the UK, and 74 percent in the Netherlands. The differences in these rates are a complex outcome of institutional differences between the countries analysed together with differences in preferences driven, in part, by variations in social norms. This paper considers the variations in satisfaction with part time employment as a consequence of institutional differences and differences in social norms between the countries. These differences are discussed in detail in Appendix D.

We have argued above that differences in social norms (of gender roles and of employment) between countries are likely to explain differences in satisfaction of hours worked of part time workers across different countries, and differences in institutional settings (of part time employment) are likely to partly explain differences in satisfaction in the type of work for part time workers across different countries. Thus, this paper will consider satisfaction with hours worked, satisfaction with type of job and overall job satisfaction, as well as life satisfaction and mental well being.

3. Methodology

The dependent variables used in our analysis of satisfaction with hours of work, satisfaction with type of work, overall job satisfaction and life satisfaction are ordered discrete

variables where higher numeric scores indicate higher levels of satisfaction. Initially, we estimate a (pooled) ordered logit model. This specification supposes that:

$$y_i^* = \beta' \mathbf{x}_i + e_i \quad (1)$$

where y_i^* is a latent, unobserved, measure of satisfaction, \mathbf{x}_i is a vector of explanatory variables, β is a vector of coefficients and e_i is a random error term. The observed variable y_i takes values $1, \dots, J$ such that:

$$\begin{aligned} y_i = 1 & \quad \text{if } y_i^* \leq \eta_1 \\ y_i = 2 & \quad \text{if } \eta_1 < y_i^* \leq \eta_2 \\ & \dots \\ y_i = J & \quad \text{if } y_i^* > \eta_{J-1} \end{aligned} \quad (2)$$

and we define $\eta_0 = -\infty$ and $\eta_J = +\infty$, where the $\eta_j, j = 1, \dots, J-1$ are unknown parameters (sometimes called thresholds or cut points) to be estimated jointly with β . Equation (2) simply states that the probability that the observed variable y_i is equal to j , $\Pr(y_i = j)$, is the probability that the latent variable, y_i^* , lies between η_{j-1} and η_j :

$$\Pr(y_i = j) = \Pr(\eta_{j-1} < y_i^* \leq \eta_j) = \Pr(\eta_{j-1} < \beta' \mathbf{x}_i + e_i \leq \eta_j)$$

The ordered logit model assumes that e_i is logistically distributed, so that:

$$\begin{aligned} \Pr(y_i = j) &= \Pr(\eta_{j-1} < \beta' \mathbf{x}_i + e_i \leq \eta_j) \\ &= \frac{1}{1 + \exp(-\eta_j + \beta' \mathbf{x}_i)} - \frac{1}{1 + \exp(-\eta_{j-1} + \beta' \mathbf{x}_i)} \end{aligned} \quad (3)$$

Generalised ordered logit models allow for two types of differential reporting behaviour; index and cut point shifts. An index shift occurs when all thresholds shift in parallel (the reporting behaviour has the same impact at all thresholds) and a cut point shift occurs when the reporting behaviour affects thresholds in dissimilar ways (Lindeboom and van Doorslaer, 2004); this latter problem has previously been referred to as 'state-dependent' reporting behaviour (Kerkhofs and Lindeboom, 1995), or 'scale of reference bias' (Groot, 2001). In the current analysis an index shift may result from the fact that different groups of individuals from different cultures and backgrounds may systematically use different

threshold levels when assessing satisfaction or subjective well being despite having the same true level of well being. This may occur due to cultural differences (Daykin and Moffatt, 2002) or past experiences which lead to differing perceptions of ‘very satisfied at work’ or ‘very unsatisfied at work’ for example. A cut point shift could occur from the fact that working in a poor quality, unsatisfactory job may be less likely to generate very dissatisfied opinions if it is a part time job than if it is a full time job, due to the fact that less time is spent in the unsatisfactory situation. If working part time relative to full time has a positive impact on job satisfaction, this effect may therefore be greatest at the bottom of the job satisfaction scale.

Failure to properly account for these types of heterogeneity across the thresholds means that the results may reflect differences in reporting rather than genuine differences in well being. Therefore, the robustness of the ordered logit estimates which examine overall job satisfaction are tested by implementing a model of differential reporting, the so-called generalised ordered logit model (Williams, 2006). This effectively allows the thresholds to vary with different values of the covariates by estimating different β vectors for each $j = 1, \dots, J - 1$.¹ The generalised ordered logit model takes the following form:

$$\begin{aligned} \Pr(y_i = j) &= \Pr(\eta_{j-1} < y_i^* \leq \eta_j) \\ &= \frac{1}{1 + \exp(-\eta_j + \beta_j' x_i)} - \frac{1}{1 + \exp(-\eta_{j-1} + \beta_j' x_i)} \end{aligned} \quad (4)$$

Likelihood ratio tests are carried out between the generalised ordered logit and the ordered logit models estimating overall job satisfaction for each country, where the null hypothesis is that the two specifications are equivalent. A rejection of the null hypothesis will suggest that that it is necessary to allow for differential reporting in the ordered logit models.

One problem with a pooled analysis of the determinants of satisfaction is that unobserved individual effects, such as specific personality types, are likely to be correlated with the explanatory variables and with the propensity to report happiness, potentially

¹ The standard ordered logit model is sometimes termed the *parallel regression* or *parallel lines* model since the regression lines for each value of j only differ by their intercept term.

creating bias in the regression coefficients if not properly accounted for.² Accordingly, we also exploit the panel element of our data to control for the impact of individual specific unobserved effects which are fixed over time. Previous work has attempted to control for unobserved individual effects in satisfaction analysis by dichotomising the dependent variable at a given cut point, and then applying Chamberlain's fixed effect (conditional) logit model (Chamberlain, 1980). For example, Hamermesh (2001) reduces his 5 point job satisfaction measure to a (0,1) scale by choosing a cut point of 3, and Winkelmann and Winkelmann (1998) reduce their 10 point general satisfaction scale to a binary indicator using a cut point of 7. The underlying model then becomes:

$$y_{it}^* = \beta' \mathbf{x}_{it} + \alpha_i + e_{it} \quad (5)$$

where α_i is the individual fixed effect, and the dependent variable \hat{y}_{it} is given by the indicator variable:

$$\hat{y}_{it} = I(y_{it} > k) \quad (6)$$

for the chosen threshold k , and where y_{it} is the original ordered satisfaction variable of interest. Chamberlain's (1980) fixed-effect logit estimator is then:

$$\Pr(\hat{y}_{i1}, \dots, \hat{y}_{iT} | \sum_t \hat{y}_{it}) = \frac{\exp(\sum_t \hat{y}_{it} \mathbf{x}_{it} \beta)}{\sum_{\mathbf{d}_i \in S_i} \exp(\sum_t \mathbf{d}_{it} \mathbf{x}_{it} \beta)} \quad (7)$$

where d_{it} is equal to zero or one, and S_i is the set of all possible combinations of zeros and ones such that $S_i = \sum_t \hat{y}_{it}$. This is the probability of observing $\hat{y}_{i1}, \dots, \hat{y}_{iT}$, conditional on their sum. While this conditional fixed effect estimator eliminates the α_i and so estimates β consistently, the drawback of this method is that only those individuals who move across the chosen cut point k can be used in the analysis. This can therefore result in a large efficiency loss and potentially exacerbate any measurement error.

² Note that while it may be the case that factors which affect selection into employment also affect the job satisfaction scores, selection correction techniques are not implemented because the analysis is motivated by the difference in the well being of part time workers relative to that of full time workers, not relative to the well being of individuals not in employment.

In contrast, the analysis in this paper uses the fixed effects ordered logit specification as formulated by Ferrer-i-Carbonell and Frijters (2004). While the dependent variable is again dichotomised, this time it is done by an *individual-specific* recoding of the data. Thus, rather than a single value k for the whole sample, a different threshold k_i is selected for each individual. To choose this threshold, Ferrer-i-Carbonell and Frijters (2004) use a complex weighted likelihood procedure similar to Das and Van Soest (1999). However, previous applications of the fixed effects ordered logit specification of Ferrer-i-Carbonell and Frijters (2004) such as Kassenboehmer and Haisken-DeNew (2009), Jones and Schurer (forthcoming) and, in the current context, Booth and Van Ours (2009) have all employed an approximation to their method in which the individual-specific threshold has been set at the individual mean of the observed y_{it} , so that $k_i = T^{-1} \sum_t y_{it}$. The dichotomous dependent variable is then defined as $\tilde{y}_{it} = I(y_{it} > k_i)$, i.e. according to whether observed satisfaction at time t is above or below the individual's mean value, and then Chamberlain's conditional logit model applied to \tilde{y}_{it} as before. The consequence is that it is now possible to include all individuals in the fixed effects specification whose satisfaction score changes over time, rather than just those whose score moves across a fixed cut point, thus substantially reducing the potential data loss. This simplification to the Ferrer-i-Carbonell and Frijters (2004) estimator is also the approach taken in this paper. Table 2 illustrates that for the overall job satisfaction dependent variable, a very high proportion (between 77 and 85 percent) of the employment observations from all the countries analysed are from individuals whose overall job satisfaction score changes over the observation period, and therefore can be used to estimate the fixed effect ordered logit models to predict overall job satisfaction. The statistics presented in table 2 demonstrate that the individuals whose job satisfaction score does not change over time (and therefore are not available for the fixed effects estimation) are those who are in the sample for a lesser number of waves.

4. Data

This paper investigates the well being implications of part time employment for a sample of employed mothers. The focus is on three different aspects of job satisfaction: overall job satisfaction; satisfaction with type of work; and satisfaction with hours of work. The effect of part time employment on measures of life satisfaction and mental well being are additionally analysed for British mothers. Job and life satisfaction measures are utilised in order to capture the welfare enhancing capabilities of the job and of individual welfare respectively. Frey et al (2009) indicate that a measure of subjective well being will serve as a proxy for welfare as long as “the standards underlying people’s judgments are those the individual would like to pursue in his or her ideal of the good life” (Frey et al, 2009, p.5).

The empirical analysis uses waves 2-8³ (1995-2001) of the European Community Household Panel (ECHP) survey for: Denmark, the Netherlands, Finland, France and Spain, while waves 2-3 (1995-1996) of the ECHP are used for Germany⁴. The first 17 waves (1991-2007) of the British Household Panel Survey (BHPS) are additionally used to analyse job satisfaction and life satisfaction for British women. This separate dataset is used for British women because the BHPS includes information on life satisfaction and mental well being (which the ECHP does not) and because there are a high proportion of missing values for two of the dependent variables (satisfaction with hours of work and satisfaction with type of work) in the ECHP for women from the UK. Both surveys are longitudinal surveys of representative households in the respective countries.

The focus is solely on women with children because it has been well established that very large proportions of mothers in the UK and in other Western European countries engage in part time employment, particularly around the childbirth period (Paull, 2008). Furthermore, the benefits of part time employment are most likely to be felt by those with the most acute

³ It is not possible to use the first wave of data from the ECHP because the variable which indicates the number of children aged 0-12 years in the household (the variable used to identify ‘motherhood’ status in this analysis) is missing for each individual in this wave.

⁴ In 1997, the German element of the ECHP was replaced with the German national household longitudinal surveys; the German Socio-Economic Panel (SOEP). Previous information for these respondents is also given for 1994-1997, however the data from the SOEP does not include the dependent variables used in this analysis.

work life balance. The analysis is restricted to a sub-sample of employed mothers aged between 25-50 years who have children under 12 years old; i.e. prime-aged women who are confronted with choices concerning family life and paid work. Because of the fixed effects estimation, the sample is further restricted to those present in at least two consecutive waves.

5. Variables

Three dependent variables are used in the analysis of the ECHP. The first analyses the respondents' overall job satisfaction:

'How satisfied are you with your present situation in the following areas?.... Your work or main activity'

Two more dependent variables are obtained from the following questions:

'How satisfied are you with your present job or business in terms of...type of work?'

and,

'How satisfied are you with your present job or business in terms of...hours of work?'

All three questions are answered on a 1-6 scale, where higher numbers denote higher levels of satisfaction.

The same three dependent variables are used in the BHPS analysis for the UK. The following question from the BHPS is used to generate the variable which measures overall job satisfaction:

'All things considered, how satisfied or dissatisfied are you with your present job overall using the same 1-7 scale?'

The variables concerning satisfaction with type of work and satisfaction with hours of work are generated from the following question:

'I'm going to read out a list of various aspects of jobs, and after each one I'd like you to tell me from this card which number best describes how satisfied or dissatisfied you are with that particular aspect of your own present job.'

Two of the aspects include 'the actual work itself' and 'the hours you work'. The respondents are asked to rate their satisfaction with these aspects of their work on a 1-7 scale where a higher number again indicates a higher level of satisfaction. The questions concerning overall job satisfaction, satisfaction with hours of work and satisfaction with type of employment are clearly very similar between the BHPS and the ECHP questionnaires.

Additional variables are analysed using the BHPS which measure how part time employment affects the well being of a sample of British mothers. Life satisfaction is measured with the following question:

'How dissatisfied or satisfied are you with.....your life overall?'

The answers range from 1-7, where 7 is completely satisfied. However, this question is only included in waves 6-10, and 12-17. The General Health Questionnaire (GHQ) measure of mental well being (Likert scale) is included in every wave and is therefore also used as a measure of happiness (Bardasi and Francesconi, 2004; Clark, 2003; Clark and Oswald, 1994). The GHQ score is derived from the GHQ-12, the 12 item mental health questionnaire. The GHQ score is based on a 0-36 scale where higher numbers indicate worse levels of mental well being. The negative values of the scale are used in the analysis, so that a positive coefficient will indicate a positive effect on well being.

A dummy variable indicating that a woman works in part time employment relative to full time employment will be the main explanatory variable of interest. This is constructed using the hours of work variable, and a cut off point of 30 hours is chosen so that anyone working less than 30 hours is categorised as working part time. The OECD suggest defining part time employment using a cut off of between 30-35 hours a week, and for the UK 30 hours a week is the most common classification of part time employment (Connolly and Gregory, 2008; Manning and Petrongolo, 2008).

In the UK mothers' part time employment commonly occurs as an interruption to a full time career and the transition to part time employment most commonly occurs around the timing of the first childbirth (Paull, 2008). A separate specification of the overall job satisfaction and the satisfaction with hours of work regressions is therefore estimated where

instead of a dummy variable for part time status, three different variables are included which indicate whether the individual has moved from full time to part time employment, from part time to full time employment, or remained in part time employment since the previous employment observation⁵, relative to remaining in full time employment. Because these variables require prior information for each observation, this means that each individual's first observation cannot be used in the regressions. Table 3 presents the corresponding sample sizes and summary statistics for each country. A positive impact of the movement from full time to part time employment on satisfaction may suggest that this movement was unconstrained. In the context of mothers' labour supply decisions, factors such as having a child and therefore placing more value on time spent outside of work relative to time spent at work, an increase in their husband's income, or an increase in their own wage may constitute factors which can lead to an unconstrained movement to fewer hours of work. On the other hand a decrease in the mother's wage rate, or an increase in childcare costs are likely to lead to constrained movements to fewer hours of work.

A number of further controls are included in the regressions. A set of personal controls includes the respondent's age and highest educational qualification. In the ECHP educational qualifications are described by the International Standard Classification of Education (ISCED). Dummy variables which indicate whether the respondent has achieved a tertiary level of qualification (ISCED levels 5-7; NQF⁶ level 4 or above in the UK), whether the respondent has achieved a qualification at second stage of secondary education (ISCED level 3; NQF levels 2 and 3 in the UK) are compared to a base category of achieving a lower qualification. In the BHPS analysis, the educational variables reflect whether the woman has a degree level qualification (NQF level 4 or above), an A level standard qualification (NQF level 3) or an O level/GCSE standard qualification (NQF levels 1 and 2) relative to no qualifications. An indicator for respondents living in social housing (proxied by

⁵ The previous employment observation is not constrained to be the observation in the previous wave. This is due to small sample sizes when this constraint is made.

⁶ NQF is the National Qualification Framework for the UK. The comparisons between the ISCED and NQF are cited from Bosworth and Kik (2009).

accommodation being provided rent-free in the ECHP) is included, as is a dummy variable which indicates whether the respondents consider themselves to be in good health.

A set of job characteristic variables includes whether the respondent is on a temporary or fixed contract (in the ECHP the temporary variable additionally includes casual workers), whether they work in the public or private sector, the size of the firm they work for, and the one-digit industrial classification. Through the impact of close relationships and stability, the family structure is an important determinant of well being (Frey and Stutzer, 2002a). Therefore, marital status is included as a regressor in the job and life satisfaction equations, as is whether the respondent has had a child in the previous wave, the number of children under the age of 12 years, and the number of children aged between 12-15 years in the household⁷. The level of household real income, excluding the respondent's labour income, and adjusted for purchasing power is included, in € Euros, in the ECHP analysis, and in £ sterling in the BHPS analysis. In the ECHP analysis, two variables are included which indicate whether the respondent spends more than 20 hours per week caring for children, or whether the respondent spends more than 20 hours per week caring for any other individual. In the BHPS analysis one variable is included which indicates whether the respondent spends more than 20 hours per week caring for either a child or anyone else.

6. Descriptive statistics

The analysis undertaken in this paper for the UK just uses the observations from the BHPS dataset, because of too many missing values for the UK element in the ECHP. However, in this section, the UK data from the ECHP is additionally discussed because of the differences in the scaling of the job satisfaction variables between the two datasets. The descriptive statistics presented in tables 4 and 5 show that there is consistency between the data for the UK for the common set of variables in the ECHP and the BHPS.

⁷ The ECHP does not provide any greater detail concerning the ages of children in the household.

The descriptive statistics in panel a of table 4 indicate that in Denmark, the Netherlands, and the UK, overall job satisfaction is, on average, slightly greater for women who are in part time employment than for those who are in full time employment. The extent of these differences is however fairly small. In Germany, Finland, France and, particularly, Spain those working part time on average report lower overall job satisfaction than those in full time employment.

In Denmark and Finland, women working part time on average report higher satisfaction with the type of work than do those working in full time employment. This result is unexpected for Finland where part time employment is typically a marginalised form of employment. However, in Denmark employment policies based on principles of universalism have acted to ensure the good quality of part time jobs.

Assuming that individuals get utility from leisure time, we would expect to see part time workers reporting greater levels of satisfaction with hours of work. The descriptive statistics in panel c of table 4 indicate that on average satisfaction with hours of work is greater for women working part time than full time in all countries except Finland and France. In both of these countries, part time employment is not viewed as a socially desirable form of non-marginal employment and strong cultures of full time employment exist in both countries, in Finland part time employment is associated with social stigmatism (Pfau-Effinger, 1998).

The higher levels of satisfaction with hours of work found for women in Germany, the Netherlands, Spain and the UK may be explained by the traditional cultural ideas surrounding the gender arrangement in these countries. However, the fact that we also observe mothers working part time in Denmark experiencing higher levels of satisfaction with hours of work than their full time counterparts suggests that having more hours of leisure time may increase satisfaction with hours of work as long as part time employment is a socially acceptable form of employment.

The descriptive statistics presented in table 5 indicate that mothers in the UK working in part time employment report slightly higher levels of life satisfaction than do those in full time employment. However, on average, UK mothers in part time employment appear to

have slightly lower levels of mental well being (as reflected in their slightly higher GHQ score) than do their full time counterparts.

7. Results

7.1 Overall job satisfaction

The results on overall job satisfaction in table 6 (panel a) indicate working part time has an insignificant effect on overall job satisfaction in the cross section for mothers from Germany, Finland, France and Spain. Working part time has a significant positive effect on overall job satisfaction in Denmark, the Netherlands, and the UK. The magnitude of this effect is largest for the UK, with a coefficient of 0.24. The marginal effects (table B.1 appendix B) indicate that working part time in Denmark increases the probability of being in the 'fully satisfied' category (category 6) by 5 percent, and reduces the probability of being in any other category. In the Netherlands and the UK, working in part time employment increases the probability of being in the highest 2 categories (categories 5 and 6 for the Netherlands, and categories 6 and 7 for the UK).

The generalised ordered logit results (table 7) suggest that index and cut point shifts in generating differential reporting behaviours need to be taken account of for each of the countries analysed when estimating overall job satisfaction. A positive coefficient in any of the categories of the generalised ordered logit model indicates that as the explanatory variable increases there is a movement towards a higher category of the dependent variable, and a negative coefficient in any of the categories indicates that a higher value of the explanatory variable increases the probability of being in a lower category of the dependent variable.

The results in table 7 indicate that for mothers in Denmark, part time employment purely acts to move mothers towards the very top of the distribution of overall job satisfaction; it increases the probability that mothers will be in the very highest category of overall job satisfaction. However, for mothers in the Netherlands and the UK, the positive

impact of part time employment on job satisfaction acts to push mothers away from the very bottom of the job satisfaction scale.

The fixed effects results on overall job satisfaction (panel a of table 8) show that once unobserved individual characteristics are controlled for, working part time only has a significant positive impact on overall job satisfaction for women in the UK. The magnitude of the coefficient on the part time variable for the UK falls from 0.24 (table 6) to 0.20. Similarly, the results from the switching analysis (table 9) suggest that after controlling for unobserved heterogeneity, mothers in the UK experience greater levels of overall job satisfaction from switching from full to part time employment, relative to having remained in full time employment.

Table C.1 in appendix C presents the regression coefficients from all explanatory variables included in the cross sectional and fixed effects overall job satisfaction regressions for the UK. Once individual level fixed effects have been controlled for, demographic and household characteristics have little impact on overall job satisfaction as would be expected since these are largely time-invariant. However, the results show that (moving to) working in a temporary job has a large negative impact on overall job satisfaction, and (moving to) working in the public sector has a large positive impact on the changes in satisfaction with hours of work.

7.2 Satisfaction with type of work

The cross sectional results estimating satisfaction with type of work indicate that mothers in Germany, Denmark, Finland, France, Spain and the UK experience no significant relationship between working part time and satisfaction with the type of work in cross section (table 6). However, the cross sectional results indicate that working part time is likely to lower satisfaction with type of work in the Netherlands. The marginal effects (table B.2) indicate that working part time in the Netherlands decreases the probability of being in the top 2 categories of the satisfaction with type of work done variable and increases the probability of being in any other category. However, the magnitude of these effects is very small.

Panel b of table 8 indicates that when satisfaction with the type of work is analysed in a fixed effects framework, mothers in the Netherlands are slightly less satisfied with the type of work done (coefficient of -0.18). Furthermore, a significant positive relationship between working part time and satisfaction with type of work is found for French mothers after accounting for unobserved heterogeneity. The magnitude of this effect is 0.19 and this is significant at the 10 percent significance level.

The results presented in table 10 report the impact of switching from full to part time employment, or switching from part time to full time employment, or having stayed in part time employment since the previous employment observation on satisfaction with type of work, relative to having remained in full time employment since the previous employment observation. The results presented in panel a on table 10 (pooled cross section results) suggest that mothers in the UK who switched from part time to full time employment experience higher levels of satisfaction with type of work, relative to their counterparts who remained in full time employment. However, once individual level unobserved fixed effects have been accounted for no significant relationship remains between switching between full time and part time employment and satisfaction with type of work for mothers in the UK. The fixed effects results suggest that mothers in France experience higher levels of satisfaction with type of work by switching from full time to part time employment, or by switching from part time to full time employment, relative to remaining in full time employment.

7.3 Satisfaction with hours of work

The cross sectional results (panel c, table 6) indicate a very strong positive relationship between part time employment and satisfaction with hours of work in all countries except Finland and France. The marginal effects (table B.3, appendix B) indicate that working part time in Finland and France has no significant impact on being in any category of the satisfaction with hours of work variable.

The largest positive relationship between part time employment and satisfaction with hours of work is found in Denmark, and then in the UK. The smallest significant positive

relationship between part time employment and satisfaction with hours of work is found in Spain. However, it is important to recognise that the magnitude of this coefficient is still large in comparison to those displayed in panels a and b of table 6.

The marginal effects show that working part time in Denmark only increases the probability of being in the highest category of the satisfaction with hours of work variable (category 6), the magnitude of this effect is 31 percent. In the Netherlands and the UK working part time increases the probability of being in the highest category of the satisfaction with hours of work variable by 14-15 percent.

Panel c of table 8 illustrates that after taking unobserved heterogeneity into account mothers in Denmark, the Netherlands, and the UK still exhibit strong significant positive relationships between working part time and satisfaction with hours of work. These effects are of a slightly smaller magnitude than those displayed in panel c of table 6. However, for women in Germany, after accounting for individual fixed effects the significant positive relationship between part time employment and hours of work no longer holds. Panel c of table 8 also indicates that after accounting for unobserved heterogeneity there is a large negative significant relationship between part time employment and satisfaction with hours of work for mothers in Finland.

Similarly, in table 11 we observe that after controlling for unobserved heterogeneity switching from full to part time employment increases satisfaction with hours of work for mothers in Denmark, the Netherlands, and the UK as well as in Spain, relative to having remained in full time employment.

7.4 Life satisfaction, mental well being and differences by skill

The results in panel a of table 12 indicate that in cross section, working part time has a positive significant impact on self-reported life satisfaction in the UK, with a coefficient of 0.13. The marginal effects for the overall life satisfaction cross sectional ordered logit model shows that working part time in the UK increases the probability of being in the highest 2 categories of the overall life satisfaction variable by around 1-2 percentage points, and has a

negative impact on being in any other category of this variable (table B,4). In the fixed effects specification, being employed part time relative to full time has no significant impact on self-reported life satisfaction. The results presented in panel a of table 12 indicate that in both the pooled cross section and fixed effects frameworks, working in part time employment relative to full time employment has no significant impact on the GHQ score for a sample of mothers from the UK.

In panel b of table 12, part time status is interacted with the skill level of the individual's occupation. Column 1 in table 12 displays the regression coefficients on these interaction terms from the pooled ordered logit and the fixed effects ordered logit model measuring overall job satisfaction for British mothers. The results from the fixed effects analysis suggest that it is the women in the medium and high skill level occupational groups whose job satisfaction is increased the most by working part time relative to working full time. The results in column 2 of table 12 indicate that, in the cross section, working part time relative to full time increases the overall life satisfaction of mothers working in high and low skill level occupations. However, working part time relative to full time has no positive impact on overall life satisfaction once individual fixed effects have been taken in to account.

8. Discussion

The typical gender role arrangement is that of the male-breadwinner / female-carer model in Germany, the Netherlands, Spain and the UK (Burchell et al, 1997; Pfau-Effinger, 1998; Ruivo et al, 1998). If the gender identity hypothesis holds, we would expect women in these countries to experience greater satisfaction with part time employment relative to full time employment as a result of being able to dedicate more time to children and the household. However, the fact that (in the fixed effects analysis) we find a positive relationship between satisfaction with hours of work and part time employment for the three countries (Denmark, the Netherlands, and the UK) which all accept part time employment as a social norm, but have very different institutional arrangements and family policies, suggests that as

long as part time employment is a social norm, then the impact of increased leisure time will increase satisfaction with hours of work. Further support is found for this argument in that mothers who work part time in Finland experience significantly lower levels of satisfaction with hours of work than do their full time counterparts. In Finland, a culture of hard work is encouraged and part time employment is associated with social stigmatisation (Pfau-Effinger, 1998). Therefore, increasing the availability of part time employment in the UK is likely to have positive implications for mothers' well being.

In the switching analysis, a positive relationship exists between the movement from full time to part time employment and satisfaction with hours of work for the countries where part time is accepted as a social norm (Denmark, the Netherlands, and the UK) and additionally for Spain (table 11). This may suggest some support for the gender identity hypothesis. However, this conclusion seems unconvincing given the relatively high rate of involuntary female part time employment in Spain (Ruivo et al, 1998), which is likely to be due to a failure to find full time employment since Spanish employees do not have the right to request flexible working (Cuesta and Martin, 2009). Alternatively, the positive relationship between having moved from full to part time employment and satisfaction with hours of work could indicate that mothers in Spain gain satisfaction by moving into part time employment because constraints within society mean it is difficult for them to combine work and family life by working full time. Indeed it appears to be the case that mothers in Spain face the majority of the childcare burden due to extremely high childcare costs and limited family benefits. For example, in 2004 the average fee for a two year old attending childcare was 30 percent of the average wage in Spain, compared to an OECD average of 16 percent; furthermore 1.24 percent of Spain's GDP was spent on family benefits in 2005, compared to an OECD average of 2.5 percent (OECD, 2008). Were such constraints not imposed on mothers' work life balance, then they may prefer to remain in full time employment. Therefore, increasing access to quality childcare is important in diminishing the trade off between 'good' jobs and a less acute work life balance.

Much recent literature has documented the segregation of part time jobs in the UK in to low skill level occupational groups and the corresponding negative wage effect (Connolly and Gregory, 2008; Connolly and Gregory, 2009; and Manning and Petrongolo, 2008). The fact that it is only part time working women in the UK who experience greater overall job satisfaction (table 8) therefore seems to be a contradiction, especially given the ever-increasing numbers of women completing higher education. The impact of constraints in balancing motherhood and full time employment is likely to explain why we see a positive relationship between overall job satisfaction and part time employment for mothers in the UK. In the UK the burden of the child is still viewed as being mainly the responsibility of the mother; while mothers are allowed up to a year of maternity leave, fathers are allowed just 2 weeks of paternity leave. Additionally, whilst some free childcare is provided for children aged 3-4 years in the UK, none is provided for children younger than 3 years. These factors are likely to have a large effect on intensifying pressures on mothers' time, and decreasing the satisfaction of mothers who attempt to balance motherhood with full time hours of work in the UK. This argument is strengthened by the observation that there is no significant relationship between part time employment and life satisfaction which suggests that, on average, mothers in the UK do not have strong preferences for part time employment per se.

The results from the generalised ordered logit models illustrate exactly how working part time relative to full time affects the distribution of job satisfaction. Positive relationships between part time employment and overall job satisfaction were previously demonstrated for mothers in Denmark, the Netherlands and the UK. The results presented in table 7 suggest that the full time counterparts of these part time working mothers are relatively unhappier with their jobs in the Netherlands and the UK, than they appear to be in Denmark (in Denmark part time employment acts to push mothers towards the top of the job satisfaction distribution, however in the Netherlands and the UK part time employment moves mothers away from the bottom of the job satisfaction distribution). This may be a result of the fact that mothers in the UK and the Netherlands find it more difficult to balance full time work and motherhood than do mothers in Denmark where typically the state has assumed the majority

of the childcare burden (Ellingsæter, 1992). Therefore these conclusions may strengthen the argument in the preceding paragraph that societal and institutional constraints in the UK potentially act to alter mothers preferences towards part time employment.

These results suggest that mothers in the UK and in Spain who would ideally prefer to work in a good quality, demanding, full time job, and who additionally take on the majority of the childcare responsibility, are likely to experience a trade off between 'good' full time jobs and a less stressful work life balance but a 'worse' part time job. Mothers in households where their partner assumes the majority of the childcare responsibility, or mothers who do not have preferences towards working in high quality full time jobs are unlikely to encounter this trade off. The promotion of policies which allow these mothers to maintain a good quality, demanding full time job alongside a less stressful work life balance may have several important implications. For example, increasing access to quality childcare could encourage a greater proportion of mothers to enter employment and increase the size of the labour force. Increasing access to full time flexible working in higher level occupational groups may allow a more effective usage of mothers' skills and capabilities than if there was a movement into part time employment, and would promote higher levels of gender equality in the labour market. Furthermore, given that currently around 20 percent of women in the UK suffer from a depression or anxiety related disorder (The NHS Information Centre for Health and Social Care, 2009), and that work intensification is often cited as main cause of these stress disorders (Smith et al, 2000), any policies which alleviate the time constraints on mothers who choose to work in full time employment will serve to reduce this high prevalence of depression and anxiety related disorders amongst full time working women in the UK.

Even though part time employment will relax the intensity of the work life balance and facilitate more time to be spent with children, no significant relationship between part time employment and overall life satisfaction is observed for mothers in the UK. This suggests that time spent in the household may not have a greater impact on overall life satisfaction and well being than time spent in the labour market. This is consistent with findings which have shown that women's greater hours of unpaid work contribute to women experiencing

higher levels of stress (Gjerdingen et al, 2001; and MacDonald et al, 2005). Further research needs to be done to establish the relative well being implications of unpaid and market work. The absence of a significant relationship between part time employment and overall life satisfaction for mothers in the UK may additionally be a result of the poor quality of part time jobs in the UK; even though part time employment may act to increase satisfaction with hours of work by relaxing the intensity of the work life balance decision, working in a poor quality 'dead-end' job will have a negative impact on overall well being.

A clear relationship between quality of employment and job satisfaction is not identified in the current results. A negative relationship between satisfaction with type of work done and part time employment is identified for women in the Netherlands where previous research has indicated a lower rate of promotions amongst part time employees (Russo and Hassink, 2005). Furthermore, the results suggest that, in the UK, working in medium or high skill level occupational groups increases overall job satisfaction. This is particularly worrying given the occupational segregation of part time jobs in the UK into lower skill level occupational groups (Connolly and Gregory, 2008; and Manning and Petrongolo, 2008). The results suggest that increasing the number of opportunities for part time employment in higher skill level occupational groups may help to achieve greater levels of well being amongst mothers who prefer to work in part time employment.

Additionally, increasing the number of opportunities for part time employment in higher skill level occupational groups may, at the margin, promote greater levels of gender equality in labour market outcomes, due to the current segregation of part time jobs towards the bottom of the occupational structure. Olsen et al (2010) indicate that the poor calibre of part time jobs in the UK is one of the leading explanations for the 19 percent gender pay gap. However, increasing the proportion of part time jobs and the proportion of females working in such high skill level occupations to a large extent, may only serve to reinforce gender segregation in the labour market and decrease the status of such jobs.

9. Conclusions

This paper has examined the relationship between part time employment and job satisfaction in a range of European countries (Germany, Denmark, the Netherlands, Finland, France, Spain and the UK) and has exploited differences between the countries in cultural backgrounds and institutional arrangements to help to explain these relationships. The results found provide little support for the gender identity hypothesis. Rather we see that adhering to social norms is more important for mothers' well being.

The results provide some support for the argument that poorer quality part time jobs can reduce any positive well being implications of part time employment; part time employment only has positive implications for overall job satisfaction and life satisfaction for those in higher skill level occupational groups in the UK. This finding has important implications for the well being of part time women in the UK where it has been found that part time jobs are commonly segregated into low skill level occupational groups (Connolly and Gregory, 2008; and Manning and Petrongolo, 2008). Increasing the status of part time jobs will further improve its welfare enhancing properties.

The results found in the analysis suggest that women in the UK and in Spain trade off 'good' jobs in return for a less intensive work life balance. These results are likely to be largely driven by limited access to quality childcare in both countries. Additionally, family policies are typically constructed in the UK under the assumption that mothers have the sole responsibility for their children. Policies which help to ease the work life balance difficulties experienced by full time working mothers (for example, increasing access to flexible working practices and increasing access to quality childcare) are therefore essential to reduce the increasing proportion of women reporting stress and anxiety related disorders, diminishing gender inequalities in the labour market, and in promoting a more efficient utilisation of women's skills in the labour market.

If mothers in the UK work part time in order to ease the pressures on their work life balance, then we would expect part time employment to increase life satisfaction (Booth and Van Ours, 2009). Only limited support is found for this relationship in the current analysis. As

a result more research needs to be done to establish how additional hours of unpaid household work affects the well being of mothers relative to additional hours of paid work.

Bibliography

- Akerlof, G. and Kranton, R.** (2000) Economics and Identity, *Quarterly Journal of Economics*, **115**, 715-753.
- Bardasi, E. and Francesconi, M.** (2004) The impact of atypical employment on individual wellbeing: evidence from a panel of British workers, *Social Science and Medicine*, **58**, 1671-1688.
- Barnett, R. and Gareis, K.** (2000) Reduced-hours employment: The relationship between difficulty trade-offs and quality of life, *Work and Occupations*, **27**, 168-185.
- Blossfeld, H-P. and Rohwer, G.** (1997) Part-time Work in West Germany, from *Between Equalization and Marginalization, Women Working Part-Time in Europe and the United States of America*, edited by Blossfeld, H-P. and Hakim, C., Oxford University Press, New York.
- Booth, A. and Van Ours, J.** (2008) Job Satisfaction and Family Happiness: The Part-Time Work Puzzle, *Economic Journal*, **118**, F77-F99(1).
- Booth, A. and Van Ours, J.** (2009) Hours of Work and Gender Identity: Does Part-time Work Make the Family Happier?, *Economica*, **76**, 176-196.
- Bosworth, D. and Kik, G.** (2009) Ambition 2020: Technical Report, UK Commission for Employment and Skills.
- Burchell, B., Dale, A. and Joshi, H.** (1997) Part-Time Work among British Women, from *Between Equalization and Marginalization, Women Working Part-time in Europe and the United States of America*, edited by Blossfeld, H-P. and Hakim, C., Oxford University Press, New York.
- Carrol, N.** (2007) Unemployment and Psychological Well being, *The Economic Record*, **83**, 287-302.
- Chalmers, J. and Hill, T.** (2007) Marginalising Women in the Labour Market: 'Wage Scarring' Effects of Part-time Work, *Australian Bulletin of Labour*, **33**, 180-201.
- Chamberlain, G.** (1980) Analysis of covariance with qualitative data, *Review of Economic Studies*, **47**, 225-238.
- Clark, A.** (2003) Unemployment as a Social Norm: Psychological Evidence from Panel Data, *Journal of Labor Economics*, **21**, 323-351.
- Clark, A.** (2005) Your Money or Your Life: Changing Job Quality in OECD Countries, *British Journal of Industrial Relations*, **43**, 377-400.
- Clark, A. and Oswald, A.** (1994), Unhappiness and Unemployment, *Economic Journal*, **104**, 648-659.
- Connolly, S. and Gregory, M.** (2008) Moving Down: Women's Part-time Work and Occupational Change in Britain 1991-2001, *Economic Journal*, **118**, F52-F76.
- Connolly, S. and Gregory, M.** (2009) The part-time pay penalty: earnings trajectories of British Women, *Oxford Economic Papers*, **61**(Special issue 1), i76-i97.
- Cuesta, M. and Martin, N.** (2009) Part-time employment: a comparative analysis of Spain and the Netherlands, *European Journal of Law and Economics*, **28**(3), 223-256.
- Das M. and Van Soest A.** (1999) A panel data model for subjective information on household income growth. *Journal of Economic Behaviour and Organization* **40**: 409-426.
- Daune-Richard, A.-M.** (1998) How does the 'societal effect' shape the use of part-time work in France, the UK and Sweden?, from *Part-Time Prospects, An International*

Comparison of Part-Time Work in Europe, North American and the Pacific Rim, edited by O'Reilly, J. and Fagan, C., Routledge, London.

- Daykin, A. and Moffatt, P.** (2002) Analysing Ordered Responses: A Review of the Ordered Probit Model, *Understanding Statistics*, **1**, 157-166.
- Department of Work and Pensions (DWP).** (2007) Routes onto Incapacity Benefit: Findings from a survey of recent claimants.
- Ellingsæter, A.** (1992) Part-time work in European welfare states, *Institute for Social Research*, Oslo.
- European Foundation for the Improvement of Living and Working Conditions.** (2007) Part-time work in Europe.
- Eurostat.** European Community Household Panel waves 1-8, 1994-2001.
- Ferrer-i-Carbonell, A. and Frijters, P.** (2004) How important is methodology for the estimates of the determinants of happiness?, *Economic Journal*, **114**, 641-659.
- Frey, B., Luechinger, S. and Stutzer, A.** (2009), The Life Satisfaction Approach to Environmental Valuation, *IZA*, Discussion Paper 4478.
- Frey, B. and Stutzer, A.** (2002a) Happiness and Economics, Princeton University Press.
- Frey, B. and Stutzer, A.** (2002b) What can Economists Learn from Happiness Research?, *American Economic Review*, **40**, 402-435.
- Gjerdengen, D., McGovern, P., Bekker, M., Lundberg, U. and Willemsen, T.** (2001) Women's Work Roles and Their Impact on Health, Well being, and Career: Comparisons Between the United States, Sweden, and The Netherlands, *Women and Health*, **31**, 1-20.
- Greenhaus, J., Collins, K. and Shaw, J.** (2003) The relation between work-family balance and quality of life, *Journal of Vocational Behavior*, **63**, 510-531.
- Groot, W.** (2001) Adaptation and scale of reference bias in self-assessments of quality of life, *Journal of Health Economics*, **19**, 403-420.
- Hamermesh, D.** (2001) The Changing Distribution of Job Satisfaction, *The Journal of Human Resources*, **36**, 1-30.
- Jones A. and Schurer M.** (forthcoming) How does heterogeneity shape the socioeconomic gradient in health satisfaction? *Journal of Applied Econometrics*.
- Kassenboehmer, S. and Haisken-DeNew, J.** (2009) You're fired! The causal negative effect of entry unemployment on life satisfaction, *Economic Journal*, **119**, 448-462.
- Kerkhofs, M. and Lindeboom, M.** (1995) Subjective health measures and state dependent reporting errors, *Health Economics*, **4**, 221-235.
- Leth-Sørensen, S. and Rohwer, G.** (1997) Women's Employment and Part-Time Work in Denmark. from *Between Equalization and Marginalization, Women Working Part-Time in Europe and the United States of America*, edited by Blossfeld, H-P. and Hakim, C., Oxford University Press, Oxford.
- Lindeboom, M. and van Doorslaer, E.** (2004) Cut-point shift and index shift in self-reported health, *Journal of Health Economics*, **23**, 1083-1099.
- MacDonald, M., Phipps, S. and Lethbridge, L.** (2005) Taking its toll: The influence of paid and unpaid work on women's well being, *Feminist Economics*, **11**, 63-94.
- Manning, A. and Petrongolo, B.** (2008) The Part-Time Pay Penalty for Women in Britain, *Economic Journal*, **118**, F28-F51.

- O'Reilly, J. and Fagan, C.** (1998) *Part-Time Prospects, An International Comparison of Part-Time Work in Europe, North American and the Pacific Rim*, Routledge, London.
- OECD.** (2008) Family Database, http://www.oecd.org/document/4/0,3343,en_2649_34819_37836996_1_1_1_1,00.html, 08/08/2010.
- OECD.** (2010) Stats Extracts, <http://stats.oecd.org/Index.aspx>, 08/08/2010.
- Office for National Statistics (ONS).** (2008) Focus on Gender, <http://www.statistics.gov.uk/focuson/gender/>, 08/08/2010.
- Olsen, W., Gash, V. and Vandecasteele, L.** (2010) The Gender Pay Gap in the UK 1995-2007: Part 1 - Research Report, *Government Equalities Office, Cathie Marsh Centre for Census and Survey Research, University of Manchester*.
- Paull, G.** (2008) Children and Women's Hours of Work, *Economic Journal*, **118**, F8-F27.
- Pfau-Effinger, B.** (1998) Culture or structure as explanations for differences in part-time work in Germany, Finland and the Netherlands?, in O'Reilly, J. and Fagan, C. (Eds.), *Part-Time Prospects, An International Comparison of Part-Time Work in Europe, North America and the Pacific Rim*, Routledge, 177-198.
- Ruivo, M., Do Pilar Gonzalez, M. and Varejão, J.** (1998) Why is part-time work so low in Spain and Portugal?, in O'Reilly, J. and Fagan, C. (Eds.), *Part-Time Prospects, An International Comparison of Part-Time Work in Europe, North America and the Pacific Rim*, Routledge, 199-213.
- Russo, G. and Hassink, W.** (2005) The Part-Time Wage Penalty: A Career Perspective, IZA, Discussion Paper 1468.
- Smith, A., Johal, S., Wandsworth, E., Davey-Smith, G. and Peters, T.** (2000) The Scale of Occupational Stress; The Bristol Stress and Health at Work Study, Contract Research Report 265/2000.
- The NHS Information Centre for Health and Social Care,** (2009), Adult psychiatric morbidity in England, 2007, Results of a Household Survey.
- Tijdens, K.** (2002) Gender Roles and Labor Use Strategies: Women's Part-Time Work in the European Union, *Feminist Economics*, **8**(1), 71-99.
- Williams, R.** (2006) Generalized ordered logit/partial proportional odds models for ordinal dependent variables, *The Stata Journal*, **6**, 58-82.
- Winkelmann, L. and Winkelmann, R.** (1998) Why are the Unemployed so Unhappy? Evidence from Panel Data, *Economica*, **65**, 1-15.
- World Health Organisation (WHO).** (2008) Global Burden of Disease Update 2004.

Table 1 Summary statistics regarding female employment and female part time employment from the countries analysed

Country	% of employed females¹	% of employed females working part time²	% of employed mothers³
Germany	74%	39%	69%
Denmark	83%	28%	81%
The Netherlands	78%	74%	78%
Finland	82%	12%	81%
France	77%	28%	73%
Spain	63%	9%	61%
UK	74%	40%	68%

Notes:

1. Proportion of females aged 25-54 years in employment in 2008, from OECD (2010).
2. Proportion of females aged 25-54 years in part time employment in 2008, from OECD (2010). Part time employment is based on a common definition of less than 30 hours a week.
3. Proportion of mothers of children under the age of 16 years who are aged between 25-49 years in employment in 2007, from OECD (2010).

Table 2 Summary statistics indicating, by country, the proportion of employment observations which can be used in the fixed effects ordered logit models

Country	Number employed	Job satisfaction changes¹	Mean number of waves respondents are in the sample for:		
			All	Job satisfaction changes	Job satisfaction does not change
Germany	2572	77%	1.85	2.00	1.71
Denmark	6316	83%	5.15	5.58	3.09
The Netherlands	10657	82%	4.89	5.37	2.98
Finland	8026	80%	4.38	4.74	2.99
France	12074	82%	4.96	5.36	3.35
Spain	9971	85%	4.63	5.11	2.11
UK	13582	85%	6.63	7.22	3.30

Notes:

1. Proportion of employment observations where job satisfaction changes over time

Table 3 Sample sizes and descriptive statistics from the sub-samples used to estimate the satisfaction impact of switching from full time to part time employment

Country	Observations	Proportion of employment observations			
		Switch FT to PT	Switch PT to FT	Stay FT	Stay PT
Germany	1087	4%	4%	67%	25%
Denmark	4684	3%	3%	83%	11%
Netherlands	7733	7%	6%	47%	41%
Finland	5700	3%	4%	89%	4%
France	8868	4%	5%	77%	15%
Spain	6912	4%	5%	83%	8%
UK	9191	3%	6%	38%	58%

Notes:

1. The statistics in the table show the proportion of each country's employment observations where a respondent reports having just switched from full time to part time employment, having just switched from part time to full time employment, having remained in full time employment or having remained in part time employment as compared to the previous employment observation.
2. Because we are interested in what each respondent has done as compared to the previous employment observation each individual's first observation has to be dropped from the sample, a sub-sample of the previous sample is used.
3. The data used for Germany comes from waves 3 of the ECHP, the data used for Denmark, the Netherlands, Finland, France and Spain comes from waves 3-8 of the ECHP, and the data used for the UK comes from waves 2-17 of the BHPS.

Table 4 Mean values of variables by country from the ECHP dataset. All 3 variables analysed are on a 1-6 scale

	Mean values						
	Germany	Denmark	Netherlands	Finland	France	Spain	UK
a. Overall job satisfaction							
Part time	4.32 (1.10)	4.97 (1.01)	4.71 (0.87)	4.51 (1.19)	4.35 (1.06)	3.82 (1.41)	4.67 (1.13)
Full time	4.42 (1.10)	4.89 (1.00)	4.68 (0.91)	4.60 (0.97)	4.44 (1.01)	4.28 (1.25)	4.42 (1.23)
b. Satisfaction with type of work							
Part time	4.54 (1.07)	4.88 (1.10)	4.80 (1.03)	4.54 (1.07)	4.58 (1.07)	4.04 (1.47)	4.46 (1.32)
Full time	4.58 (1.10)	4.84 (1.08)	4.85 (1.00)	4.52 (1.02)	4.67 (1.00)	4.36 (1.29)	4.48 (1.29)
c. Satisfaction with hours of work							
Part time	4.66 (1.23)	5.37 (1.08)	4.92 (1.08)	4.28 (1.60)	3.04 (1.84)	4.00 (1.43)	4.76 (1.26)
Full time	4.22 (1.24)	4.72 (1.24)	4.50 (1.15)	4.43 (1.24)	3.18 (1.74)	3.94 (1.38)	4.26 (1.38)
d. Observations							
Part time	771	909	5052	639	2409	1441	5720
Full time	1801	5407	5605	7387	9665	8530	7862

Standard deviations in parentheses.

Notes:

1. The data used for Germany comes from waves 2-3 of the ECHP, the data used for Denmark, the Netherlands, Finland, France, Spain and the UK comes from waves 2-8 of the ECHP.

Table 5 Mean values of variables from the BHPS dataset. The variables analysed in the first 4 columns are on a 1-7 scale and the GHQ score is based on a 36 point scale

	Mean values					
	Overall job satisfaction	Satisfaction with type of work	Satisfaction with hours of work	Life satisfaction	GHQ score	Obs
Part time	5.68 (1.16)	5.57 (1.29)	5.77 (1.28)	5.25 (1.15)	11.43 (5.17)	7925
Full time	5.43 (1.23)	5.60 (1.25)	5.14 (1.42)	5.17 (1.12)	11.39 (5.28)	5743

Standard deviations in parentheses.

Notes:

1. The data used for the UK comes from waves 1-17 of the BHPS.

Table 6 Estimated regression coefficient on the explanatory variable of interest from three pooled cross section ordered logit models

	1 Germany	2 Denmark	3 Netherlands	4 Finland	5 France	6 Spain	7 UK
a. Overall job satisfaction							
Part time	0.021 (0.102)	0.216** (0.099)	0.194*** (0.062)	0.075 (0.106)	0.033 (0.061)	-0.095 (0.070)	0.235*** (0.052)
Obs	2536	6254	10617	7776	12035	9828	13186
b. Satisfaction with type of work							
Part time	-0.099 (0.103)	0.080 (0.100)	-0.099* (0.060)	0.103 (0.108)	0.073 (0.064)	0.020 (0.074)	-0.013 (0.052)
Obs	2532	6303	10615	7773	12038	9840	13186
c. Satisfaction with hours of work							
Part time	0.710*** (0.109)	1.297*** (0.108)	0.786*** (0.063)	-0.012 (0.134)	0.074 (0.056)	0.455* (0.072)	0.857*** (0.050)
Obs	2538	6303	10614	7776	12031	9836	13188

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. The results displayed in column 1 have been estimated using waves 2-3 of the ECHP, the results displayed in columns 2-6 have been estimated using waves 2-8 of the ECHP, and the results displayed in column 7 have been estimated using waves 1-17 of the BHPS.
3. All standard errors are robust and correct for intra-individual correlation.

Table 7 Estimated regression coefficients on the explanatory variable of interest from generalised ordered logit models estimating overall job satisfaction

	Overall job satisfaction					
	y=1	y=2	y=3	y=4	y=5	y=6
a. Germany						
Part time	1.413** (0.684)	0.120 (0.258)	0.171 (0.133)	-0.114 (0.110)	-0.003 (0.170)	
Observations	2536					
LR test (p value)	0.000					
b. Denmark						
Part time	-0.203 (0.609)	0.462* (0.318)	0.139 (0.162)	0.141 (0.111)	0.248*** (0.109)	
Observations	6254					
LR test (p value)	0.000					
c. The Netherlands						
Part time	0.876** (0.465)	0.531*** (0.185)	0.241*** (0.106)	0.221*** (0.065)	0.058 (0.087)	
Observations	10617					
LR test (p value)	0.000					
d. Finland						
Part time	-0.367 (0.465)	-0.415** (0.212)	-0.090 (0.139)	0.068 (0.108)	0.167 (0.133)	
Observations	7776					
LR test (p value)	0.000					
e. France						
Part time	-0.303* (0.209)	-0.106 (0.137)	-0.048 (0.089)	0.044 (0.064)	0.093 (0.102)	
Observations	12035					
LR test (p value)	0.000					
f. Spain						
Part time	-0.092 (0.161)	-0.255*** (0.106)	-0.126* (0.081)	-0.075 (0.073)	-0.015 (0.098)	
Observations	9828					
LR test (p value)	0.000					
g. UK						
Part time	0.441** (0.235)	0.402*** (0.133)	0.282*** (0.095)	0.319*** (0.074)	0.246 *** (0.059)	0.175** (0.069)
Observations	13186					
LR test (p value)	0.000					

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. The results displayed in panel a have been estimated using waves 2-3 of the ECHP, the results displayed in panels b, c, d, e and f have been estimated using waves 2-8 of the ECHP, and the results displayed in panel g have been estimated using waves 2-17 of the BHPS.
3. The likelihood ratio test tests the null hypothesis of equivalence between the ordered logit model and generalised ordered logit model for each country i.e. is a test of the ordered logit parallel lines assumption.
4. All standard errors are robust and correct for intra-individual correlation.

Table 8 Estimated regression coefficients on the explanatory variable of interest from three fixed effects ordered logit models

	1	2	3	4	5	6	7
	Germany	Denmark	Netherlands	Finland	France	Spain	UK
a. Overall job satisfaction							
Part time	-0.313	-0.100	-0.001	-0.214	-0.039	0.005	0.195***
	(0.304)	(0.143)	(0.086)	(0.137)	(0.096)	(0.098)	(0.074)
Individuals	1154	1052	1812	1458	2056	1903	1941
Obs	1154	5141	8503	6147	9616	8211	11023
b. Satisfaction with type of work							
Part time	0.030	0.024	-0.176**	-0.175	0.186*	-0.002	-0.057
	(0.316)	(0.141)	(0.087)	(0.136)	(0.098)	(0.099)	(0.073)
Individuals	574	1058	1774	1474	1979	1907	1988
Obs	1148	5182	8366	6205	9369	8279	11217
c. Satisfaction with hours of work							
Part time	-0.100	1.067***	0.643***	-0.296**	0.166	0.254	0.840***
	(0.305)	(0.152)	(0.082)	(0.130)	(0.128)	(0.098)	(0.073)
Individuals	644	1079	1905	1539	2206	1928	2072
Obs	1288	5283	8840	6457	10547	8381	11611

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

- Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
- The results displayed in column 1 have been estimated using waves 2-3 of the ECHP, the results displayed in columns 2-6 have been estimated using waves 2-8 of the ECHP, and the results displayed in column 7 have been estimated using waves 1-17 of the BHPS.

Table 9 Estimated regression coefficients on the explanatory variable of interest from pooled cross section ordered logit models and fixed effects ordered logit models estimating overall job satisfaction

	Overall job satisfaction						
	1	2	3	4	5	6	7
	Germany	Denmark	Netherlands	Finland	France	Spain	UK
a. Pooled cross section regressions							
Switch FT to PT	0.056 (0.326)	-0.339** (0.173)	0.398*** (0.102)	0.030 (0.164)	0.017 (0.108)	-0.091 (0.124)	0.313** (0.133)
Switch PT to FT	0.274 (0.279)	0.294* (0.167)	0.178* (0.104)	0.105 (0.124)	0.192* (0.099)	-0.036 (0.102)	0.302** (0.069)
Stay PT	-0.027 (0.153)	0.249* (0.132)	0.209*** (0.080)	0.384 (0.179)	0.059 (0.082)	-0.046 (0.116)	0.599*** (0.096)
Obs	1084	4631	7714	5538	8839	6844	8954
b. Fixed effects regressions							
Switch FT to PT		-0.179 (0.240)	0.332** (0.145)	0.134 (0.212)	0.022 (0.163)	0.051 (0.169)	0.442*** (0.169)
Switch PT to FT		0.129 (0.240)	0.125 (0.146)	-0.048 (0.206)	0.115 (0.156)	0.224 (0.152)	0.334 (0.136)
Stay PT		-0.074 (0.248)	0.012 (0.142)	-0.314 (0.334)	-0.050 (0.171)	0.082 (0.201)	0.308** (0.122)
Individuals		796	1320	1042	1503	1290	1325
Obs		3589	5695	3965	6465	5412	6943

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. The results displayed have been estimated using the sub-samples of the original samples which are displayed in table 3.
3. The results displayed in column 1 have been estimated using wave 3 of the ECHP, the results displayed in columns 2-6 have been estimated using waves 3-8 of the ECHP, and the results displayed in column 7 have been estimated using waves 2-17 of the BHPS.
4. The fixed effects ordered logit model estimating satisfaction with hours of work could not be estimated for the sample of German mothers because there is no variation in the dependent variable for any individual since only one wave of data is being used.
5. Standard errors are robust and correct for intra-individual correlation in the pooled cross sectional models.

Table 10 Estimated regression coefficients on the explanatory variable of interest from pooled cross section ordered logit models and fixed effects ordered logit models estimating satisfaction with type of work

	Satisfaction with type of work						
	1	2	3	4	5	6	7
	Germany	Denmark	Netherlands	Finland	France	Spain	UK
a. Pooled cross section regressions							
Switch FT to PT	0.040 (0.334)	-0.732 (0.164)	-0.089 (0.106)	-0.087 (0.159)	0.103 (0.107)	0.055 (0.124)	0.815 (0.126)
Switch PT to FT	0.150 (0.295)	0.229 (0.154)	0.041 (0.102)	-0.200 (0.140)	0.123 (0.104)	-0.191* (0.102)	0.459*** (0.093)
Stay PT	-0.147 (0.144)	0.041 (0.140)	-0.148* (0.074)	0.449* (0.201)	0.023 (0.087)	0.017 (0.119)	0.044 (0.069)
Obs	1079	4678	7712	5538	8843	6846	8955
b. Fixed effects regressions							
Switch FT to PT		-0.016 (0.235)	-0.121 (0.145)	0.017 (0.212)	0.280* (0.168)	0.049 (0.167)	0.052 (0.164)
Switch PT to FT		0.112 (0.243)	-0.021 (0.147)	0.187 (0.199)	0.321** (0.159)	0.068 (0.153)	0.175 (0.134)
Stay PT		0.221 (0.253)	-0.237 (0.144)	-0.295 (0.321)	0.261 (0.176)	0.199 (0.205)	-0.074 (0.119)
Individuals		783	1348	1036	1774	1328	1346
Obs		3577	5926	3958	7488	5557	7045

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. The results displayed have been estimated using the sub-samples of the original samples which are displayed in table 3.
3. The results displayed in column 1 have been estimated using wave 3 of the ECHP, the results displayed in columns 2-6 have been estimated using waves 3-8 of the ECHP, and the results displayed in column 7 have been estimated using waves 2-17 of the BHPS.
4. The fixed effects ordered logit model estimating satisfaction with hours of work could not be estimated for the sample of German mothers because there is no variation in the dependent variable for any individual since only one wave of data is being used.
5. Standard errors are robust and correct for intra-individual correlation in the pooled cross sectional models.

Table 11 Estimated regression coefficients on the explanatory variable of interest from pooled cross section ordered logit models and fixed effects ordered logit models estimating satisfaction with hours of work

	Satisfaction with hours of work						
	1 Germany	2 Denmark	3 Netherlands	4 Finland	5 France	6 Spain	7 UK
c. Pooled cross section regressions							
Switch FT to PT	0.311 (0.292)	1.256*** (0.188)	0.894*** (0.110)	0.078 (0.184)	0.399 (0.109)	0.524*** (0.121)	0.955*** (0.126)
Switch PT to FT	0.293 (0.337)	0.363** (0.169)	0.295*** (0.107)	-0.030 (0.129)	0.382 (0.103)	0.152* (0.092)	0.556* (0.090)
Stay PT	0.747*** (0.157)	1.393*** (0.145)	0.959*** (0.079)	0.459 (0.246)	0.267 (0.075)	0.630*** (0.121)	0.945*** (0.066)
Obs	1082	4677	7711	5539	8841	6848	8955
d. Fixed effects regressions							
Switch FT to PT		1.112*** (0.261)	0.933 (0.141)	0.047 (0.204)	0.370 (0.215)	0.419* (0.169)	1.143*** (0.171)
Switch PT to FT		0.042 (0.234)	0.190 (0.139)	-0.225 (0.200)	0.266 (0.188)	0.110 (0.151)	0.629* (0.130)
Stay PT		1.100*** (0.268)	0.711 (0.136)	-0.285 (0.315)	0.371 (0.228)	0.234 (0.200)	1.157*** (0.120)
Individuals		817	1404	1093	1776	1330	1426
Obs		3683	6025	4123	7510	5577	7424

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. The results displayed have been estimated using the sub-samples of the original samples which are displayed in table 3.
3. The results displayed in column 1 have been estimated using wave 3 of the ECHP, the results displayed in columns 2-6 have been estimated using waves 3-8 of the ECHP, and the results displayed in column 7 have been estimated using waves 2-17 of the BHPS.
4. The fixed effects ordered logit model estimating satisfaction with hours of work could not be estimated for the sample of German mothers because there is no variation in the dependent variable for any individual since only one wave of data is being used.
5. Standard errors are robust and correct for intra-individual correlation in the pooled cross sectional models.

Table 12 Estimated regression coefficients on the explanatory variable of interest from pooled cross section ordered logit and fixed effects ordered logit models (columns 1 and 2), and from a pooled cross section OLS and a fixed effects model (column 3)

Variable	1 Overall job satisfaction		2 Overall life satisfaction		3 GHQ (Well being)	
	Pooled	FE	Pooled	FE	Pooled	FE
a. Effect of working part time						
Part time			0.129**	-0.122	0.010	-0.161
			(0.063)	(0.095)	(0.150)	(0.147)
Individuals				1486		3035
Obs			8370	6730	12987	12987
b. Interacting part time status with skill level of the occupation						
High skill ×	0.175***	0.159**	0.193*	0.033	0.269	0.178
PT	(0.080)	(0.117)	(0.101)	(0.146)	(0.237)	(0.228)
Med skill ×	0.287***	0.177***	0.149	-0.292	0.089	0.0488
PT	(0.087)	(0.114)	(0.103)	(0.148)	(0.238)	(0.227)
Low skill ×	0.350*	0.224	0.067	-0.163	-0.225	0.198
PT	(0.071)	(0.091)	(0.084)*	(0.118)	(0.197)	(0.184)
Individuals		1941		1486		3035
Obs	13186	11023	8370	6730	12987	12987

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. The results displayed have been estimated using waves 1-17 of the BHPS.
3. Standard errors are robust and correct for intra-individual correlation in the pooled cross sectional models.

Appendix A: Ranking occupations by skill level

Table A.1 Occupational ranking and summary statistics

Ranked Occupation	SOC90 Unit groups	Average level of qualification	
		LFS 2000#	BHPS W16\$
1. Teachers	230-239	6.6	6.5
2. Other Professionals	220-224, 240-293	5.7	5.9
3. Nurses	340-341	4.7	5.5
4. Other associate professional	300-332, 342-399	4.5	5.1
5. Corporate managers	100-139, 150-155, 169-170, 176-177, 190-199	4.2	4.8
6. Higher-skill services	600-613, 700-719, 790-792	3.2	4.5
7. Higher-level clerical	400-411, 420-421, 490-491	3.0	4.2
8. Other managers	140-142, 160, 171-175, 178-179	2.8	3.9
9. Skilled trades	500-599	2.5	3.4
10. Lower level clerical	412, 430, 440-463	2.4	3.4
11. Caring services	640-659	2.3	3.7
12. Other personal services	614-631, 660-699	2.1	3.2
13. Sales assistants	720-732	2.0	2.7
14. Other low skill occupations	800-899, 900-957, 959-999	1.6	3.0
15. Cleaners	958	1.1	2.0
Sample size		36,556	6,964

As reported by Connolly and Gregory (2008) using a sample of men and women aged 22-59 in full time employment from the Labour Force Survey 2000 and the following ranking of educational qualifications: 0 = no qualifications; 1 = sub GCSE/O-level; 2 = GCSE/O-level or equivalent; 3 = A-level or equivalent; 4 = nursing qualifications; 5 = HND or equivalent; 6 = Teaching qualifications; 7 = degree level or above.

\$ Derived using a sample of men and women aged 22-59 in full time work from wave 16 of the BHPS and the same ranking of educational qualifications as above.

Notes:

1. The Standard Occupational Classification (SOC) (1990) ranks occupations by both the basis of similarity of qualifications, training, skills and experience and by the nature of work activities. This means that at high levels aggregation it only partially provides an occupation hierarchy by skill, which is the point of interest in this analysis. Thus, Connolly and Gregory have devised a 15 point scale (table A.1) which ranks occupations primarily by the average level of qualifications of the workers in each occupation and secondly by similarity in working activities. The scale was constructed by using data on individuals' qualifications in each 370 unit groups distinguished by SOC90 from the Labour Force Survey, 2000.
2. Table A.1 presents the occupational ranking alongside the average level of qualification in each occupation and the comparable average qualification level of a sample of working age men and women from wave 16 of the BHPS. The results suggests that the much smaller BHPS sample includes people with more educational qualifications, however with the exception of caring services the ranking of occupations by the average level of educational qualifications remains the same.
3. High skill level occupation groups are groups 1-5, groups 6-9 are medium skill level occupation groups, and groups 10-15 are the low skill level occupation groups.

Appendix B: Marginal effects from the cross sectional ordered logit models

Table B.1 Estimated marginal effects from 7 pooled cross sectional ordered logit models analysing overall job satisfaction

		Overall job satisfaction						
		Marginal effects						
	$dP1/dx$	$dP2/dx$	$dP3/dx$	$dP4/dx$	$dP5/dx$	$dP6/dx$	$dP7/dx$	
a. Germany								
Part time	-0.000	-0.001	-0.002	-0.002	0.003	0.002		
Obs	2536							
b. Denmark								
Part time	-0.001***	-0.004***	-0.010***	-0.025***	-0.005*	0.045***		
Obs	6254							
c. Netherlands								
Part time	-0.001***	-0.003***	-0.011***	-0.030***	0.019***	0.025***		
Obs	10617							
d. Finland								
Part time	-0.001	-0.002	-0.005	-0.010	0.008	0.010		
Obs	7773							
e. France								
Part time	-0.001	-0.001	-0.002	-0.005	0.006	0.002		
Obs	12035							
f. Spain								
Part time	0.003*	0.006*	0.010*	0.006*	-0.013*	-0.011*		
Obs	9840							
g. UK								
Part time	-0.002***	-0.004***	-0.010***	-0.010***	-0.025***	0.018***	0.033***	
Obs	13186							

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. Panel a is estimated using waves 2-3 of the ECHP, panels b-f are estimated using waves 2-8 of the ECHP, and panel g is estimated using the first 17 waves of the BHPS.
3. All standard errors are robust and correct for intra-individual correlation.

Table B.2 Estimated marginal effects from 7 pooled cross sectional ordered logit models analysing satisfaction with type of work

		Satisfaction with type of work					
		Marginal effects					
	$dP1/dx$	$dP2/dx$	$dP3/dx$	$dP4/dx$	$dP5/dx$	$dP6/dx$	$dP7/dx$
a. Germany							
Part time	0.001	0.003	0.009	0.011	-0.010	-0.014	
Obs	2532						
b. Denmark							
Part time	-0.001	-0.002	-0.005	-0.009	-0.000	0.017	
Obs	6303						
c. The Netherlands							
Part time	0.001**	0.002**	0.005**	0.012**	-0.002**	-0.019**	
Obs	10615						
d. Finland							
Part time	-0.001	-0.001	-0.003	-0.009	-0.013	0.012	
Obs	7773						
e. France							
Part time	-0.001	-0.002	-0.004	-0.009	0.007*	0.009	
Obs	12038						
f. Spain							
Part time	-0.001	-0.001	-0.002	-0.001	0.002	0.003	
Obs	9840						
g. UK							
Part time	0.000	0.000	0.001	0.001	0.001	-0.001	-0.002
Obs	113186						

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. Panel a is estimated using waves 2-3 of the ECHP, panels b-f are estimated using waves 2-8 of the ECHP, and panel g is estimated using the first 17 waves of the BHPS.
3. All standard errors are robust and correct for intra-individual correlation.

Table B.3 Estimated marginal effects from 7 pooled cross sectional ordered logit models analysing satisfaction with hours of work

		Satisfaction with hours of work						
		Marginal effects						
	$dP1/dx$	$dP2/dx$	$dP3/dx$	$dP4/dx$	$dP5/dx$	$dP6/dx$	$dP7/dx$	
a. Germany								
Part time	-0.014***	-0.035***	-0.068***	-0.056***	0.065***	0.108***		
Obs	2538							
b. Denmark								
Part time	-0.016***	-0.028***	-0.068***	-0.118***	-0.083***	0.313***		
Obs	6303							
c. The Netherlands								
Part time	-0.008***	-0.025***	-0.059***	-0.087***	0.028***	0.151***		
Obs	10614							
d. Finland								
Part time	0.000	0.001	0.001	0.001	-0.001	-0.002		
Obs	7776							
e. France								
Part time	-0.016*	-0.001	-0.001	0.003*	0.013	0.002		
Obs	12031							
f. Spain								
Part time	-0.019***	-0.035***	-0.042***	-0.016***	0.060***	0.051***		
Obs	9836							
g. UK								
Part time	-0.011***	-0.017***	-0.060***	-0.041***	-0.073***	0.059***	0.143***	
Obs	13188							

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. Panel a is estimated using waves 2-3 of the ECHP, panels b-f are estimated using waves 2-8 of the ECHP, and panel g is estimated using the first 17 waves of the BHPS.
3. All standard errors are robust and correct for intra-individual correlation.

Table B.4 Estimated marginal effects from a pooled cross sectional ordered logit models analysing overall life satisfaction

		Overall life satisfaction						
		Marginal effects						
	$dP1/dx$	$dP2/dx$	$dP3/dx$	$dP4/dx$	$dP5/dx$	$dP6/dx$	$dP7/dx$	
Part time	-0.001*	-0.002**	-0.006**	-0.014**	-0.010**	0.022**	0.010**	
Obs	8370							

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

1. Each regression includes the following explanatory variables; age, age squared, highest education level, self-assessed good health, living rent free, in a temporary job, in the public sector, size of work place, the one digit industry identifier, married or cohabiting, had a birth in the previous year, number of children aged 0-12 years in the household, number of children aged 12-15 years in the household, real household income, spend more than 20 hours a week caring for a child or another individual.
2. The results in table B.4 are estimated using the first 17 waves of the BHPS.
3. All standard errors are robust and correct for intra-individual correlation.

Appendix C Estimated regression coefficients from a pooled cross sectional ordered logit model and a fixed effects ordered logit model, estimating overall job satisfaction using the BHPS.

Variables		Pooled	FE	
Personal controls	Part time	0.235*** (0.052)	0.195*** (0.074)	
	Age	-0.065 (0.044)	-0.125* (0.064)	
	Age squared	0.001 (0.001)	0.001 (0.001)	
	Degree	-0.572*** (0.106)	-0.046 (0.295)	
	A level	-0.423*** (0.118)	-0.147 (0.317)	
	O level	-0.310*** (0.108)	0.087 (0.309)	
Job controls	Good health	0.239*** (0.042)	0.0562 (0.050)	
	Local authority housing	0.079 (0.091)	-0.072 (0.142)	
	Temporary job	-0.217*** (0.080)	-0.256** (0.102)	
	Public sector	0.084 (0.057)	0.344*** (0.086)	
	Non-profit organisation	0.215** (0.106)	0.603*** (0.170)	
	Between 1-99 employees in firm	0.279*** (0.059)	0.117 (0.085)	
	Between 100-499 employees in firm	-0.054 (0.066)	-0.172* (0.093)	
	SOC group 2	-0.074 (0.096)	0.289* (0.173)	
	SOC group 3	-0.036 (0.094)	0.144 (0.138)	
	SOC group 4	-0.111 (0.079)	-0.096 (0.116)	
	SOC group 5	-0.005 (0.173)	0.232 (0.254)	
	SOC group 6	0.112 (0.089)	-0.152 (0.139)	
	SOC group 7	-0.138 (0.109)	-0.227 (0.143)	
	SOC group 8	-0.612*** (0.150)	-0.383* (0.227)	
	SOC group 9	-0.071 (0.116)	-0.336** (0.160)	
	Family controls	Married or cohabiting	0.156** (0.069)	0.034 (0.107)
		Childbirth in previous year	-0.075 (0.064)	-0.119 (0.090)
		Number of children < 12 in hh	0.083** (0.035)	0.073 (0.052)
		Number of children 12-15 in hh	0.041 (0.041)	-0.022 (0.061)
Household income		-0.003 (0.128)	0.003 (0.186)	
Time constraints	Spend more than 20 h per wk caring	0.468*** (0.163)	0.245 (0.194)	
Individuals			1941	
Observations		13186	11023	

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

Notes:

Waves 1-17 of the BHPS are used to estimate the two regressions. Standard errors in the pooled cross section regression are robust and correct for intra-individual correlation in the pooled cross sectional model.

Appendix D: Institutional differences and differences in social norms between the countries

Since the 1970's, many European countries have experienced growth in female part time employment, and it is now a prominent feature of many European labour markets (O'Reilly and Fagan, 1998). However, large variation remains in the female part time employment rate between these countries (table 1). The prominence of female part time employment within a labour market, and the experiences of part time workers within the labour market is likely to be dependent on a number of factors; the institutional setting of part time employment within the labour market, the typical ideas on gender and family roles, and social norms of employment and work ethics. Below the traditional ideas on gender roles, social norms surrounding employment practices, and the institutional setting of part time employment are described for the UK, the Netherlands, Germany, Denmark, France, Finland, and Spain.

UK

Married women's labour supply and part time participation dramatically increased after WWII and by 2008 75 percent of women were in employment (OECD, 2010). Currently, around 40 percent of employed females work part time (OECD, 2010), the growth in part time employment over the second half of the 20th century was a result of labour shortages in the 1960's and cultural traditions which determined that the woman's primary responsibility was the home and children. Women were additionally keen to combine a career with childcare via part time employment (Burchell et al, 1997), and these attitudes appear to have persisted; only 6 percent of women working part time in the UK are doing so involuntarily (European Foundation for the Improvement of Living and Working Conditions, 2007).

However, the existence of a liberal welfare state, trends of deregulation in the labour market and a tradition of the female home maker arrangement have all contributed to the poor quality of part time jobs. Female employment was partly created with a view of allowing women to maintain family responsibilities, therefore part time employment was typically undemanding and lacked promotional opportunities (Burchell et al, 1997). Furthermore, proposals from 1982 onwards for the UK to adopt European Union directives⁸ of part time work were blocked by successive UK governments until 1997. Until 1995 women working less than 16 hours a week did not qualify for employment protection. Tijdens (2002) has found that women working less than 20 hours a week receive no basic fixed income, receive less training and have lower job tenure. Working 20 hours a week is associated with these 'marginal' characteristics to a greater degree in the UK than in other European countries.

The Netherlands

The Netherlands experienced an increase in female labour supply over the second half of the 20th century, 78 percent of women aged 25-49 were in employment by 2008 (OECD, 2010). Similarly to the UK, this appears to have been due to an increase in part time employment, in 2008 74 percent of the female working population were working part time, (OECD, 2010). The traditional gender arrangement in the Netherlands reflected the male breadwinner model. However, a more modern view on the gender arrangement has prevailed in the Netherlands; a dual breadwinner / family carer gender arrangement currently exists and mothers appear to rather participate in part time employment than take on a housewife role, (European Foundation for the Improvement of Living and Working Conditions, 2007). These changes occurred due to a period of rapid modernisation post WWII, coupled with less traditional attitudes towards employment practices; for example 69 percent of men in the Netherlands would prefer part time to full time employment (Pfau-Effinger, 1998).

The period of rapid modernisation and democratisation experienced in the Netherlands resulted in the foundation of a feminist movement which fought for gender equality and the

⁸ Britain opposed two of the three linked EU Draft Directives on Atypical Working, 1982. The EU Directive on Part Time Working was adopted in 1997 across the EU, this guarantees part-time workers the same pay and working conditions as full-time workers.

possibility of mothers combining careers and motherhood. This therefore helped promote the protection of part time employment (Pfau-Effinger, 1998). The trade unions additionally developed a strong policy for the promotion of part time employment and these factors have led to a relatively high standard of working conditions and social security of part time jobs. Legal regulation of part time employment was additionally pursued; in 1996 the Prohibition of Discrimination by Working Hours Act was passed and the Adjustment of Working Hours Act in 2000 gave employees the right to alter the terms of employment contracts.

Germany

74 percent of women aged 25-54 were in employment in Germany by 2008 (OECD, 2010). In 2008, 39 percent of these women were working part, (OECD, 2010). Even though the female employment rate in Germany is comparable to that seen in other Western European countries, the part time employment rate is lower. In Germany there has traditionally been a strong values relating to family life and a housewife marriage and gendered policies in the welfare state have been traditionally influenced by the male breadwinner ideal, (Pfau-Effinger, 1998). The limited usage of part time employment is a result of social norms which dictate conservative and traditional practices towards employment, (Ellingsæter, 1992). Thus, when modernisation occurred in Germany after WWII and feminist movements encouraged women to enter the labour market, they mostly did so via full time employment.

In Germany part time jobs were traditionally much less well protected than were full time jobs (Blossfeld and Rohwer, 1997). However, there has been a shift over time in the quality of part time jobs, throughout the 1980's part time workers could increasingly be found in skilled clerical and secretarial positions (Blossfeld and Rohwer, 1997). Furthermore, in Germany, discrimination between full time and part time employers has been prevented by law since the late 1980's and the majority of part time workers have stable and permanent employment contracts (Ellingsæter, 1992). However, sickness benefits are only available to those working over 15 hours a week, and only those who work for longer than 18 hours a week are viable for unemployment insurance, (Pfau-Effinger, 1998).

Denmark

Denmark has a very high female employment rate but a fairly low female part time employment rate. 83 percent of women in Denmark were employed in 2008, and 28 percent of these women were working part time (OECD, 2010). In the initial post-war period, female labour force participation was low, 23 percent of working age females were employed in 1960 (Leth-Sørensen and Rohwer, 1997). The expansion in female employment occurred relatively later in Denmark, as in the Netherlands, as compared to other Western European countries.

The welfare state in Denmark is based on social democratic principles and gender policies are built on the idea of a dual earner / state carer gender arrangement. Employment and gender policies are constructed so that a mother is able to combine a full time career and childcare in the early maternal years, (Ellingsæter, 1992); the welfare state is committed to a goal of full employment.

In Denmark employment legislation does not discriminate between full time and part time jobs, employment legislation is based on principles of universalism. Part time employment is far from marginalized in Denmark, very few women work short part time hours, (Ellingsæter, 1992). Additionally, alongside a tradition of hard work, women in Denmark are less likely to get satisfaction from the flexibility that comes with working part time. 18 percent of part time women in Denmark were involuntary, compared to a European Union average of 13 percent, (European Foundation for the Improvement of Living and Working Conditions, 2007).

France

There is a long tradition of working women in France, French women are typically characterised by having a heavy workload as well as heavy domestic responsibilities and they poses high levels of education and skill (Daune-Richard, 1998). In 2008 around 77

percent of women aged 25-49 in France participated in the labour market (OECD, 2010), around 28 percent of these women were in part time employment, (OECD, 2010). The gender arrangement in France reflects ideas that women are home makers and there is little sharing of household tasks within couples (Daune-Richard, 1998). However, French women simultaneously remain very much attached to full time employment; this can largely be explained as a result of feminist attitudes.

The welfare state allows women to fulfil this dual role as homemakers and career women, for example via high rates of public childcare provision (Daune-Richard, 1998). Because when French women first entered the labour market they followed the model of male full time workers, part time work is viewed unfavourably. Part time work came about as a result of job shortages in the 1970's and 1980's and is not viewed as a realistic option for women who have a high degree of education and skill and wish to progress their careers. As a result, part time employment in France usually involves the most vulnerable members of the labour force, new entrants and returners and those in low skill level jobs, 25 percent of female part time workers are involuntary (European Foundation for the Improvement of Living and Working Conditions, 2007).

Finland

Traditionally there has been a very high rate of female employment in Finland. 66 percent of Finnish women were already in employment in the 1950's (Pfau-Effinger, 1998) and by 2008 this had increased to 82 percent (OECD, 2010). In 2008 only 12 percent of working women were employed in a part time job, part time employment has been inconsequential in integrating women in to employment in Finland, (OECD 2010).

The small degree of part time employment seen in Finland is a result of social norms and gender arrangements based on a egalitarian division of labour. Both gender roles are given equal social worth by the welfare state which promotes a dual breadwinner state carer model (Pfau-Effinger, 1998). In the 1950's and 1960's children increasingly became viewed as the responsibility of the welfare state, therefore there is a comprehensive public childcare system which facilitates the full time employment of mothers. Moreover, there is a strong work ethic in Finland and full time employment is the cultural norm, working part time or taking long parental leave is associated with a high risk of social stigmatism (Pfau-Effinger, 1998), for example 34 percent of those who do work part time do so involuntarily, (European Foundation for the Improvement of Living and Working Conditions, 2007). Thus, institutional and cultural factors appear to contribute towards a low rate of female part time employment.

Spain

The Spanish labour market is characterised by a very moderate amount of female employment, around 63 percent of women aged 25 to 54 years were employed in Spain in 2008 (OECD, 2010). Furthermore, there is a very small incidence of part time employment amongst the female work force; in 2008 just 9 percent of female workers were employed in part time jobs in Spain, (OECD, 2010). Furthermore, 19 percent of part time employment is involuntary, (European Foundation for the Improvement of Living and Working Conditions, 2007). The traditional gender arrangement in Spain reflects the male breadwinner / female homemaker gender arrangement, more modern ideas and feminist movements in the post-war period encouraged female labour force participation, although due to strong religious traditions for a housewife marriage the extent of women entering the labour force was smaller than that seen in Northern European countries, (Ruivo et al, 1998).

The main reason individuals accept part time jobs in Spain is due to failure to find a full time job (Ruivo et al, 1998). In Spain part time jobs are most typically just used for traditional reasons, to cope with uncertain demand and meeting flexibility needs. This means that part time jobs remain segregated in the same levels of activity, the majority of part time jobs are in retail and the hotels and catering sectors of the economy, (Ruivo et al, 1998).