THE CHILD EFFECT ON PARENTS EMPLOYMENT IN EUROPE

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Leila Maron and Danièle Meulders *

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Abstract: In this paper, we aim to study the influence of young children on labour market participation and employment patterns of parents - both mothers and fathers - and their implication in terms of working hours and employment continuity. This analysis will focus on the relative position of Belgium within the European Union using data from the European Survey on Income and Living Conditions (EU-SILC) for the year 2004 and microeconometric methods.

Firstly, we start out from a multinomial logit model to analyse the determining factors which explain female labour market participation (such as the age of the youngest child, the level of education, the potential wage and we correct for the selection bias, the wage of the partner, etc.) and analyse motherhood-induced employment gaps in the European Union. A decomposition technique is applied to the computed gross full-time equivalent employment gaps between mothers and non-mothers to isolate the net employment effect associated with the presence of children from that emerging from differences in characteristics between mothers and non-mothers to give priority to their family role and adjust their paid work to accommodate their family identities (Bielby and Bielby, 1989).

Secondly, we analyse the effect of parenthood on men's working hours. Having children may have opposite effects: according to the "good-provider" model (Bernard, 1981), fathers will work more than non-fathers while the opposite is true according to the "involved-father" model (Kaufman and Ulhenberg, 2000). To examine this effect, we use data from EU-SILC for the year 2004 and we consider three different measures of fatherhood status (having a child, the number of child(ren) and finally, the age of the youngest child).

To conclude, we review the main results of this research and suggest avenues for future research.

Key words: parenthood, female participation, labour market conditions, dual-earner couples, work effort **JEL codes:** J13, J21, J22

*Department of Applied Economics, Université Libre de Bruxelles (DULBEA), <u>lmaron@ulb.ac.be;</u> <u>dmeulder@ulb.ac.be</u>

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1. Introduction

Women's growing labour market participation, especially among those with children, has been one of the most important economic and social phenomena of the last half century, even though a great variety persists in the level of female employment across countries (OCDE 2002a). The female population continues to be of considerable weight to realise the European Council's wish to move contemporary European societies towards full-employment.

To safeguard women's employment not just in quantitative but also in qualitative terms a better understanding of the way in which they combine household, family and professional charges is needed and several dimensions need to be taken into account such as women's employment continuity around childbirth and men's involvement not just in care-related but also in domestic work.

Despite the large increase in female participation in the labour market since 1960, women with children are still less likely to work than non-mothers. Maternity has various effects on the professional career of mothers: it can lead them to give up their work (temporarily or definitively), encourage them to reduce their working time, lead them to change profession or branch of industry, slow down the progression of their career and their wages. These effects are observed to variable degrees in the various European countries.

At the opposite, and this phenomenon is observed everywhere in Europe, paternity may exert positive effects on employment: fathers work more and under better conditions than men without children.

The motherhood-induced employment penalties clearly show that choices, if there are any, are constrained, by stereotypes on the one hand: mothers have to care for the children, and by institutions on the other: lack of adequate infrastructure and encouraging flexicurity policies confining mothers to part-time work, with career interruptions encouraging as frightening traps for women's professional advancement.

In this paper, the main objective is to examine the way in which becoming a parent affects the amount of time that men and women spend in paid employment in European countries. The arrival of the first child implies an important change for mothers and fathers in roles and responsibilities. Earlier studies have shown that women tend to identify more with their family role than do men and they give priority to her mother's role rather than that of worker. Therefore, being a mother tends to conflict with being paid employed outside the home. While the effects of motherhood on female labour market participation have been well documented, little attention has been given to the effect of fatherhood on men's employment.

We examine the link between work and parenthood in Europe and estimate the impact of having a child on labour market anticipation and on working hours of women and men using recent data from the European Survey on Income and Living Conditions (EU-SILC – 2004). These provide information on personal and family characteristics of women and men. With a view to this, this paper attempts to reveal the determinants of labour market participation of women and men in thirteen European countries. The estimations for women are based on two different methodological approaches using a multinomial logit model and our estimations for the men are based on a ordinary least squares model. In our analysis, a "mother" is understood as a woman in a household with at least one child aged under 16 and a "non-mother" a woman whose household does not include any children. Some of these women are mothers but it is impossible to identify them more exactly when the child has left the household. Indeed, the majority of databases, such as EU-SILC, do not give information on maternity when the child has left the family unit and the age at which a woman had her first child is unknown. Therefore, one defines a mother as any woman having at least one child in the household and anon-mother as any woman for whom no information about children is available because they

have left the household as well as and any woman who has never had a child. It is impossible for us to distinguish these two categories due to restrictions. The effects of maternity correspond to the effects of the presence of a child in the household and the same is true for the analysis carried out on fathers.

The theoretical and empirical framework of the present study is more extensively discussed in the next section. In Section 3, we present our model to estimate the particular employment penalties faced by mothers as compared with childless women in the 13 countries of our sample and the regression results using the data provided by EU-SILC for 2004. Section 4 analyses the link between fatherhood and men's hours worked. Finally, section 5 concludes.

This paper contributes to existing work in numerous ways. Firstly, while the effects of motherhood on women's work have been well documented, little attention has been given to the effects of fatherhood on men's employment (Kaufman and Uhlenberg 2000) but this paper is a comparative study of the relationship between maternal and paternal labour supply using the recent European database "The European Survey one Income and Living Conditions" (EU-SILC). The second contribution of this paper is, therefore, that it cross-nationally examines a wide range of European countries using EU-SILC. Thirdly, female labour supply is not just studied in terms of participation versus non-participation but we also distinguish the effect of motherhood on women's probability to hold part-time versus full-time jobs.

2. Theoretical and empirical background

Parenthood is a major determinant of labour market participation and it has a very different incidence on male and female employment due to the fact that women and men differs in terms of allocation of resources between to their role as workers and as parents (Bielby and Bielby 1989). Women tend to identify more with their family role than do men and they give priority to this role. As a result, activity profiles of fathers and mothers are expected to differ. Despite changes in gender roles since the sixties, the traditional effect of parenthood on work effort persists: mothers tend to be responsible for childcare while fathers assume the breadwinner role and work more in order to meet the family's economic needs and bring home more money. In general, the employment rate of women who have no children is higher than the employment rate of their counterparts with children while the reverse is observed among men (De Henau, Meulders et al. 2004).

According to classical labour supply theory, maternity affects the decision of whether or not to engage in paid work and, if yes, for how many hours. The presence of child generally increases the time spent out of the labour market and in particular during the first years following childbirth (Shapiro and Mott 1979; Cramer 1980; Waite, Haggstrom et al. 1985; Joshi, Macran et al. 1996; Sanchez and Thomson 1997; Falzone 2000; Kaufman and Uhlenberg 2000; Kenjoh 2003). Findings from existing research are generally consistent with the expectation of a negative relationship between motherhood status and women's employment. The presence of a child aged between 0 and 3 years decreases the probability to participate in the labour market to 65 percentage points compared to a woman with the same characteristics but no children and this probability is about 41 percentage points when the youngest child is between 3 and 6 (Layard, Barton et al. 1980). In terms of hours worked, infants seem to have the strongest impact: mothers with a very young child work 1,000 hours a year less than those without children and this effect persists but becomes smaller when the child grows up (Layard, Barton et al. 1980). In a more recent study, De Henau, Meulders et al. (De Henau, Meulders et al. 2004) found that infants are associated with a significant and

strong impact on inactivity and part-time in Luxembourg, Ireland, Austria, The Netherlands, the United-Kingdom and Germany but the magnitude of this effect differs between countries. In Belgium, motherhood has no significant effect while a small but significant effect is measured in Denmark in terms of inactivity.

This phenomenon is conform to the traditional model of specialization of gender roles in the household: the woman takes care of the children and the family while the man is the financial provider. This is particularly true when the number of children rises. The employment gap between men and women then grows more strongly. However, since the beginning of Eighties, the activity rates of the women having three children or more tend to increase in all European countries but at a different degree and in different intervals (Maruani 2000). Layard, Barton et al. (1980) found that the number of children has a positive effect on participation because larger families having lower real income than smaller families with identical wage and income opportunities, the mother may be driven out to work.

The effect of children on male commitment to work is somewhat less clear. Two competing models can be distinguished (Goldscheider and Waite 1991; Hyde, Essex et al. 1993). The "good provider" model (Bernard 1981), the more traditional one, suggests that fathers tend to work more than non-fathers while the "involved father" model predicts that fatherhood will encourage men to work less (Kaufman and Uhlenberg 2000).

Many studies are consistent with the first theory as they found a positive relationship between fatherhood and men's employment. Among men who are employed, both being married and having children both lead to a greater work effort and likelihood of being on a career track (Uhlenberg and Cooney 1990; Cooney and Uhlenberg 1991; Sanchez and Thomson 1997; Deven, Inglis et al. 1998; Nock 1998a; Nock 1998b; Kaufman and Uhlenberg 2000; O'Brien and Schemilt 2003; De Henau, Meulders et al. 2004) but some studies find no child effect on men job's commitment or work schedules (Pittman and Orthner 1988; Presser 1995; Dermott 2006). Others studies indicate that breadwinning is one of the most fundamental pillars of male identity (Morgan 1992) and that this role is an important component of men's fathering identity and their form of commitment to family life (Warin, Solomon et al. 1999; Hatten, Vinter et al. 2002). According to Cramer (Cramer 1980), fatherhood puts additional pressure on men to earn more because they are the family's principal wage earner and having an additional child increases the number of hours that fathers work outside the home. In a more recent study, Nock (Nock 1998b) found that married men increase their work effort by about two weeks per year when they have their first child. Kaufman and Uhlenberg (Kaufman and Uhlenberg 2000) found two opposite effects of fatherhood: fathers with traditional attitudes work nearly 11 hours more per week than their counterparts without children and fathers with more egalitarian attitudes decrease their work by 9 hours per week compared with nonfathers. According to these theoretical accounts and empirical studies, the presence of a child may have an impact on fathers' employment behaviour: if a man connects his fathering role with breadwinning, he will probably raise his work effort and at the opposite, he will spend less time in employment than non-fathers if he wants to be involved in the childcare. Finally, fatherhood may be irrelevant to men's behaviour on the labour market.

The conclusions based on simple comparisons between fathers and non-fathers may be problematic because of the presence of other variables (Dermott 2006). Indeed, the transition to fatherhood is between the ages of 25 and 45 and the average age at first childbirth occurs around 30. This period is also key for career progression and stabilization and "the transition to parenthood and career development may be independently associated with an increased level of job commitment and concomitant increased hours of employment for men" (Dermott 2006). It is important to take all relevant variables into account when we examine the link between fatherhood and work effort.

3. A cross-sectional analysis of motherhood-induced employment gaps

3.1 The model

To compute the employment penalties induced by maternity, we first estimate at the individual level labour market participation equations, allowing for three possible outcomes: full-time, part-time and inactivity. To do so, two different methodologies are applied: the first model, based on the methodology applied by Gornick (Gornick, Meyers et al. 1998) and De Henau, Meulders and O'Dorchai (De Henau, Meulders et al. 2006c), includes age and education as proxy variables for wage while the second model directly includes wage. The latter method requires applying the Heckman two-stage estimation procedure (Heckman 1979) to investigate the existence of selection bias (Hernandez Iglesias and Riboud 1985; Riboud 1985; Prieto-Rodriguez and Rodriguez-Gutiérrez 2003).

Both methodologies consist in estimating a labour supply model that computes the probability of three outcomes: work full-time, work part-time and inactivity or non participation (including unemployment)¹.Given this discrete outcome structure for the dependent variable, a multinomial logit model with unordered dependent variable is appropriate:

$$Pr(y_{i} = FT) = \frac{1}{1 + e^{X_{i}\hat{\beta}^{(2)}} + e^{X_{i}\hat{\beta}^{(3)}}}$$
$$Pr(y_{i} = IN) = \frac{e^{X_{i}\hat{\beta}^{(2)}}}{1 + e^{X_{i}\hat{\beta}^{(2)}} + e^{X_{i}\hat{\beta}^{(3)}}}$$
$$Pr(y_{i} = PT) = \frac{e^{X_{i}\hat{\beta}^{(3)}}}{1 + e^{X_{i}\hat{\beta}^{(2)}} + e^{X_{i}\hat{\beta}^{(3)}}}$$

where $Pr(y_i = FT)$, $Pr(y_i = IN)$ and $Pr(y_i = PT)$ are the respective probabilities that the three possible outcomes occur (respectively full-time, inactive, part-time), arbitrarily taking the full-time employed as the reference group², X_i is a vector of observed characteristics of individual i and $\hat{\beta}^{(2)}$ and $\hat{\beta}^{(3)}$ are the sets of estimated coefficients corresponding to the inactivity and part-time outcomes respectively. Note that we estimate the sets of coefficients separately by country.

To make the interpretation of the coefficients easier, we use the concept of "relative risk ratios". For example, the probability of (y=IN) relative to that of the base group (y=FT) is

$$\frac{\Pr(y_i = IN)}{\Pr(y_i = FT)} = e^{X_i \hat{\beta}^{(2)}}$$

It follows that the natural logarithm of the odds ratio of being inactive to having a full-time job - the so-called relative risk ratio (rrr) – is in fact a linear combination of the independent or explanatory variables.

¹ The categories of inactivity and unemployment could not be distinguished because of the data used and unemployed women are negligible in our sample.

² We have used the statistical software Intercooled Stata 9.0. For more details on the mulitnomial logit estimation, see Greene (2003)

In the second stage of the model, we compute differences in average national full-time equivalent employment rates for mothers and non-mothers based on their probabilities to either work full-time, part-time or to be inactive obtained in the multinomial logit model.

Then, a decomposition exercise on the multinomial logit model (called the method of recycled predictions) allows to test whether or not the employment gap that separates mothers from their counterparts without children is mainly due to the fact that they have different personal characteristics (such as age, level of education or partner's income) or rather to the presence of a child. In other words, the decomposition technique yields an answer to the question whether the employment gap between mothers and non-mothers is due to motherhood or to other individual characteristics by isolating the net employment effect associated with the presence of children from that emerging from differences in characteristics between mothers and non-mothers. We thus obtain net motherhood-induced employment gaps for each country.

The child effect net of the effect caused by differences in characteristics is estimated on a pooled sample of mothers and non-mothers and we assume that characteristics are identically rewarded in both populations and a dummy indicating the presence of a young child captures the entire child effect (although some part of it may be included in the constant term which captures the effect of all unobserved heterogeneity).

The decomposition of the gap in a child and a characteristics effect is approximated as follows:

$$\overline{Y}_{j}^{MO} - \overline{Y}_{j}^{NM} = \left[\sum_{i=1}^{N^{MO}} \frac{F\left(X_{i}^{MO}\hat{\beta}_{j}^{PO}\right)}{N^{MO}} - \sum_{i=1}^{N^{NM}} \frac{F\left(X_{i}^{NM}\hat{\beta}_{j}^{PO}\right)}{N^{NM}}\right] + \left[\sum_{i=1}^{N^{MO}} \frac{F\left(X_{i}^{MO}\hat{\beta}_{j}^{PO} + \hat{\gamma}_{j}^{PO}\right)}{N^{MO}} - \sum_{i=1}^{N^{MO}} \frac{F\left(X_{i}^{MO}\hat{\beta}_{j}^{PO}\right)}{N^{MO}}\right] + \left[\sum_{i=1}^{N^{MO}} \frac{F\left(X_{i}^{MO}\hat{\beta}_{j}^{PO}\right)}{N^{MO}} - \sum_{i=1}^{N^{MO}} \frac{F\left(X_{i}^{MO}\hat{\beta}_{j}^{PO}\right)}{N^{MO}} + \sum_{i=1}^{N^{MO}} \frac{F\left(X_{i}^{MO}\hat{\beta}_$$

where:

- \overline{Y}_{j}^{MO} and \overline{Y}_{j}^{NM} are the mean probabilities of outcome j (j = inactivity or part-time, relative to full-time) for mothers and non-mothers respectively;

- N^{MO} and N^{NM} are the sample sizes for mothers and non-mothers respectively;

- $\hat{\beta}_{j}^{PO}$ is the vector of estimated coefficients for the explanatory variables X_{i} , excluding the child dummy and computed on the pooled sample, and

- $\hat{\gamma}_{j}^{PO}$ is the pooled estimated coefficient for the dummy indicating the presence of a young child.

The expression within the first pair of brackets represents the difference in terms of characteristics between mothers and non-mothers (the difference in characteristics is isolated by considering that mothers do not have a young child)³ while the expression within the second pair of brackets is the difference due to the presence of a child and is computed based on mothers' characteristics only: the first term is indeed the mean outcome probability for the sample of mothers while the second term is the outcome for "hypothetical non-mothers".

 $^{^{3}}$ In practice, the first term within the brackets corresponds to the "hypothetical non-mothers": we let mothers hold on to their specific distribution of characteristics but we suppose they no longer have children, so that the difference in outcome (with respect to non-mothers) is entirely due to differences in characteristics between the sample of mothers and that of non-mothers. This technique is called the method of recycled prediction.

3.2 Data and sample description

3.2.1 The European Community Statistics on Income and Living Conditions

The data used in this study are taken from the first wave of the new data base Community Statistics on Income and Living Conditions (EU-SILC) for the year 2004. EU-SILC was designed to continue the European Community Househod Panel (ECHP) and is therefore strongly similar with the ECHP. EU-SILC is an annual investigation based on a standard questionnaire addressed to a sample of households and individuals representative of the population of each European country in which the survey is carried out. This harmonized questionnaire provides data on households and individuals, related to family situation, living conditions, income, employment, education, etc.

The variables used for the estimations are described hereafter and all data come from the first wave of EU-SILC which covers the following countries: Austria, Belgium, Denmark, Spain, Estonia, Finland, France, Greece, Ireland, Italy, Luxembourg, Norway, Portugal and finally Sweden⁴.

3.2.2 Sample selection

The selection of the sample was driven by three main criteria: the age of the women, their status of cohabitation and of motherhood.

First, we have selected the women of childbearing age who are likely to have completed the period of full-time education and to be economically active. Therefore, the sample includes women between 25 and 49 years (except self-employed workers). The upper limit is set as low as forty-nine years of age because we only observe an extremely small number of mothers of a child under six years of age beyond this age.

Second, given that employment decisions can greatly differ according to whether a woman is unmarried or living in couple, we also integrated this variable in the analysis. The situation on the labour market of women in a couple tends to be more sensitive when they have children due to the fact that they have less financial constraints than the single mother because of the income of their partner. Given the very different behaviour of single mothers and those living in a couple it would have been too simplistic and even erroneous to group both categories under the unique header of mothers (Gornick, Meyers et al. 1998). Therefore, we have selected only women in a couple, whether married or not. By retaining only couples, results may contain a selection bias because the decision to live in a couple may be influenced by career-family plans but in this paper, we only draw conclusion for women in a couple, so no bias occurs.

Finally, we define the status of mother as any woman with a child aged less than 15 years in the household. This age is often considered as a limit age, from which the child becomes be less dependent on its parents and more autonomous. In many countries, it is also the age at which school attendance is no longer compulsory and that child becomes active in the labour market. The category of non-mothers includes three subgroups of women: mothers whose youngest child is older than 14 years and still living in the household, mothers whose child or children has/have left the household and, finally, women who have never had a child. The latter two subgroups cannot be distinguished in the EU-SILC.

⁴ However, we could not include Norway in our analysis because of all variables that we need are not available.

3.3 Variables used in the regressions

The dependent variable is a discrete variable which can take three different outcomes: working full-time, working part-time or not working (including inactivity or non-participation and unemployment)⁵. We consider that part-time work corresponds to less than 30 working hours per week and full time to 30 working hours or more. Because of the poor reliability of the reported number of hours worked in the EU-SILC data set, a distinction between short and long part-time work was not possible. Therefore, the computation of full-time equivalent employment rates rest on the assumption that part-time work is half-time i.e. 20 working hours per week. This assumption could lead to an over-estimate of full-time equivalent employment rates and an undervaluation of the mothers'employment gap between mothers and non-mothers if part-time work in fact corresponds to less than 20 hours per week.

The explanatory variables are the following:

- age;
- level of education;
- marital status;
- potential hourly wage;
- hourly wage of the partner;
- age of the youngest child.

We expect that a woman's age has an effect on her activity through combined age and generation effects. Indeed, younger generations are supposed to participate more in the labour market. Moreover, by including age in our model, we can control for potential labour market experience. The model also includes the quadratic form of the age, given by the age squared, in order to take into account the non-linear relation between a woman's age and her probability of being in one of the three employment outcome categories.

The highest level of education attained is measured by three binary variables indicating if the individual obtained her primary education degree, a secondary or a post-secondary degree. The group of reference is the lowest educational level. Education is expected to have a positive impact on women's attachment to the labour market and on women's full-time labour market participation. Moreover, the level of education may be considered as a proxy for women's earning capacity.

Hourly wage is computed based on the wage in the reference income period, the number of months a woman was working during this period and, finally, the hours currently worked. Potential hourly wage is included in one of our labour supply models in order to take into account the substitution effect or the income effect. The (potential) hourly wage variable is taken in this logarithmic form. Note that, in EU-SILC, wage variables correspond to net amounts or gross amounts depending on the country.

The hourly wage of the partner is also considered. Its effect may be different: it may have a substitution effect or an income effect. According to Cohen and Bianchi (Cohen and Bianchi 1999) and Prieto-Rodriguez and Rodriguez-Gutiérrez (Prieto-Rodriguez and Rodriguez-Gutiérrez 2003), it has a negative effect on female labour supply, whether part-time or full time. The higher is the husband's wage, the higher is the likelihood that a woman withdraw

⁵ The categories of inactivity and unemployment could not be distinguished because of the data used and unemployed women are negligible in our sample.

from the labour market in comparison with a situation where the household is financially constrained to dual earning.

The effect may just as well be opposite: a higher income implies a greater financial possibility to pay for the expenses of childcare and thus the mother does not have to stay at home to care for the children.

In order to capture the effect of a second income, the husband's wage is retained in the model since we expect it to influence woman's labour market participation.

We also control for marital status. Note that income taxation systems differ substantially across countries and marital status remains an important determinant in some countries. The dichotomous variable "married" was not included for Estonia because most women in a couple retained in the analysis (that is to say women aged between 25 and 49 years) are married.

Finally, in order to measure the impact of the presence and age of the youngest child, three binary variables were built respectively indicating if the youngest child is aged between 0-2 years, 3-5 years and 6-14 years; the group of reference being when there is no child aged less than 16 years in the household. These age ranges were chosen in accordance to the most common institutional features of childcare and early educational structures implemented throughout the countries sampled. The strongest negative pressure is expected to go out from the presence of a very young child.

It would have been interesting to include non labour income of households because it may have a negative effect on female labour supply (Cohen and Bianchi 1999) and regions to capture the geographical determinant of labour demand but the EU-SILC provides no information on these variables.

3.4 Regression results

3.4.1 Estimation of the two multinomial logit models

The results of the regressions based on the two different methodologies are available in appendix (the first method includes age and education as a proxy variable for age while the second one includes wage and corrects for selection bias).

The two methodologies lead to comparable results for the majority of the variables and analyzed countries. They confirm the expected effect of the explanatory variables but the magnitude of these effects differs between countries. The presence of child has a more or less important effect according to its age. In general, this variable explains for a great part mothers' inactivity and part-time work.

Table 1: Effect of a youngest child aged between 0 and 2 years on the probability of part-time work and inactivity

	Part-time	Inactivity							
High effect (effect > 3)*	AT, EE ⁶ , LU	AT, EE, ES^7 , FI, FR, LU, SE							
Middle effect (effect < 3)	DK ⁸ , ES, FI, FR, IE ⁹ , IT	BE ¹⁰ , GR, IE, IT							
Irrelevant effect	BE, GR, PT, SE	DK, PT							
* A high effect, more than 3, means that a women having a youngest child aged between 0 and 2 years has a probability to work part time or to not work higher of more than 3 times compared to a woman who does not have any child aged under									

work part-time or to not work higher of more than 3 times compared to a woman who does not have any child aged under 15 years.

Source: EU-SILC (2004), own calculations

The effect of a youngest child aged between 0-2 years is significant and most pronounced in term of reduction of the number of hours worked as in term of inactivity in Austria, Estonia and Luxembourg. In Austria, depending on the methodology used, the probability of working part-time is 3.5 and 3.8 times more important in the presence of a child aged less than 3 years in comparison with a childless woman. In terms of inactivity, these probabilities are respectively 13 and 17.

In Spain, Finland, France and Sweden, the presence of an infant result in more inactivity since the probability of not working increases more than 3 times in these countries.

The effect of an infant is average in terms of part-time work in Denmark, Spain, Finland, France, Ireland and Italy where the probability that a mother of a youngest child aged between 0-2 years reduces her working time is between 1.7 and 2.6 times larger than that for a non-mother. In terms of inactivity, the motherhood effect is average in Belgium, Greece, Ireland and Italy.

Finally, having a child between 0 and 2 years does not result in any significant effect in terms of reduction of hours in Belgium, Greece, Portugal and Sweden and in term of inactivity inDenmark and Portugal.

⁶ The effect becomes irrelevant when the methods including predicted wage is used.

⁷ The effect is les than 3 when he methods including predicted wage is used.

⁸ The effect becomes irrelevant when the methods including predicted wage is used.

⁹ The effect becomes irrelevant when the methods including predicted wage is used.

¹⁰ The effect becomes irrelevant when the methods including predicted wage is used.

Table 2: Effect of a youngest child aged between 3 and 5 years on the probability of part-time work and inactivity

	Part-time	Inactivity						
High effect (effect > 3)*	AT, EE, LU	AT, EE, IE, LU						
Middle effect (effect < 3)	BE, DK, ES, FR, IE, IT	BE ¹¹ , ES, FI, FR, IT						
Irrelevant effect	FI ¹² , GR, PT, SE	DK, GR^{13} , PT, SE^{14}						
* A high effect, more than 3, means that a women having a youngest child aged between 0 and 2 years has a probability to work part time or to not work higher of more than 2 times compared to a women who does not have any child aged under								

work part-time or to not work higher of more than 3 times compared to a woman who does not have any child aged under 15 years.

Source: EU-SILC (2004), own calculations

The presence of a youngest child aged between 3 and 5 years has a high impact both in terms of part-time work and inactivity in Austria (where the "relative risk ratio" which gives the increase in probability, goes up to 9.9), Luxembourg and Estonia. Irish mothers are 4 times more likely no to work than those without children.

This effect is weaker in Belgium, Denmark, Spain, France, Ireland and Italy in terms of parttime work and in Belgium, Spain, Finland, France and Italy in terms of inactivity.

Finally, having a pre-schoolers does not appear significant in term of part-time in Finland, Greece, Portugal and Sweden and in term of inactivity in Denmark, Greece, Portugal and Sweden.

In line with our intuition, the level of education is significant and having a post-secondary degree decreases the probability of working part-time in Austria, Belgium, Finland, Ireland, Italy and Spain while it significantly reduces the probability of inactivity in the majority of the countries.

Being legally married appears irrelevant in the majority of countries in terms of part-time work except in Italy and Luxembourg where this probability doubles while it is significant in Austria, France, Italy, Luxembourg and Spain in terms of inactivity with the probability of being inactive multiplied by 1.5 to 3.5 times.

A woman's income is significant and increases her likelihood to work part-time in Ireland, Italy, Austria and Belgium whole decreases her probability of being inactive in Belgium, Denmark, Finland, Greece and Sweden.

The partner's income is irrelevant for all countries except Sweden where it increases the probability of working part-time and in Greece and Luxembourg where it increases that of being inactive.

¹¹ The effect becomes irrelevant when the methods including predicted wage is used.

¹² The effect becomes irrelevant when the methods including predicted wage is used.

¹³ The effect becomes significant when the methods including predicted wage is used but it is low than 1.

¹⁴ The effect becomes irrelevant when the methods including predicted wage is used.

3.4.2 Computation of the net child effect

Given that one of the main objectives of this analysis is the comparison between countries in terms of full time equivalent employment penalties faced by mothers of young children and that the pure regressions do not allow to draw direct conclusions on part-time and inactivity effects, we have compute the net full-time equivalent employment gap induced by motherhood (see the method of recycled predictions in the discussion of the empirical model).

The net child effect is also decomposed in order to distinguish between the impact in terms of reduction of working hours and that of inactivity. In addition, these effects are computed for children aged between 0 and 2 years and for those aged between 3 and 5 years because, as already illustrated by the analysis of relative risk ratios in the previous sub-section, the size of the net child effect differs between infants and pre-schoolers.

Both methodologies used (age and education versus potential wage) give similar results except for Belgium, Denmark and Sweden¹⁵. Therefore, only the results from the methodology based on age and education as proxies for wages will be presented.

<u>Graph 1: Decomposition of the relative net gap in full-time equivalent employment rates</u> between mothers and non-mothers of 25-49 years of age according to the age of the youngest child – contribution of reduced hours and inactivity



¹⁵ The differences between the two methodologies applied are shown in appendix.



Source: EU-SILC (2004), own calculations

The effect of infants is mainly observed in terms of inactivity and it is the highest in Austria, Estonia and Finland, where it rises with nearly 70%. The employment gap lies between 20 and 45% in Italy, Ireland, France, Spain, Luxembourg and Sweden. Finally, it is weakest in Portugal, Denmark, Belgium and Greece where it is less than 20%.

The effect of pre-schoolers is lower than that observed for infants and the part-time contribution to the gap has increased in most countries. Note that in Belgium, Italy and Ireland, the net employment gap between mothers and childless women increases with the age of the youngest child.

4. A cross sectional analysis of men's working hours

4.1 The model and variables used in the regression

Using the same model as we had applied to compute the employment penalties induced by motherhood does not really make sense in the case of fatherhood because previous research has already noted that the effect of children on male labour participation tends to be positive or irrelevant (Pittman and Orthner 1988; Uhlenberg and Cooney 1990; Cooney and Uhlenberg 1991; Presser 1995; Deven, Inglis et al. 1998; Nock 1998a; Nock 1998b; Kaufman and Uhlenberg 2000; O'Brien and Schemilt 2003; Dermott 2006; Moller and Misra 2006)). Moreover, given that the majority of men work on a full-time basis, it is impossible to distinguish the three outcomes of full-time, part-time and inactivity/unemployment as we did for the analysis of female labour market participation. Therefore, we examine the relationship between fatherhood status and men's hours of work and we tend to explore evidence for the existence of breadwinning as a component of men's fathering identity.

The dependent variable is the total hours worked per week in the main job for the fathers who are employed and we use an ordinary least squares regression because the outcome is a continuous variable.

Three models are tested, each using a different measure of fatherhood status. First, we use a dummy indicating whether a man has a child as the key independent variable. Secondly, we

focus on the effects of the number of children under 15 years in the household. In the last model, the measure of fatherhood status is the age of the youngest child indicated by a dichotomous variable (0-2 years, 3-5 years, 6-14 years) and the reference group is men with no child under 15 years in this household. We also include different terms showing the interactions between the age of the youngest child and the country (a man with no child under 15 years in his household being the reference group).

The presence of a child is not the only factor determining the number of working hours and its contributing power is expected to be less pronounced than for women. Indeed, other variables contribute more in terms of explaining men's work effort. We include independent variables traditionally regressed to explain working hours: age and its quadratic forms; nationality (a dummy indicating whether the respondent is born in a foreign country and we distinguish if the person is born in a European country or not); level of education (low as the reference group/medium/high) which is expected to have a positive effect on participation in the labour market; occupational category (legislators, senior officials and managers/ professionals/ technicians/ clerks/ service/ agricultural and fishery workers/ craft and related traders workers/ plant and machine operators and assemblers/ elementary occupations as the reference group/ armed forces) which has a great explanatory power and definitely determines total hours worked per week; earnings (hourly gross/net wage taken in its logarithmic form) which may have a substitution or an income effect; ability which is a dummy indicating if the household is able to make ends meet and tenure status which is a dummy indicating if the household is owner or not as proxies for disposable income; and, finally, the wife's hours of work.

4.2 Data and sample selection

The data used in this paper are taken from the data base Community Statistics one Income and Living Conditions (EU-SILC) for the year 2004 (for the description of the database EU-SILC, see the previous section).

Similar to the analysis of the employment gap induced by motherhood, the selection of the sample was driven by three main criteria: the age of men, their status of cohabitation and of fatherhood. Therefore, we have selected men at an age that makes them likely to have a child and to have completed the period of full-time education and to be economically active. Thus, the sample includes men between 25 and 49 years (except self-employed workers). We first estimate the regression predicting hours worked on this sample and we secondly stratify the sample by age (under age 36 versus age 36 and older) in order to examine whether men in more recent cohorts might have more egalitarian attitudes.

We define fatherhood status as any man with a child aged less than 15 years in the household. The category of non-fathers includes three subgroups of men: fathers whose youngest child is older than 14 years and still living in the household, fathers whose the child or children has/have left the household and, finally, men who have never had a child. The latter two subgroups cannot be distinguished in the EU-SILC.

4.3 Regression results

We first examine the effect of fatherhood status on hours worked according to the three different measures used and based on the three different samples. The table shows the regression coefficients for hours worked for employed men^{16} .

		25-35 ye <i>ars</i>			36-49 years			25-49 years	
	Model 1	Model 2	Model 3	Madel 1	Model 2	Model 3	Madel 1	Model 2	Madel 3
Have child(ren)	1.020 (0.371)***			0.329 (0.320)			0.484 (0.240)**		
Nb. child(ren)		0.622 (0.211)***			0.193 (0.139)			0.273 (0.116)**	
Yst child 0-2y.			1.307 (0.451)***			-0.285 (0.452)			0.444 (0.320)
Yst child 3-5y.			0.807 (0.484)*			0.539 (0.444)			0.557 (0.327)*
Yst child 6-14y.			0.379 (0.547)			0.382 (0.330)			0.472 (0.274)*
Observations	4092	4092	4092	9129	9129	9129	13221	13221	13221
R-squared	0.13	0.13	0.13	0.11	0.11	0.11	0.11	0.11	0.11
Robust standard err	ors in parentheses								
* significant at 10%;	** significant at 5%;	*** significant at 1%							
Notes: Controls for a	age, age squared, na	tionality, education, o	occupation, wage, a	ability to make ends r	neet, housing tenure	and wife's work ho	ours but the coeffic	ients are not shown	(see in appendi)

Table 3: Coefficients from regression of total hours worked according three different measures of fatherhood

Source: EU-SILC (2004), own calculations

Fathers aged between 25 and 35 years work more per week than their counterparts without children and this effect increases with the number of children (+ 0.6 hours per week). On average, men who have a child work about one hour more per week than non-fathers and the magnitude of this effect depends on the youngest child's age: when the child is an infant, the effect become stronger (about 1.3 hours per week) than when it is a pre-schooler (about 0.8 hours per week). These effects become irrelevant when we examine regression results for men aged between 36 and 49 years.

In order to examine the fatherhood effect across countries, we estimate regressions including a terms showing the interactions between the age of the youngest child and the country (a man with no child under 15 years in his household being the reference group)¹⁷.

¹⁶ See in appendices to examine all coefficients from regression.

¹⁷ See in appendices to examine all coefficients from regression.

		25–35 years	36–49 years
Yst child 0-2y.	Effect <2hours Effect>2hours	BE, IT LU	EE
Yst child 3-5y.	Effect <2hours Effect>2hours	AT, ES, LU	DK IE
Yst child 6-14y	Effect <2hours Effect>2hours	AT, PT	BE, DK, IT

 Table 4: Regression results including interaction effects between the age of the youngest child

 age as measure of fatherhood status and countries

Source: EU-SILC (2004), own calculations

In several countries, the child effect is significant and fathers tend to work more than their childless counterparts but the size of these effects depends on the child's age and differs between countries.

In Belgium and Italy, men with infants work less than 2 hours more per week in comparison with non-fathers. This effect is stronger in Luxembourg and Estonia where fathers work more than 2 hours per week more compared with non-fathers.

The effect of pre-schoolers is significant in Denmark where fathers work 1.4 hours more per week than men without children and it increases in Spain (+2 hours), Luxembourg (+2.2 hours), Ireland (+2.3 hours) and ,finally, in Austria (+5.7 hours).

An effect is also observed when the child grows older in Belgium, Denmark and Italy where it is lower than 2 hours per week and in Portugal and Austria where it increases hours worked by 3 and 3.6, respectively.

We also control for other independent variables such as nationality, education, occupation, etc. We find that a man born in another country than the country where he lives has a negative impact on hours worked (-1.7 hours per week); hours worked decrease with wage and therefore it seems that there is a substitution effect (-5 hours per week); the wife's hours worked have a significant but small impact on work hours of her husband (+0.1 hours per week) and occupation has a strong explanatory power because working long hours is particularly common in occupations such as professional and managerial positions and plant and machine operators; level of education and housing tenure status have no significant effect on hours worked.

5. Conclusions

Motherhood has an important impact on female labour market participation. The effect of a youngest child between 0 and 2 years is significant both in terms of reduction of hours worked and in terms of inactivity in most studied countries. The child effect is most pronounced in Austria, Estonia and Luxembourg. In Austria, depending on the methodology used, the probability of working part-time is 3.5 and 3.8 times more important in the presence of a child aged less than 3 years in comparison with a childless woman. In terms of inactivity, these probabilities are respectively 13 and 17. The presence of a child aged between 0 and 2 years is irrelevant in term of reduction of hours in Belgium, Greece, Portugal and Sweden and in term of inactivity Denmark and Portugal. The effect of a youngest child aged between 3 and 5 years is significant in most countries except in Greece, Portugal and Sweden in terms of reduction of hours and in terms of inactivity.

The full-time equivalent employment gap between mothers and non-mothers due to the presence of an infant is mainly observed in terms of inactivity and it is the highest in Austria, Estonia and Finland where it is nearly 70%. The employment gap lies between 20 and 45% in Italy, Ireland, France, Spain, Luxembourg and Sweden. Finally, it is the weakest in Portugal, Denmark, Belgium and Greece where it is less than 20%. The effect of pre-schoolers is lower than that observed for infants and the part-time contribution to the gap has increased in most of countries. In Belgium, Italy and Ireland, the net employment gap between mothers and childless women increases with the age of the youngest child.

As far as men are concerned, regression results show that the link between fatherhood and men's hours worked tend to be reversed in comparison with women: fathers work more hours than their childless counterparts controlling for age, nationality, education, occupation, ability to make ends meet, housing tenure status and earnings and the wife's hours worked. These results are consistent with findings from past research (Uhlenberg and Cooney 1990; Cooney and Uhlenberg 1991; Sanchez and Thomson 1997; Deven, Inglis et al. 1998; Nock 1998a; Nock 1998b; Kaufman and Uhlenberg 2000; O'Brien and Schemilt 2003). A father aged between 25 and 35 years works one hour more per week than a non-father and the size of this effect depends on the age of the youngest child: when the child is younger than 2 years, the effect becomes stronger and fathers tend to increase their hours worked by 1.3 hours per week; when the child is aged between 3 and 5 years, father work 0.8 hours more than nonfathers. The magnitude of fatherhood impact on work's effort differs across European countries. In Belgium and Italy, men with infants work less than 2 hours more per week in comparison with non-fathers. This effect is stronger in Luxembourg and Estonia where fathers work more than 2 hours per week more compared with non-fathers. The effect of preschoolers is significant in Denmark where fathers work 1.4 hours more per week than men without children and it increases in Spain (+2 hours), Luxembourg (+2.2 hours), Ireland (+2.3 hours) and finally in Austria (+5.7hours). An effect is also observed when child is aged between 6 and 14 years in Belgium, Denmark and Italy where it is lower than 2 hours per week and in Portugal and Austria where it increases hours worked by 3 and 3.6, respectively.

Despite changes in gender roles since the sixties, the traditional effect of parenthood on work's effort persists: the mothers tend to reduce their commitment to work outside the home and are more likely to be inactive and work part-time in comparison with their childless counterparts while the fathers assume the breadwinner role.

Future research might include fathers' role in terms of unpaid labour work. A greater involvement in domestic work and child care contributes to guaranteeing a greater labour market participation of their wives. Another area for future research is the analysis of motherhood-induced penalties in terms of occupational and inter-industry segregation among employed mothers of young children. Finally, the study might be extended beyond the European Union to include other countries in order to examine the link between different organisations of the labour market, cultural norms and gender differences in terms of commitment in paid work.

References:

- Bernard, J. (1981). "The good-provider role: Its rise and fall." <u>American Psychologist</u> **36**(1): 1-12.
- Bielby, W. T. and D. D. Bielby (1989). "Family ties: Balancing commitments to work and family in dual earner households." <u>American Sociological Review</u> **54**(5): 776-789.
- Cohen, P. N. and S. M. Bianchi (1999). "Marriage, children, and women's employment: what do we know?" <u>Monthly Labor Review</u> **122**(12): 22-31.
- Cooney, T. M. and P. Uhlenberg (1991). "Changes in work-family connections among highly educated men and women, 1970 to 1980." Journal of Family Issues **12**(1): 69-90.
- Cramer, J. C. (1980). <u>The effects of fertility on husband's economic activity: Evidence from</u> <u>static, dynamic and nonrecursive models</u>, Julian L.Simon and Julie DaVanzo.
- De Henau, J., D. Meulders, et al. (2004). Conclusion. <u>The Rationale of Motherhood Choices:</u> <u>Influence of Employment Conditions and of Public Policies - Final report, Chapter 4</u>. E. Commission.
- De Henau, J., D. Meulders, et al. (2006c). Maybe Baby! The Comparative Effectiveness of Public Policies to Fight Motherhood-Induced Employment Penalties and Decreasing Fertility in the Former EU-15. Working Paper DULBEA, Research series, N°06-02.RS. Brussels, DULBEA.
- Dermott, E. (2006). "What's parenthood got to do with it?: men's hours of paid work." <u>The</u> <u>British Journal of Sociology</u> **57**(4): 619-634.
- Deven, F., S. Inglis, et al. (1998). A state of the art review on the reconciliation Work and family life for men and women and the quality of care services. <u>Research Report 44</u>. London, department for Education and Employment.
- Falzone, J. S. (2000). "Labor market decisions of married women: With emphasis on parttime employment." International Advances in Economic Research **6**(4): 662-671.
- Goldscheider, F. K. and L. J. Waite (1991). <u>New families, no families? The transformation of the American home</u>, University of California Press.
- Gornick, J., M. K. Meyers, et al. (1998). "Public policies and the employment of mothers: A cross-national study." <u>Social Science Quarterly</u> **79**(1): 35-54.
- Greene, W. H. Econometric analysis Fifth edition, Prentice Hall.
- Hatten, W., L. Vinter, et al. (2002). Dads on dads: Needs and expectations at home and at work. <u>Research Discussion Series</u>, Equal Opportunities Commission.
- Heckman, J. J. (1979). "Sample selection bias as specification error." <u>Econometrica</u> **47**(1): 153-162.

- Hernandez Iglesias, F. and M. Riboud (1985). "Trends in Labor Force Participation of Spanish Women: An Interpretive Essay." Journal of Labor Economics 3(2): S201-S217.
- Hyde, J. S., M. J. Essex, et al. (1993). "Fathers and parental leave: Attitudes and experiences." Journal of Family Issues 14(4): 616-636.
- Joshi, H., S. Macran, et al. (1996). "Employment after childbearing and women's subsequent labour force participation: Evidence from the British 1958 birth cohort." Journal of Population Economics **9**(3): 325-348.
- Kaufman, G. and P. Uhlenberg (2000). "The influence of parenthood on the work effort of married men and women." <u>Social Forces</u> **78**(3): 931-947.
- Kenjoh, E. (2003). Women's employment around birth of the first child in Britain, Germany, the Netherlands, Sweden and Japan. <u>Working Papers of the Institute for Social and Economics Research/Paper 2003-16</u>. Colchester, University of Essex: 39.
- Layard, R., M. Barton, et al. (1980). "Married women's participation and hours." <u>Economica</u> **47**(185): 51-72.
- Maruani, M. (2000). Travail et emploi des femmes. Paris, Ed. la Découverte,.
- Moller, S. and J. Misra (2006). Reconciliation Policies and the Effects of Motherhood on Employment, Earnings, and Poverty. <u>LIS Working Paper No.429</u>. L. I. S. W. P. Serie.
- Morgan, D. H. J. (1992). Discovering men. London and New York, Routledge.
- Nock, S. L. (1998a). Marriage in men's lives. Oxford, Oxford University Press.
- Nock, S. L. (1998b). "The consequences of premarital fatherhood." <u>American Sociological</u> <u>Review</u> **63**(2): 250-263.
- O'Brien, M. and I. Schemilt (2003). Working fathers Earning and caring. <u>Research</u> <u>Discussion Series</u>. E. O. Commission, European Commission.
- OCDE (2002a). Employment Outlook. Paris, OCDE.
- Pittman, J. F. and D. K. Orthner (1988). "Gender differences in the prediction of job commitment." Journal of Social Behavior and Personality **3**(4): 227-248.
- Presser, H. B. (1995). "Job, family and gender: deerminants of nonstandard work schedules among employed americans in 1991." <u>Demography</u> **32**(4): 577-598.
- Prieto-Rodriguez, J. and C. Rodriguez-Gutiérrez (2003). "Participation of Married Women in the Labour Market and the 'Added Worker Effect' in Europe." Journal of Socio-Economics **32**: 423-446.
- Riboud, M. (1985). "An analysis of women's labor participation in France: Cross-section estimates and time-series evidence." Journal of Labor Economics **3**(1): S177-S200.

- Sanchez, L. and E. Thomson (1997). "Becoming mothers and fathers: parenthood, gender, and the division of labor." <u>Gender and Society</u> **11**(6): 747-772.
- Shapiro, D. and F. L. Mott (1979). "Labor supply behavior of prosepctive and new mothers." <u>Demography</u> **16**(2): 199-208.
- Uhlenberg, P. and T. M. Cooney (1990). "Male and female physicians: Family and career." <u>Social Science and Medecine</u> **30**(3): 373-378.
- Waite, L. J., G. W. Haggstrom, et al. (1985). "Changes in the Employment Activities of New Parents." <u>American Sociological Review</u> **50**(2): 263-272.
- Warin, J., Y. Solomon, et al. (1999). <u>Fathers, work and family life</u>, Family Policy Studies Centre.

Appendix:

Table 1: Variable definitions

llame	Definition
name	Dennidon
Dependent variables	
Part-time	dummy=1 if the woman work less than 20 hours per week; else=0
Full-time	dummy=1 if the woman work at least 30 hours per week (reference group); else=0
Not employed	dummy=1 if the woman is inactive or unemployed; else=0
Worked hours	number of man's worked hours per week
Mdependent variables	the women's are (the man's are
Age equered	the sourced of the warmen's age (the sourced of the men's age
Age squared Birth loc	the squared of the woman's age the squared of the marks age. Alignment lifthe woman han is har in the country where shake lives (reference aroun): else=0.
Birth ELL	durinity=1 if the woman man is born in a different encoder view for an two group, escale lives else=0
Birth oth	dummy=1 if the woman/man is not here in an even peak or option if the set of
Low educ.	dummy=1 if the woman/man has a primary diploma (reference group); else=0
Medium educ.	dummv=1 if the woman/man has a secondary diploma: else=0
High educ.	dummy=1 if the woman/man has a post-secondary diploma; else=0
Occ. leq.	dummy=1 if the man's occupation is legislators, senior officials and managers; else=0
Occ. prof.	dummy=1 if the man's occupation is professionals; else=0
Occ. tech.	dummy=1 if the man's occupation is technicians and associate profesionals; else=0
Occ. clerks	dummy=1 if the man's occupation is clerks; else=0
Occ. serv.	dummy=1 if the man's occupation is service workers and shop and market sales workers; else=0
Occ. agr.	dummy=1 if the man's occupation is skilled agricultural and fishery workers; else=0
Occ. craft	dummy=1 if the man's occupation is craft and related trades workers; else=0
Occ. plant	dummy=1 if the man's occupation is plant and machine operators and assemblers; else=0
Occ. ele.	dummy=1 if the man's occupation is elementary occupations (reference group); else=0
Occ arm.	dummy=1 if the man's occupation is armed forces; else=0
Have child(ren)	dummy=1 if the woman/man has a at least one child aged under 15 years; else=0
Nb.child(ren)	number of child(ren) younger than 15 years old
Yst child 0-2y.	dummy=1 if the woman/man has a youngest child aged between 0 and 2 years; else=0
Yst child 3-5y.	dummy=1 if the woman/man has a youngest child aged between 3 and 5 years; else=0
Yst child 6-14y.	dummy=1 if the woman/man has a youngest child aged between 6 and 14 years; else=0
Ability	dummy=1 if the woman/man has ability to make ends meet; else=0
Tenure	dummy=1 if the woman/man has owner of the housing: else=0
Huspand labour inc.	natural logarithm of the hourly real wage of the man (in Euros)
Vvite labour Inc.	natura logaritim of the nourly real wage of the woman (in Euros)
AT	number of worked hours of the woman per week
	durinity=1 if the womanization was in Austria, else=0
DK	dummy-1 if the womaniman lives in Deigran, else-0 dummy-1 if the womaniman lives in Denmark: else-0
FE	dummy=1 if the womaniman lives in Estonia: else=0
FS	dummy=1 if the woman/man lives in Spain: else=0
FI	dummy=1 if the woman/man lives in Epland; else=0
FR	dummy=1 if the woman/man lives in France; else=0
GR	dummv=1 if the woman/man lives in Greece; else=0
IE	dummy=1 if the woman/man lives in Irland; else=0
п	dummy=1 if the woman/man lives in Italy; else=0
LU	dummy=1 if the woman/man lives in Luxembourg; else=0
PT	dummy=1 if the woman/man lives in Portugal; else=0
SE	dummy=1 if the woman/man lives in Sweden; else=0
ATchild02	dummy=1 if the woman/man lives in Austria and has a youngest child aged between 0 and 2 years; else=0
ATchild35	dummy=1 if the woman/man lives in Austria and has a youngest child aged between 3 and 5 years; else=0
ATchild614	dummy=1 if the woman/man lives in Austria and has a youngest child aged between 6 and 14 years; else=0
ATnochild	dummy=1 if the woman/man lives in Austria and has no child under 15 years (reference group); else=0
BEchild02	dummy=1 if the woman/man lives in Belgium and has a youngest child aged between 0 and 2 years; else=0
BEchild35	dummy=1 if the woman/man lives in Belgium and has a youngest child aged between 3 and 5 years; else=0
BEchild614	dummy=1 if the woman/man lives in Belgium and has a youngest child aged between 6 and 14 years; else=0
BEnochild	dummy=1 if the woman/man lives in Belgium and has no child under 15 years (reference group); else=0
DKchild02	dummy=1 if the woman/man lives in Denmark and has a youngest child aged between 0 and 2 years; else=0
DKchild35	dummy=1 if the woman/man lives in Denmark and has a youngest child aged between 3 and 5 years; else=0
DKchild614	dummy=1 if the woman/man lives in Denmark and has a youngest child aged between 6 and 14 years; else=0
DKnochild	dummy=1 if the woman/man lives in Denmark and has no child under 15 years (reference group); else=0

Table 1 (continued): Variable definitions

EEchild02	dummy=1 if the woman <i>i</i> man lives in Estonia and has a youngest child aged between 0 and 2 years; else=0
EEchild35	dummy=1 if the woman <i>i</i> man lives in Estonia and has a youngest child aged between 3 and 5 years; else=0
EEchild614	dummy=1 if the woman <i>i</i> man lives in Estonia and has a youngest child aged between 6 and 14 years; else=0
EEnochild	dummy=1 if the woman <i>i</i> man lives in Estonia and has no child under 15 years (reference group); else=0
ESchild02	dummy=1 if the woman/man lives in Spain and has a youngest child aged between 0 and 2 years; else=0
ESchild35	dummy=1 if the woman/man lives in Spain and has a youngest child aged between 3 and 5 years; else=0
ESchild614	dummy=1 if the woman/man lives in Spain and has a youngest child aged between 6 and 14 years; else=0
ESnochild	dummy=1 if the woman/man lives in Spain and has no child under 15 years (reference group); else=0
Flchild02	dummy=1 if the woman/man lives in Finland and has a youngest child aged between 0 and 2 years; else=0
Flchild35	dummy=1 if the woman/man lives in Finland and has a youngest child aged between 3 and 5 years; else=0
Flchild614	dummy=1 if the woman/man lives in Finland and has a youngest child aged between 6 and 14 years; else=0
Flnochild	dummy=1 if the woman/man lives in Finland and has no child under 15 years (reference group); else=0
FRchild02	dummy=1 if the woman/man lives in France and has a youngest child aged between 0 and 2 years; else=0
FRchild35	dummy=1 if the woman/man lives in France and has a youngest child aged between 3 and 5 years; else=0
FRchild614	dummy=1 if the woman/man lives in France and has a youngest child aged between 6 and 14 years; else=0
FRnochild	dummy=1 if the woman/man lives in France and has no child under 15 years (reference group); else=0
IEchild02	dummy=1 if the woman/man lives in Ireland and has a youngest child aged between 0 and 2 years; else=0
IEchild35	dummy=1 if the woman/man lives in Ireland and has a youngest child aged between 3 and 5 years; else=0
IEchild614	dummy=1 if the woman <i>i</i> man lives in Ireland and has a youngest child aged between 6 and 14 years; else=0
IEnochild	dummy=1 if the woman/man lives in Ireland and has no child under 15 years (reference group); else=0
ITchild02	dummy=1 if the woman/man lives in ttaly and has a youngest child aged between 0 and 2 years; else=0
ITchild35	dummy=1 if the woman/man lives in ttaly and has a youngest child aged between 3 and 5 years; else=0
ITchild614	dummy=1 if the woman/man lives in ttaly and has a youngest child aged between 6 and 14 years; else=0
ITnochild	dummy=1 if the woman/man lives in Italy and has no child under 15 years (reference group); else=0
LUchild02	dummy=1 if the woman/man lives in Luxembourg and has a youngest child aged between 0 and 2 years; else=0
LUchild35	dummy=1 if the woman/man lives in Luxembourg and has a youngest child aged between 3 and 5 years; else=0
LUchild614	dummy=1 if the woman/man lives in Luxembourg and has a youngest child aged between 6 and 14 years; else=0
LUnochild	dummy=1 if the woman/man lives in Luxembourg and has no child under 15 years (reference group); else=0
PTchild02	dummy=1 if the woman/man lives in Portugal and has a youngest child aged between 0 and 2 years; else=0
PTchild35	dummy=1 if the woman/man lives in Portugal and has a youngest child aged between 3 and 5 years; else=0
PTchild614	dummy=1 if the woman/man lives in Portugal and has a youngest child aged between 6 and 14 years; else=0
PTnochild	dummy=1 if the woman/man lives in Portugal and has no child under 15 years (reference group); else=0
SEchild02	dummy=1 if the woman/man lives in Sweden and has a youngest child aged between 0 and 2 years; else=0
SEchild35	dummy=1 if the woman/man lives in Sweden and has a youngest child aged between 3 and 5 years; else=0
SEchild614	dummy=1 if the woman/man lives in Sweden and has a youngest child aged between 6 and 14 years; else=0
SEnochild	dummy=1 if the woman/man lives in Sweden and has no child under 15 years (reference group); else=0

	6				
	Sar	npie of wom	en aged betw	/een zo-44 ye	ears
	Ygst child O-	Ygst child 3-	Ygst child 6-	No child	Total
	2 years	5 years	14 years		
AT	164	146	314	231	855
BE	169	115	286	346	926
DK	259	300	516	361	1436
EE	73	101	238	224	636
ES	462	458	787	636	2343
FI	336	320	499	533	1688
FR	429	390	515	421	1755
GR	167	165	321	230	883
IE	166	159	223	148	696
IT	564	546	1022	963	3095
LU	211	153	196	265	825
PT	115	155	299	211	780
SE	218	166	384	344	1112

<u>Table 2: Descriptive Statistics – Sample of women aged between 25-44 years according to the age of a youngest child</u>

<u>Table 3: Descriptive Statistics – Employment of women aged between 25-44 years according</u> to the age of a youngest child

	Yg	st child 0-2 ye	ars	Yg:	st child 3-5 ye	ars	Ygs	t child 6-14 ye	ears		No child			Total	
	Part-time	Full-time	Inactivity	Part-time	Full-time	Inactivity	Part-time	Full-time	Inactivity	Part-time	Full-time	Inactivity	Part-time	Full-time	Inactivity
AT	14.63	17.68	67.68	29.45	21.23	49.32	33.76	33.44	32.80	17.32	65.80	16.88	24.91	37.08	38.01
BE	15.98	49.70	34.32	29.57	40.00	30.43	31.99	45.45	22.56	19.60	60.23	20.17	24.14	51.08	24.78
DK	9.27	61.78	28.96	11.67	74.00	14.33	10.08	77.71	12.21	6.93	72.30	20.78	9.47	72.70	17.83
EE	4.11	26.03	69.86	8.91	57.43	33.66	5.04	76.89	18.07	3.13	87.05	9.82	4.87	71.54	23.58
ES	12.77	35.28	51.95	16.59	36.68	46.72	10.04	37.36	52.60	10.69	55.66	33.65	12.04	41.78	46.18
FI	3.87	24.11	72.02	7.81	63.75	28.44	4.81	81.36	13.83	4.69	76.36	18.95	5.15	65.05	29.80
FR	17.72	47.32	34.97	20.77	52.31	29.62	23.50	58.06	18.45	11.75	73.39	14.86	18.54	58.10	23.36
GR	10.18	42.51	47.31	12.73	43.03	44.24	10.59	44.86	44.55	12.61	49.57	37.83	11.44	45.30	43.26
IE	23.49	36.75	39.76	27.67	23.90	48.43	33.18	28.25	38.57	16.89	62.16	20.95	26.15	36.49	37.36
IT	19.50	33.69	46.81	20.15	33.15	46.70	16.73	33.17	50.10	16.41	49.33	34.27	14.44	38.29	43.97
LU	22.75	34.60	42.65	25.49	26.80	47.71	34.18	22.96	42.86	13.21	65.28	21.51	22.91	40.24	26.85
ΡT	5.22	68.70	26.09	4.52	72.90	22.58	6.35	71.57	22.07	5.21	72.04	22.75	5.51	71.54	22.95
SE	5.05	40.83	54.13	8.43	72.89	18.67	10.94	73.18	15.89	7.56	72.09	20.35	8.36	66.46	25.18

						Women aged	between 25	and 44 years							
	AT			BE		DK				EE			ES		
	Mean	Std. Dev.		Mean	Std. Dev.		Mean	Std. Dev.		Mean	Std. Dev.		Mean	Std. Dev.	
Dependent variables Dependent variables		ables		Dependent variables Dependent variables				bles							
Part-time	0.25	0.43	Part-time	0.24	0.43	Part-time	0.09	0.29	Part-time	0.05	0.22	Part-time	0.12	0.33	
Full-time	0.37	0.48	Full-time	0.51	0.50	Full-time	0.73	0.45	Full-time	0.72	0.45	Full-time	0.42	0.49	
Inactivity/Unemp	0.38	0.49	Inactivity/Unemp	0.25	0.43	Inactivity/Unemp	0.18	0.38	Inactivity/Unemp	0.24	0.42	Inactivity/Unemp	0.46	0.50	
Independent va	riables		Independent va	riables		Independent va	riables		Independent va	riables		Independent va	riables		
Age	35.45	5.42	Age	35.28	5.42	Age	35.89	5.26	Age	36.22	5.65	Age	36.10	5.11	
Age squared	1285.71	379.70	Age squared	1274.11	378.67	Age squared	1316.08	371.78	Age squared	1344.04	397.89	Age squared	1329.13	363.57	
Low educ.	0.27	0.44	Low educ.	0.19	0.39	Low educ.	0.14	0.35	Low educ.	0.07	0.25	Low educ.	0.40	0.49	
Medium educ.	0.44	0.50	Medium educ.	0.32	0.47	Medium educ.	0.49	0.50	Medium educ.	0.46	0.50	Medium educ.	0.25	0.43	
High educ.	0.29	0.45	High educ.	0.49	0.50	High educ.	0.37	0.48	High educ.	0.48	0.50	High educ.	0.35	0.48	
Yst child 0-2y.	0.19	0.39	Yst child 0-2y.	0.18	0.39	Yst child 0-2y.	0.18	0.38	Yst child 0-2y.	0.11	0.32	Yst child 0-2y.	0.20	0.40	
Yst child 3-5y.	0.17	0.38	Yst child 3-5y.	0.12	0.33	Yst child 3-5y.	0.21	0.41	Yst child 3-5y.	0.16	0.37	Yst child 3-5y.	0.20	0.40	
Yst child 6-14y.	0.37	0.48	Yst child 6-14y.	0.32	0.47	Yst child 6-14y.	0.36	0.48	Yst child 6-14y.	0.37	0.48	Yst child 6-14y.	0.34	0.47	
No child < 15y.	0.27	0.44	No child < 15y.	0.37	0.48	No child < 15y.	0.25	0.43	No child < 15y.	0.35	0.48	No child < 15y.	0.27	0.44	
Leg. married	0.90	0.29	Leg. married	0.78	0.41	Leg. married	0.70	0.46	Leg. married	0.99	0.12	Leg. married	0.90	0.30	
Husband labour	2.51	0.37	Husband labour	4.21	0.37	Husband labour	4.50	0.40	Husband labour	2.28	0.67	Husband labour	3.42	0.46	
Observations	855		Observations	926		Observations	1436		Observations	636		Observations	2343		

 Table 4: Descriptive Statistics of Motherhood-induced employment gap model (age and education as proxy of wage) – Multinomial logit model

 (dependent variable: the probability of working part-time/ being inactive)

							L								
			1			women aged	between 25	and 44 years	1						
	FI			FR			GR		IE				17		
	Mean	Std. Dev.		Mean	Std. Dev.		Mean	Std. Dev.		Mean	Std. Dev.		Mean	Std. Dev.	
Dependent vari	ables		Dependent varia	ables		Dependent varia	ables		Dependent varia	bles		Dependent vari	ables		
Part-time	0.05	0.22	Part-time	0.19	0.39	Part-time	0.11	0.32	Part-time	0.26	0.44	Part-time	0.18	0.38	
Full-time	0.65	0.48	Full-time	0.58	0.49	Full-time	0.45	0.50	Full-time	0.36	0.48	Full-time	0.38	0.49	
Inactivity/Unemp	0.30	0.46	Inactivity/Unemp	0.23	0.42	Inactivity/Unemp	0.43	0.50	Inactivity/Unemp	0.37	0.48	Inactivity/Unemp	0.44	0.50	
Independent variables Independent variables			Independent variables			Independent va	riables		Independent variables						
Age	35.39	5.65	Age	35.15	5.40	Age	35.75	5.21	Age	36.55	5.07	Age	36.30	5.14	
Age squared	1284.64	396.37	Age squared	1264.74	378.49	Age squared	1304.86	368.06	Age squared	1361.32	363.02	Age squared	1344.35	365.88	
Low educ.	0.07	0.26	Low educ.	0.10	0.30	Low educ.	0.29	0.45	Low educ.	0.23	0.42	Low educ.	0.42	0.49	
Medium educ.	0.39	0.49	Medium educ.	0.51	0.50	Medium educ.	0.38	0.49	Medium educ.	0.32	0.47	Medium educ.	0.40	0.49	
High educ.	0.54	0.50	High educ.	0.40	0.49	High educ.	0.33	0.47	High educ.	0.45	0.50	High educ.	0.18	0.38	
Yst child 0-2y.	0.20	0.40	Yst child 0-2y.	0.24	0.43	Yst child 0-2y.	0.19	0.39	Yst child 0-2y.	0.24	0.43	Yst child 0-2y.	0.18	0.39	
Yst child 3-5y.	0.19	0.39	Yst child 3-5y.	0.22	0.41	Yst child 3-5y.	0.19	0.39	Yst child 3-5y.	0.23	0.42	Yst child 3-5y.	0.18	0.38	
Yst child 6-14y.	0.30	0.46	Yst child 6-14y.	0.29	0.45	Yst child 6-14y.	0.36	0.48	Yst child 6-14y.	0.32	0.47	Yst child 6-14y.	0.33	0.47	
No child < 15y.	0.32	0.46	No child < 15y.	0.25	0.43	No child < 15y.	0.26	0.44	No child < 15y.	0.21	0.41	No child < 15y.	0.31	0.46	
Leg. married	0.70	0.46	Leg. married	0.69	0.46	Leg. married	0.98	0.13	Leg. married	0.88	0.33	Leg. married	0.94	0.23	
Husband labour	4.185583	0.4678543	Husband labour	3.96748	0.4400604	Husband labour	3.37144	0.4478599	Husband labour	4.27294	0.4910511	Husband labour	3.526204	0.4179527	
Observations	1688		Observations	1785		Observations	883		Observations	696		Observations	3095		

 Table 4 (continued): Descriptive Statistics of Motherhood-induced employment gap model (age and education as proxy of wage) – Multinomial

 logit model (dependent variable: the probability of working part-time/ being inactive)

			Women aged	between 25 a	and 44 years						
	LU			PT			SE				
	Mean	Std. Dev.		Mean	Std. Dev.		Mean	Std. Dev.			
Dependent vari	ables		Dependent vari	ables		Dependent vari	ables				
Part-time	0.23	0.42	Part-time	0.06	0.23	Part-time	0.08	0.28			
Full-time	0.40	0.49	Full-time	0.72	0.45	Full-time	0.66	0.47			
Inactivity/Unemp	0.37	0.48	Inactivity/Unemp	0.23	0.42	Inactivity/Unemp	0.25	0.43			
Independent va	riables		Independent va	riables		Independent va	riables				
Age	35.00	5.72	Age	35.78	5.37	Age	35.41	5.51			
Age squared	1257.75	398.95	Age squared	1309.25	381.18	Age squared	1284.15	386.48			
Low educ.	0.34	0.47	Low educ.	0.68	0.47	Low educ.	0.06	0.24			
Medium educ.	0.37	0.48	Medium educ.	0.16	0.37	Medium educ.	0.47	0.50			
High educ.	0.29	0.45	High educ.	0.16	0.37	High educ.	0.47	0.50			
Yst child 0-2y.	0.26	0.44	Yst child 0-2y.	0.15	0.35	Yst child 0-2y.	0.20	0.40			
Yst child 3-5y.	0.19	0.39	Yst child 3-5y.	0.20	0.40	Yst child 3-5y.	0.15	0.36			
Yst child 6-14y.	0.24	0.43	Yst child 6-14y.	0.38	0.49	Yst child 6-14y.	0.35	0.48			
No child < 15y.	0.32	0.47	No child < 15y.	0.27	0.44	No child < 15y.	0.31	0.46			
Leg. married	0.77	0.42	Leg. married	0.93	0.25	Leg. married	0.55	0.50			
Husband labour	4.401916	0.5282441	Husband labour	2.931885	0.575944	Husband labour	4.078021	0.6483521			
Observations	825		Observations	780		Observations	1112				

 Table 4 (end): Descriptive Statistics of Motherhood-induced employment gap model (age and education as proxy of wage) – Multinomial logit

 model (dependent variable: the probability of working part-time/ being inactive)

	Nultinomi	al logit n	<u>nodel (d</u>	epende	<u>nt varia</u> in	<u>active</u>)	probat	<u>9111ty of</u>	WORK11	<u>ig part-t</u>	ime/ be	<u>eing</u>	
	AT	BE	DK	EE	ES	FI	FR	GR	IE	п	LU	PT	SE
Part-time Age	1.231	0.754	0.784	2.264	2.330	1.211	1.135	0.942	0.655	1.125	0.709	1.022	0.874
Age squared	0.998	1.005	(0.201) 1.004 (0.004)	0.990	0.988	0.996	0.998	1.001	1.007	0.999	1.006	1.000	(0.210) 1.002 (0.004)
Medium educ.	0.814 (0.204)	0.797 (0.213)	0.638	0.405	0.810 (0.171)	0.461	1.156 (0.295)	0.693	0.409	0.673	0.586	0.501	0.835
High educ.	0.609 (0.163)*	0.521 (0.133)**	0.697 (0.209)	0.823 (0.682)	0.425	0.366 (0.158)**	1.033 (0.273)	1.420 (0.555)	0.401 (0.136)***	0.747 (0.126)*	0.564 (0.280)	0.346 (0.241)	0.417 (0.189)*
Yst child 0-2y.	3.476	1 .090	1.904	7.321	2.078	2.547	2.016	0.917	1.915	1.716	3.570	1.305	1.087
	(1.207)***	(0.321)	(0.613)**	(5.767)**	(0.510)***	(1.151)**	(0.450)***	(0.404)	(0.743)*	(0.319)***	(1.941)''	(0.846)	(0.418)
Yst child 3-5y.	6.507	2.085	1.890	6.174	1.979	1.887	2.020	1.083	2.731	1.812	5.321	0.669	0.947
	(2.083)***	(0.638)**	(0.581)**	(3.692)***	(0.467)***	(0.741)	(0.449)***	(0.417)	(1.060)***	(0.343)***	(2.853)***	(0.426)	(0.352)
Yst child 6-14y.	3.381	1.636	1.303	1.877	0.986	1.289	1.920	0.818	2.785	1.288	3.805	0.765	1.260
	(0.825)***	(0.376)**	(0.405)	(0.987)	(0.233)	(0.563)	(0.394)***	(0.273)	(1.021)***	(0.210)	(1.644)***	(0.377)	(0.352)
Leg. married	1.629 (0.588)	1.384 (0.364)	1.144 (0.268)	-	1.541 (0.450)	0.888 (0.279)	1.120 (0.181)	0.513 (0.354)	1.243 (0.470)	2.296 (0.636)***	2.602 (1.093)**	1.261 (1.119)	1.192 (0.285)
Husband labour inc.	0.875	1.236	0.758	0.730	0.962	1.334	1.133	1 .228	1 .343	1.113	1.646	1.038	1.691
	(0.233)	(0.280)	(0.163)	(0.216)	(0.166)	(0.353)	(0.175)	(0.331)	(0.311)	(0.168)	(0.610)	(0.429)	(0.438)**
Not employed	0.673	0.744	0.945	0.894	1.107	0.657	0.791	0.822	0.721	0.807	0.567	0.828	0.813
Age	(0.176)	(0.170)	(0.209)	(0.236)	(0.179)	(0.123)**	(0.142)	(0.193)	(0.219)	(0.113)	(0.207)	(0.208)	(0.176)
Age squared	1.006	1.005	0.999	1.001	0.999	1.006	1.003	1.002	1.005	1.003	1.009	1.003	1.002
	(0.004)	(0.003)	(0.003)	(0.004)	(0.002)	(0.003)**	(0.003)	(0.003)	(0.004)	(0.002)	(0.005)*	(0.004)	(0.003)
Medium educ.	0.433	0.445	0.339	0.640	0.524	0.896	0.632	0.321	0.313	0.323	0.486	0.365	0.512
	(0.100)***	(0.112)***	(0.071)***	(0.256)	(0.074)***	(0.254)	(0.127)**	(0.067)***	(0.098)***	(0.036)***	(0.149)**	(0.116)***	(0.157)**
High educ.	0.299	0.146	0.270	0.348	0.203	0.450	0.353	0.121	0.168	0.157	0.324	0.195	0.521
	(0.074)***	(0.036)***	(0.060)***	(0.144)**	(0.029)***	(0.128)***	(0.079)***	(0.030)***	(0.051)***	(0.026)***	(0.131)***	(0.077)***	(0.159)**
Yst child 0-2y.	17.098	2.097	1.518	22.089	3.026	14.244	4.085	1.654	2.814	1.893	3.867	1.373	4.345
	(5.361)***	(0.626)**	(0.342)"	(8.672)***	(0.519)***	(3.042)***	(0.824)***	(0.454)	(0.943)***	(0.294)***	(1.491)***	(0.465)	(0.988)***
Yst child 3-5y.	9.539	2.202	0.695	4.592	2.327	1.800	2.441	1.444	4.319	2.155	4.188	1 .067	0.926
	(3.059)***	(0.766)**	(0.185)	(1.617)***	(0.396)***	(0.374)***	(0.495)***	(0.395)	(1.429)***	(0.358)***	(1.836)***	(0.331)	(0.260)
Yst child 6-14y.	4.022	0.963	0.786	2.018	1.757	0.719	1.348	1.374	3.120	2.051	2.648	0.902	0.846
	(0.987)***	(0.269)	(0.192)	(0.610)**	(0.262)***	(0.158)	(0.272)	(0.317)	(0.954)***	(0.279)***	(0.980)***	(0.238)	(0.217)
Leg. married	2.157 (0.678)"	1.444 (0.407)	1.203 (0.220)	-	2.068 (0.411)***	0.903 (0.147)	1.413 (0.214)''	1.499 (1.066)	2.264 (0.842)**	3.558 (0.875)***	3.329 (1.156)***	0.873 (0.317)	1.370 (0.237)*
Husband labour inc.	0.734	1.218	0.798	0.825	0.925	1.031	0.929	1.810	1.078	1.243	2.246	1.027	1.049
	(0.189)	(0.3 4 5)	(0.151)	(0.136)	(0.120)	(0.196)	(0.155)	(0.421)**	(0.254)	(0.176)	(0.719)**	(0.216)	(0.137)
Observations	855	926	1436	636	2343	1688	1784	883	696	3095	825	780	1111
Log likhood	-802.32	-876.31	-1073.76	-389.87	-2083.70	-1120.30	-1625.32	-779.88	-696.78	-2929.23	-807.23	-523.26	-854.94

<u>Table 5: Motherhood-induced employment gap</u> <u>Regression results of the first methodology (age and education as proxy of wage) –</u> <u>Multinomial logit model (dependent variable: the probability of working part-time/ being</u>

Coefficients: "Relative Risk Ratio" (RRR). For example, in belgiuem, having a child aged between 3 and 5 years increases twice (2.085) the relative probability of working part-time over being full time compared to a woman with no child under 15 years, while being highly educated reduces of 1.92 times (1/0.521) this probability compared to low educated woman.

0.08

222.37

Robust standard errors in parentheses

* significant at 10%; ** significant

0.13

192.26

0.08

123.11

Pseudo R-Squared

Wald Chi2

** significant at 5%; *** significant at 1%

0.06

107.14

0.16

145.70

Source: EU-SILC (2004), own calculations

0.16

266.41

0.04

105.78

0.08

107.84

0.08

85.90

0.07

260.72

0.10

76.89

0.04

33.58

0.08

126.35

<u>Table 6: Motherhood-induced employment gap</u> <u>Regression results of the second methodology (potential wage as explanatory variable) –</u> <u>Probit model (the dependent variable: participate or not on the labour market)</u>

	AT	BE	DK	EE	ES	FI	FR	GR	IE	п	LU	РТ	SE
Age	0.098	0.069	0.074	0.124	0.021	0.053	0.082	0.111	0.008	0.082	0.071	0.056	0.055
	(0.038)**	(0.034)**	(0.029)***	(0.044)***	(0.028)	(0.029)*	(0.027)***	(0.040)***	(0.045)	(0.025)***	(0.060)	(0.036)	(0.032)*
Age squared	-0.001	-0.001	-0.001	-0.002	-0.000	-0.001	-0.001	-0.001	-0.000	-0.001	-0.001	-0.001	-0.001
	(0.001)**	(0.000)**	(0.000)*	(0.001)**	(0.000)	(0.000)	(0.000)***	(0.001)**	(0.001)	(0.000)***	(0.001)	(0.001)	(0.000)
Birth. EU	-0.130	-0.132	-0.025	-	-0.043	-0.016	-0.151	-0.081	-0.000	-0.145	-0.025	0.024	-0.048
	(0.055)**	(0.065)**	(0.085)	-	(0.071)	(0.087)	(0.060)**	(0.077)	(0.053)	(0.048)***	(0.051)	(0.093)	(0.064)
Birth. Oth.	-0.045	-0.432	-0.308	-0.124	-0.109	-0.358	-0.261	0.001	-0.347	-0.133	-0.302	-0.003	-0.172
	(0.051)	(0.051)***	(0.060)***	(0.060)**	(0.046)**	(0.068)***	(0.053)***	(0.051)	(0.078)***	(0.037)***	(0.092)***	(0.053)	(0.044)***
Medium educ.	0.159	0.143	0.146	0.203	0.144	-0.024	0.038	0.167	0.213	0.241	0.059	0.151	0.115
	(0.036)***	(0.034)***	(0.029)***	(0.059)***	(0.024)***	(0.042)	(0.033)	(0.034)***	(0.040)***	(0.018)***	(0.054)	(0.027)***	(0.049)''
High educ.	0.201	0.335	0.151	0.286	0.338	0.093	0.116	0.386	0.355	0.366	0.148	0.187	0.073
	(0.035)***	(0.031)***	(0.027)***	(0.058)***	(0.020)***	(0.042)**	(0.032)***	(0.029)***	(0.037)***	(0.020)***	(0.057)**	(0.026)***	(0.050)
Nb. Children	-0.129	-0.035	0.015	-0.112	-0.093	-0.066	-0.090	-0.068	-0.116	-0.081	-0.103	-0.023	-0.040
	(0.014)***	(0.013)***	(0.011)	(0.016)***	(0.011)***	(0.012)***	(0.010)***	(0.017)***	(0.015)***	(0.010)***	(0.023)***	(0.015)	(0.014)***
Observations	1144	1274	1968	933	3670	2570	2196	1540	1162	4873	997	1122	1488
Log likhood	-671.06	-652.74	-957.50	-486.25	-2290.71	-1516.78	-1126.95	-958.78	-679.70	-3082.24	-604.16	-583.65	-840.51
Pseudo R-Squared	0.10	0.15	0.12	0.12	0.09	0.07	0.07	0.09	0.12	0.09	0.08	0.05	0.06
Wald Chi2	135.54	198.72	198.95	98.08	325.66	80.45	134.86	146.49	139.78	370.09	41.02	48.39	81.89
Robust standard errors in parentheses		*** eignificer	ntat1%										
Robust standard errors * significant at 10%;	in parentheses ** significant	at 5%;	*** significar	ntat1%									

Source: EU-SILC (2004), own calculations

<u>Table 7: Motherhood-induced employment gap</u> <u>Regression results of the second methodology (potential wage as explanatory variable) –</u> <u>Ordinary Least Squares model (dependent variable: log hourly wage)</u>

	AT	BE	DK	EE	ES	FI	FR	GR	IE	Π	LU	PT	SE
Age	-0.020	-0.001	0.048	-0.047	0.079	0.035	-0.020	0.199	0.055	0.080	0.039	0.041	-0.261
	(0.039)	(0.031)	(0.058)	(0.073)	(0.037)**	(0.030)	(0.031)	(0.053)***	(0.051)	(0.032)**	(0.081)	(0.064)	(0.070)***
Age squared	0.000	0.000	-0.000	0.001	-0.001	-0.000	0.000	-0.002	-0.001	-0.001	-0.000	-0.000	0.004
	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)
Medium educ	0.132	0.053	0.131	0.233	0.273	0.139	0.099	0.479	0.171	0.272	0 384	0.479	-0.037
modium oddo.	(0.042)***	(0.044)	(0.064)**	(0.112)**	(0.048)***	(0.062)**	(0.056)*	(0.068)***	(0.062)***	(0.047)***	(0.065)***	(0.146)***	(0.191)
		. ,											
High educ.	0.444	0.285	0.328	0.566	0.674	0.400	0.419	1.065	0.574	0.476	0.621	1.073	0.196
	(0.045)***	(0.060)***	(0.068)***	(0.118)***	(0.069)***	(0.065)***	(0.059)***	(0.136)***	(0.070)***	(0.070)***	(0.094)***	(0.170)***	(0.188)
Lambda	-0.378	-0.820	-0.986	-1.442	1.101	-0.144	0.053	2.080	0.386	0.389	-0.343	1.899	-2.525
	(0.288)	(0.319)**	(0.877)	(0.590)**	(0.370)***	(0.386)	(0.288)	(0.658)***	(0.354)	(0.350)	(0.447)	(1.812)	(0.953)***
Observations	604	004	1440	660	4000	4707	1501	702	600	2560	500	700	4047
Observations	0.00	004	1410	000	1032	1707	1004	703	000	2000	0.05	790	1047
R-squared	0.20	0.20	0.15	U.11	0.17	U.11	0.10	0.31	0.18	0.10	0.25	0.37	0.04
Robust standard errors in	parentheses												
* significant at 10%;	** significant	at 5%;	*** significar	ntat1%									

<u>Table 8: Motherhood-induced employment gap</u> <u>Regression results of the second methodology (potential wage as explanatory variable) –</u> <u>Multinomial logit model (dependent variable: the probability of working part-time/ being</u> inactive)

	AT	BE	DK	EE	ES	FI	FR	GR	IE	IT	LU	PT	SE
Part-time													
Medium educ.	0.458	0.552	0.519	1.963	0.616	1.723	1.033	0.523	0.225	0.237	0.258	0.523	0.942
	(0.163)**	(0.163)**	(0.184)"	(2.795)	(0.169)*	(1.271)	(0.272)	(0.243)	(0.107)***	(0.078)***	(0.235)	(0.508)	(0.412)
High educ.	0.116	0.162	0.461	13.966	0.217	18.908	0.633	0.746	0.035	0.113	0.146	0.388	0.560
	(0.104)**	(0.079)***	(0.246)	(33.400)	(0.112)***	(31.845)*	(0.305)	(0.525)	(0.047)**	(0.064)***	(0.221)	(0.821)	(0.264)
Yst child 0-2y.	3.828	1.064	1.653	3.562	2.196	2.696	2.087	0.838	1.419	1.476	3.244	1.311	0.909
	(1.358)***	(0.320)	(0.526)	(2.788)	(0.551)***	(1.157)**	(0.455)***	(0.348)	(0.538)	(0.265)**	(1.928)**	(0.805)	(0.373)
Yst child 3-5y.	7.299	2.023	1.630	3.304	2.055	2.011	2.109	0.955	2.051	1.540	4.804	0.672	0.766
	(2.418)***	(0.608)**	(0.484)*	(1.941)**	(0.507)***	(0.750)*	(0.454)***	(0.359)	(0.825)*	(0.289)**	(2.644)***	(0.410)	(0.288)
Yst child 6-14y.	3.953	1.700	1.227	1.369	0.910	1.261	1.988	0.702	2.330	1.116	3.893	0.770	1.039
	(0.899)***	(0.370) ''	(0.385)	(0.751)	(0.240)	(0.534)	(0.402)***	(0.256)	(0.915)**	(0.195)	(1.666)***	(0.353)	(0.294)
Leg. married	1.765 (0.630)	1.444 (0.372)	1.151 (0.270)	-	1.676 (0.502)"	0.860 (0.277)	1.130 (0.182)	0.513 (0.353)	1.122 (0.430)	2.330 (0.647)***	2.619 (1.074)''	1.267 (1.114)	1.146 (0.269)
Wife labour inc.	29.906	14.972	2.794	0.041	4.577	0.000	3.318	2.725	112.454	108.218	6.944	0.882	0.367
	(55.302)*	(16.649)**	(2.893)	(0.115)	(4.366)	(0.000)**	(3.683)	(2.868)	(291.054)*	(146.255)***	(14.111)	(2.258)	(0.279)
Husband labour inc.	0.897	1.296	0.768	0.748	0.932	1 .350	1.138	1.172	1.313	1.112	1.614	1 .040	1.695
	(0.240)	(0.293)	(0.161)	(0.218)	(0.161)	(0.361)	(0.176)	(0.306)	(0.306)	(0.166)	(0.574)	(0.421)	(0.433)**
Not employed													
Medium educ.	0.687	0.550	0.724	1.518	0.393	2.351	0.593	0.522	0.237	0.359	0.285	0.320	0.653
	(0.253)	(0.152)**	(0.168)	(1.101)	(0.078)***	(1.090)*	(0.131)''	(0.140)**	(0.091)***	(0.086)***	(0.194)*	(0.166)**	(0.201)
High educ.	1.202	0.304	1.292	2.072	0.098	7.373	0.269	0.339	0.048	0.184	0.129	0.135	0.905
	(1.193)	(0.157)**	(0.424)	(2.635)	(0.038)***	(7.742)"	(0.129)***	(0.164)**	(0.050)***	(0.081)***	(0.136)*	(0.158)"	(0.313)
Yst child 0-2y.	12.926	1.262	1.732	19.685	2.769	12.718	3.909	2.072	2.680	1.929	2.966	1.341	3.178
	(4.361)***	(0.385)	(0.374)**	(7.698)***	(0.464)***	(2.645)***	(0.772)***	(0.531)***	(0.872)***	(0.289)***	(1.136)***	(0.440)	(0.701)***
Yst child 3-5y.	7.210	1.504	0.827	4.085	2.090	1.645	2.283	1.748	3.677	2.117	3.300	1.045	0.633
	(2.453)***	(0.504)	(0.206)	(1.431)***	(0.367)***	(0.333)**	(0.445)***	(0.455)**	(1.236)***	(0.343)***	(1.394)***	(0.309)	(0.170)*
Yst child 6-14y.	3.305	0.932	0.922	1.680	1.531	0.714	1.250	1.613	2.622	1.937	2.589	0.865	0.581
	(0.828)***	(0.254)	(0.226)	(0.532)	(0.257)**	(0.153)	(0.243)	(0.387)**	(0.843)***	(0.276)***	(0.950)***	(0.219)	(0.127)**
Leg. married	2.195 (0.669)***	1.827 (0.518)**	1.212 (0.225)	-	2.001 (0.398)***	0.930 (0.150)	1.369 (0.207)**	1.423 (0.990)	1.798 (0.660)	3.435 (0.846)***	3.329 (1.102)***	0.848 (0.307)	1.226 (0.200)
Wife labour inc.	0.056	0.131	0.022	0.093	4.478	0.001	1.894	0.211	13.293	0.663	3.306	1.486	0.158
	(0.114)	(0.149)"	(0.015)***	(0.143)	(3.270)**	(0.002)***	(2.043)	(0.138)**	(27.299)	(0.653)	(4.953)	(1.744)	(0.096)***
Husband labour inc.	0.750	1.409	0.805	0.835	0.893	1.051	0.909	1.739	1.003	1.220	2.234	1.007	1 .050
	(0.194)	(0.405)	(0.158)	(0.137)	(0.117)	(0.199)	(0.153)	(0.404)**	(0.237)	(0.172)	(0.675)***	(0.212)	(0.131)
Observations	855	923	1436	636	2340	1688	1784	883	696	3092	823	780	1111
Log likhood	-803.64	-874.31	-1069.02	-391.90	-2086.08	-1120.75	-1626.98	-780.99	-699.62	-2931.05	-813.29	-523.55	-855.45
Pseudo R-Squared	0.13	0.08	0.07	0.15	0.08	0.16	0.04	0.08	0.08	0.07	0.09	0.04	0.08
Wald Chi2	197.30	119.96	115.82	141.65	215.79	261.10	103.53	104.64	77.07	255.56	74.56	29.92	126.81

time compared to a woman with no child under 15 years, while being highly educated reduces of 6.17 times (1/01.162) this probability compared to low educated woman.

*** significant at 1%

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%;

Graph 1: Motherhood-induced employment gap

Decomposition of the relative net gap in full-time equivalent employment rates between mothers and non-mothers of 25-49 years of age according to the age of a youngest child – contribution of reduced hours and inactivity – Differences between the two methodologies applied





Source: EU-SILC (2004), own calculations

	Variable	Obs	Mean	Std. Dev.
Men aged	Yst child 0-2y.	1031	41.57	7.63
between 25-35	Yst child 3-5y.	783	41.00	7.43
years	Yst child 6-14y.	411	41.61	6.52
	No child < 15y.	1867	41.27	7.40
Men aged	Yst child 0-2y.	823	40.76	7.22
between 36-49	Yst child 3-5y.	1297	41.15	7.60
years	Yst child 6-14y.	3870	41.05	7.36
	No child < 15y.	3139	40.97	7.74
Men aged	Yst child 0-2y.	1854	41.21	7.46
between 25-49	Yst child 3-5y.	2080	41.10	7.53
years	Yst child 6-14y.	4281	41.10	7.28
	No child < 15y.	5006	41.08	7.62

Table 9: Descriptive statistics of mean hours worked of men according to the age of a youngest child

Men aged between 25 and 35 years										
	Mean	Std. Dev.		Mean	Std. Dev.					
Dependent variables	mourr	0101.001.		modifi	0.0.001.					
Worked hours	41.33	7.38	Independent v	ariables						
i loikou liouro		1.00	(suite)							
Independent variables			BEchild614	0.01	0.07					
Age	31.32	2.79	BEnochild	0.03	0.18					
Age squared	988 78	171.32	DKchild02	0.03	0.17					
Birth loc	0.89	0.31	DKchild35	0.02	0.15					
Birth ELL	0.06	0.24	DKchild614	0.01	0.08					
Birth oth	0.05	0.21	DKnochild	0.04	0.00					
Low educ	0.22	0.41	EEchild02	0.00	0.05					
Medium educ	0.42	0.41	EEchild35	0.00	0.00					
High educ	0.36	0.48	EEchild614	0.01	0.00					
Occ. ele	0.06	0.40	EEpochild	0.01	0.02					
Occ lea	0.06	0.24	ESchild02	0.03	0.16					
Occ. prof	0.00	0.36	ESchild35	0.00	0.15					
Occ. tech	0.10	0.38	ESchild614	0.02	0.09					
Occ. clerks	0.08	0.00	ESpochild	0.06	0.00					
Occ. serv	0.00	0.21	Elebild02	0.00	0.11					
Occ. agr	0.00	0.20	Elchild35	0.02	0.11					
Occ. craft	0.01	0.11	Elebild614	0.02	0.13					
Occ. plant	0.21	0.40	Elpochild	0.05	0.23					
Occ. plant	0.14	0.00	ERchild02	0.05	0.23					
Ability	0.02	0.12	ERchild35	0.03	0.21					
	0.55	0.41	ERchild614	0.03	0.09					
Husband Jabour inc	3.71	0.41	FRoochild	0.06	0.03					
Mife lab work bours	35.56	8.69	IEchild02	0.00	0.23					
AT	0.04	0.00	IEchild35	0.01	0.07					
BE	0.07	0.20	IEchild614	0.00	0.06					
DK	0.01	0.20	IEpochild	0.02	0.00					
FF	0.03	0.00	ITchild02	0.02	0.10					
FS	0.00	0.10	ITchild35	0.02	0.13					
FI	0.12	0.00	ITchild614	0.02	0.10					
FR	0.10	0.35	ITpochild	0.07	0.10					
GR	0.03	0.00	LUchild02	0.02	0.23					
IF	0.00	0.20	L Uchild35	0.02	0.09					
IT	0.04	0.20	LUchild614	0.00	0.06					
	0.06	0.04	LUpochild	0.03	0.00					
PT	0.05	0.24	PTcbild02	0.00	0.10					
SE	0.07	0.26	PTchild35	0.02	0.13					
ATchild02	0.01	0.08	PTchild614	0.02	0.15					
ATchild35	0.01	0.00	PTpochild	0.01	0.11					
ATchild614	0.01	0.08	SEchild02	0.01	0.12					
ATrochild	0.02	0.14	SEchild35	0.01	0.12					
BEchild02	0.02	0.14	SEchild614	0.01	0.10					
BEchild35	0.02	0.15	SEpochild	0.04	0.03					
DECHINGOU	0.01	0.10	Schooning	0.04	0.20					
Observations	4092									

Table 10: Descriptive statistics of men's aged between 25 and 35 years (dependent variable: <u>men's hours worked)</u>

Men aged between 36 and 49 years										
	Mean	Std. Dev.		Mean	Std. Dev.					
Dependent variables	mount	014.001.		mount	0.0.001.					
Worked hours	41 01	7.51	Independent v	ariables						
		1.01	(suite)							
Independent variables			BEchild614	0.02	0.15					
Age	42.57	4.00	BEnochild	0.02	0.16					
Age squared	1828 55	340.66	DKebild02	0.01	0.08					
Birth loc	0.92	0.28	DKchild35	0.07	0.00					
Birth EU	0.02	0.20	DKcbild614	0.02	0.13					
Birth ath	0.04	0.10	DKpochild	0.03	0.12					
Low educ	0.26	0.20	EFcbild02	0.00	0.10					
Medium educ	0.20	0.44	EEchild35	0.00	0.06					
High educ	0.42	0.45	EEchild614	0.00	0.00					
Angri educ. Acc. ele	0.02	0.47	EEpochild	0.02	0.13					
	0.00	0.23	ESobild02	0.05	0.17					
Occ. leg.	0.03	0.20	ESchild25	0.01	0.11					
Occ. prof.	0.10	0.30	ESCHIIUSS ESobilde1.4	0.02	0.13					
Occ. tech.	0.17	0.30	EScrilluo14	0.04	0.20					
Occ. cierks	0.00	0.20	ESHOCHIN	0.03	0.10					
Occ. serv.	0.07	0.20	FICHIIQUZ Elabild25	0.00	0.07					
Occ. agr.	0.01	0.12	FICTIII030	0.02	0.12					
Occ. craft	0.19	0.39	Fichild614	0.05	0.22					
Occ. plant	0.14	0.35	FINOCHIId	0.04	0.19					
Ucc arm.	0.02	0.12	FRChildU2	0.01	0.10					
Ability	0.36	0.48	FRChild35	0.02	0.13					
	0.82	0.38	FRchild614	0.05	0.22					
Husband labour inc.	3.80	0.78	FRnochild	0.04	0.19					
Wite lab. Work hours	34.08	9.17	IEChildU2	0.01	0.07					
A1	0.05	0.21	IEchild35	0.01	0.08					
BE	0.05	0.23	IEchild614	0.02	0.13					
DK	0.11	0.31	IEnochild	0.01	0.10					
EE	0.05	0.22	ITchild02	0.02	0.14					
ES	0.11	0.31	ITchild35	0.03	0.16					
FI	0.11	0.31	ITchild614	0.06	0.24					
FR	0.11	0.32	ITnochild	0.06	0.23					
GR	0.04	0.20	LUchild02	0.01	0.07					
IE	0.04	0.19	LUchild35	0.01	0.07					
іт	0.16	0.37	LUchild614	0.01	0.10					
LU	0.04	0.19	LUnochild	0.02	0.13					
PT	0.05	0.22	PTchild02	0.00	0.07					
SE	0.08	0.26	PTchild35	0.01	0.08					
ATchild02	0.00	0.05	PTchild614	0.02	0.15					
ATchild35	0.00	0.06	PTnochild	0.02	0.13					
ATchild614	0.02	0.14	SEchild02	0.01	0.07					
ATnochild	0.02	0.14	SEchild35	0.01	0.10					
BEchild02	0.00	0.06	SEchild614	0.04	0.19					
BEchild35	0.01	0.07	SEnochild	0.02	0.15					
Observations	9129									
0.0001100000	0,20									

Table 11: Descriptive statistics of men's aged between 36	and 49 years (dependent variable:
men's hours worked)	

Men aged between 25 and 49 years										
	Mean	Std. Dev.		Mean	Std. Dev.					
Dependent variables	mourr	014.001.		modifi	0.0.001.					
Worked hours	41 11	7 47	Independent v	ariables						
r for Roa Floar o	41.11	1.41	(suite)							
Independent variables			BEchild614	0.02	0.13					
Are	39.09	6 37	BEDOCHILd	0.02	0.15					
Age squared	1568 64	489.83	DKebild02	0.00	0.10					
Age squared Birth loc	0.04	403.00	DKobild35	0.07	0.12					
Birth ELL	0.05	0.23	DKobild614	0.02	0.14					
Birth ath	0.05	0.21	DKchild014	0.04	0.13					
birth oth.	0.05	0.21	EE-abild00	0.04	0.10					
Low educ. Medium educ	0.24	0.43	EECHIId02	0.00	0.04					
Wealant educ.	0.42	0.49	EECHIIQ35	0.01	0.07					
High educ.	0.33	0.47	EEChild614	0.02	0.13					
Occ. ele.	0.06	0.23	EEnochild	0.02	0.15					
Occ. leg.	0.08	0.27	ESchildU2	0.02	0.13					
Occ. prot.	0.16	0.36	ESChild35	0.02	0.14					
Occ. tech.	0.17	0.38	ESchild614	0.03	0.18					
Occ. clerks	0.08	0.28	ESnochild	0.04	0.20					
Occ. serv.	0.08	0.27	Flchild02	0.01	0.08					
Occ.agr.	0.01	0.11	Flchild35	0.02	0.13					
Occ. craft	0.20	0.40	Flchild614	0.04	0.20					
Occ. plant	0.14	0.35	Flnochild	0.04	0.20					
Occ arm.	0.02	0.12	FRchild02	0.02	0.15					
Ability	0.35	0.48	FRchild35	0.02	0.14					
Tenure	0.77	0.42	FRchild614	0.04	0.19					
Husband labour inc.	3.77	0.77	FRnochild	0.04	0.20					
Wife lab. work hours	34.54	9.05	IEchild02	0.01	0.09					
AT	0.05	0.21	IEchild35	0.01	0.08					
BE	0.06	0.24	IEchild614	0.01	0.11					
DK	0.11	0.31	IEnochild	0.01	0.11					
EE	0.05	0.21	ITchild02	0.03	0.16					
ES	0.11	0.31	ITchild35	0.02	0.15					
FI	0.11	0.31	ITchild614	0.05	0.21					
FR	0.12	0.33	ITnochild	0.06	0.23					
GR	0.04	0.19	LUchild02	0.01	0.10					
IE	0.04	0.19	LUchild35	0.01	0.08					
IT	0.15	0.36	LUchild614	0.01	0.09					
LU	0.05	0.21	LUnochild	0.02	0.15					
PT	0.05	0.22	PTchild02	0.01	0.08					
SE	0.07	0.26	PTchild35	0.01	0.10					
ATchild02	0.00	0.06	PTchild614	0.02	0.14					
ATchild35	0.01	0.07	PTnochild	0.02	0.13					
ATchild614	0.02	0.13	SEchild02	0.01	0.09					
ATnochild	0.02	0.14	SEchild35	0.01	0.10					
BEchild02	0.01	0.10	SEchild614	0.03	0.16					
BEchild35	0.01	0.08	SEnochild	0.03	0.17					
		0.00			2					
Observations	13221									

Table 12: Descriptive statistics of men's aged between 25 and 49 years (dependent variable: <u>men's hours worked)</u>

		25-35		1	36-49		1	25-49	
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Age	0.986	1.097	0.859	-0.455	-0.508	-0.581	-0.024	-0.040	-0.028
	(1.372)	(1.378)	(1.369)	(0.837)	(0.843)	(0.841)	(0.229)	(0.227)	(0.229)
Age squared	-0.017	-0.019	-0.015	0.005	0.006	0.007	0.000	0.001	0.000
	(0.022)	(0.022)	(0.022)	(0.010)	(0.010)	(0.010)	(0.003)	(0.003)	(0.003)
Birth EU	1.431	1.453	1.533	-1.498	-1.489	-1.499	-0.432	-0.418	-0.428
	(0.760)*	(0.759)*	(0.760)**	(0.789)*	(0.789)*	(0.789)*	(0.586)	(0.585)	(0.585)
Birth Non EU	0.641	0.607	0.708	-2.378	-2.384	-2.366	-1.226	-1.237	-1.227
	(0.950)	(0.950)	(0.950)	(0.734)***	(0.733)***	(0.736)***	(0.607)**	(0.606)**	(0.606)**
Medium educ.	-0.518	-0.553	-0.539	-0.250	-0.269	-0.256	-0.376	-0.401	-0.375
	(0.457)	(0.455)	(0.456)	(0.325)	(0.326)	(0.325)	(0.263)	(0.264)	(0.263)
High educ.	0.683	0.634	0.630	0.178	0.159	0.193	0.309	0.283	0.310
	(0.592)	(0.586)	(0.587)	(0.411)	(0.412)	(0.410)	(0.334)	(0.335)	(0.333)
Occ. Leg	6.027	5.998	6.019	8.704	8.689	8.702	7.941	7.920	7.937
	(1.146)***	(1.149)***	(1.147)***	(0.893)***	(0.892)***	(0.893)***	(0.714)***	(0.714)***	(0.714)***
Occ. Prof	2.982	2.945	2.964	1.197	1.194	1.213	1.809	1.798	1.808
	(1.067)***	(1.060)***	(1.062)***	(0.797)	(0.798)	(0.798)	(0.640)***	(0.639)***	(0.640)***
Occ. Tech	1.754	1.737	1.743	1.829	1.830	1.836	1.846	1.844	1.845
	(0.817)**	(0.817)**	(0.815)**	(0.744)**	(0.745)**	(0.744)**	(0.563)***	(0.563)***	(0.564)***
Occ. Clerks	0.079	0.049	0.089	-0.014	-0.009	-0.007	-0.000	-0.002	-0.004
	(0.832)	(0.833)	(0.831)	(0.703)	(0.704)	(0.702)	(0.548)	(0.548)	(0.549)
Occ. Serv	1.035	1.019	1.034	1.182	1.181	1.185	1.184	1.177	1.182
	(0.907)	(0.909)	(0.905)	(0.752)	(0.752)	(0.751)	(0.591)**	(0.590)**	(0.591)**
Occ. Agr	-1.459	-1.483	-1.408	2.204	2.196	2.220	0.864	0.852	0.861
	(1.423)	(1.422)	(1.416)	(1.553)	(1.550)	(1.547)	(1.139)	(1.137)	(1.139)
Occ. Craft	1.091	1.037	1.101	0.923	0.927	0.917	0.966	0.960	0.964
	(0.772)	(0.772)	(0.768)	(0.661)	(0.663)	(0.661)	(0.511)*	(0.511)*	(0.511)*
Occ. Plant	2.229	2.174	2.250	1.353	1.351	1.344	1.665	1.653	1.661
	(0.836)***	(0.836)***	(0.834)***	(0.702)*	(0.703)*	(0.702)*	(0.547)***	(0.546)***	(0.547)***
Occ. Arm	3.315	3,331	3.350	0.035	0.058	0.011	1.310	1.333	1.303
	(1.846)*	(1.845)*	(1.842)"	(0.968)	(0.970)	(0.969)	(0.942)	(0.943)	(0.940)
Have child(ren)	1.020 (0.371)***	:	-	0.329 (0.320)	-	-	0.484 (0.240)**	:	-
Nb. child(ren)	-	0.622 (0.211)***	-	-	0.193 (0.139)	-	-	0.273 (0.116)**	-
Yst child 0-2y.	-	-	1.307 (0.451)***	-	-	-0.285 (0.452)	-	-	0.444 (0.320)
Yst child 3-5y.	-	-	0.807 (0.484)*	-	-	0.539 (0.444)	-	-	0.557 (0.327)*
Yst child 6-14y.	-		0.379 (0.547)	-	-	0.382 (0.330)	-		0.472 (0.274)*
Ability	-0.751	-0.733	-0.748	-0.921	-0.925	-0.908	-0.866	-0.865	-0.866
	(0.433)*	(0.435)*	(0.433)*	(0.267)***	(0.267)***	(0.267)***	(0.231)***	(0.232)***	(0.231)***
Tenure	0.460	0.480	0.455	0.485	0.474	0.487	0.560	0.559	0.561
	(0.345)	(0.346)	(0.345)	(0.343)	(0.344)	(0.344)	(0.248)**	(0.249)**	(0.248)**
Labour inc.	-3.899	-3.942	-3.919	-3.326	-3.348	-3.324	-3.562	-3.589	-3.562
	(0.341)***	(0.344)***	(0.342)***	(0.263)***	(0.267)***	(0.263)***	(0.211)***	(0.214)***	(0.211)***
Wife lab. work hours	0.137	0.138	0.137	0.072	0.073	0.072	0.093	0.093	0.093
	(0.022)***	(0.022)***	(0.023)***	(0.023)***	(0.023)***	(0.023)***	(0.017)***	(0.017)***	(0.017)***
Observations R-squared Robust standard erro * significant at 10%-	4092 0.13 rs in parentheses ** significant at 5%	4092 0.13	4092 0.13	9129 0.11	9129 0.11	9129 0.11	l 13221 0.11	13221 0.11	13221 0.11

<u>Table 13: Fatherhood and hours worked</u> <u>Regressions results according to different measures of fatherhood status - Ordinary Least</u> <u>Squares model (dependent variable: hours worked)</u>

Table 14: Fatherhood and hours workedRegressions results according to the age of a youngest child as measure of fatherhood status -
Ordinary Least Squares model (dependent variable: hours worked)

	25–35 years	36–49 years	25-49 years		25–35 years	36-49 years	25–49 years
Age	1.212	0.196	0.003	BEchild02	1.633*	1.420	1.109
Age squared	-0.021	-0.002	0.000	BEchild35	-0.686	0.827	-0.023
Birth EU	1.196	-1.766**	-0.692	BEchild614	-1.009	1.147*	0.972
Birth Non EU	0.802	-1.693**	-1.122*	DKchild02	-0.299	0.649	0.204
Medium educ.	-0.163	-0.108	-0.171	DKchild35	0.116	1.487**	0.893*
High educ.	0.858	0.433	0.509	DKchild614	0.190	1.576***	1.122**
Occ. Leg	7.030***	9.074***	8.849***	EEchild02	2.210	2.243*	2.180
Occ. Prof	3.618***	2.099***	2.695***	EEchild35	-1.272	1.113	0.405
Occ. Tech	2.374***	2.422***	2.488***	EEchild614	1.403	0.755	0.845
Occ. Clerks	0.314	0.469	0.429	ESchild02	2.227	-0.152	0.857
Occ. Serv	1.354	1.591**	1.560***	ESchild35	2.035*	1.224	1.428*
Occ. Agr	-0.923	1.913	0.978	ESchild614	2.954	-0.183	0.566
Occ. Craft	1.404*	1.145*	1.307**	Flchild02	0.133	-0.140	-0.021
Occ. Plant	2.469***	1.675**	2.006***	Flchild35	-0.017	0.364	0.299
Occ. Arm	4.089**	0.919	2.219**	Flchild614	0.665	0.769	0.596
Ability	-1.191***	-0.863***	-1.039***	FRchild02	0.949	-1.560	-0.430
Tenure	0.305	0.562*	0.520**	FRchild35	1.362	0.149	0.501
Husband labour inc.	-5.429***	-4.963***	-5.306***	FRchild614	-0.899	0.109	0.571
Wife lab, work hours	0.141***	0.085***	0.097***	IEchild02	0.599	1.065	0.949
AT	-8.877***	-5.516***	-6.970***	IEchild35	1.106	2.281*	1.477
DK	0.555	-0.808	-0.350	IEchild614	2.793	1.776	1.536
EE	-9.577***	-9.837***	-10.376***	ITchild02	1.848**	0.673	1.335**
ES	-2.687***	-1.870***	-2.514***	ITchild35	0.154	0.516	0.276
FI	-1.688**	-2.217***	-2.178***	ITchild614	-0.020	1.101**	0.668
FR	-2.764***	-1.289	-2.057***	LUchild02	2.399**	-0.975	0.153
GR	-3.048***	-3.510***	-3.587***	LUchild35	2.243**	2.113	1.833
IE	0.575	-0.924	-0.438	LUchild614	1.716	0.504	0.789
ІТ	-1.538*	-3.118***	-2.830***	PTchild02	2.333	-0.385	0.662
LU	0.919	3.472***	2.673***	PTchild35	1.061	1.463	0.782
РТ	-5.794***	-4.430***	-5.016***	PTchild614	3.068**	-0.382	0.346
SE	-1.740**	-1.503**	-1.844***	SEchild02	-0.734	0.977	-0.020
ATchild02	0.915	-0.290	-0.289	SEchild35	0.964	-0.126	0.092
ATchild35	5.705**	0.317	2.435*	SEchild614	0.451	0.860	1.008**
Observations R-squared Robust standard error:	4092 0.16 s in parentheses	9673 0.12	13221 0.13				
* significant at 10%;	** significant at 5%:	*** significant at 1%					