What drives mothers' working time in Europe ? A multilevel analysis

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Abstract

Across European countries, huge variations in mothers' working time still exist. Three main factors can explain these differences: mothers' characteristics, family policies design and the prevailing gender culture. Based on EU-SILC longitudinal data for 13 European countries and using multilevel models, this paper aims at explaining the role of these three factors on mothers' working time two years after a birth. We take into account two levels of analysis, the individuals and the countries. The results indicate that country-level variables explain about 16% of the difference in the number of hours worked by mothers. Regarding individuals' characteristics, older, single mothers and mothers in a relationship with a high educated partner tend to work less whereas richer and higher educated mothers are more likely to work more. At the country level, our results suggest that public spending but also the gender norms impact the number of hours worked.

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JEL codes : D13, D91, I38, J13

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1 Introduction

In Europe, women employment rates have almost doubled in the past five decades but their working time pattern is highly heterogeneous. The variations in work-time pattern are even wider when we focus not only on women in general but on mothers as the impact of motherhood on working time is ambiguous. Prior to the first birth many women are working full-time, but a strong differentiation of career paths appears afterwards with many mothers returning only part-time or not returning at all (Angrist and Evans (1996); Lundberg and Rose (2000); Schönberg and Ludsteck (2014)). In some countries mothers tend to be more present in the labour market than women without children. For example in 2018 in Portugal 83,1% of mothers were working against 78,7% of women without children. But the opposite situation also exist in Czech Republic where 90,8% of women without children were working against 73,3% of mothers. If women employment rates are impacted by motherhood so does their working time. In 2018 in Germany, 65,1% of mothers were working part time for 30,1%[1] of women without children.

The literature highlights three different factors that might impact the link between motherhood and working time: i) individuals' characteristics, ii) social policies design and iii) the prevailing gender norms in the society.

At the individual level, the number of hours worked comes down to a question of opportunity cost. The intensity of work is hence influenced by women' characteristics that impact her opportunity costs to work such as education levels, age, household revenues or wage levels (Gustafsson et al. (1996); Saurel-Cubizolles et al. (1999); Bieri et al. (2016)). General studies (Leibowitz et al. (1992); Gustafsson et al. (1996); Sanchez and Thomson (1997); Saurel-Cubizolles et al. (1999); Gutierrez-Domenech (2005); Aguero and Marks (2008); Baxter et al. (2008); Domingo and Marc (2012); Baranowska-Rataj and Matysiak (2016)) have also shown that the presence and the number of children is negatively associated with the probability of employment. Indeed the need for childcare raises the costs associate with women's employment (Becker (1965); Becker (1991)) and gender inequality in earnings and wage can be explained by children's effect on women's careers (Olivetti and Petrongolo (2016); Blau and Kahn (2017); Kleven et al. (2018)).

A second element that can influence the working time after birth is the design of social policies and more precisely of family policies (Thévenon (2013)). Childcare services or parental leaves can be used to reconcile private and professional life and thus promote mothers employment by lowering the costs associated to work. Recent literature distinguishes two important aspects of *childcare policies* to understand their impact on labor supply: costs and availability. The impact of childcare costs on labor supply of mothers is unambiguous: since child care costs increase the mother's reservation wage, they lower labor force participation of mothers with young children (Heckman (1974); Blau and Robins (1991); Connelly (1992); Leibowitz et al. (1992); Powell (2002); Viitanen (2005);

[1]Source: Eurostat Labour Market Database, for women aged 25 to 54.

Del Boca and Vuri (2007); Haan and Wrohlich (2011)). Regarding childcare availability, several applied studies show that the diversity and the quality of childcare services are likely to impact parents' decision to work (Stolzenberg and Waite (1984); Pettit and Hook (2005); Uunk et al. (2005); Van Ham and Mulder (2005); Viitanen (2005); Herbst and Barnow (2008); Dujardin et al. (2018)).

Parental leaves are also a central element of family policies in most European countries. Leaves support new parents by guaranteeing the pre-birth job and by offering financial support. However, the effects of parental leave on return-to-work are ambiguous in the literature. Provisions of paid leave up to one year in length typically increase employment shortly after childbirth and have positive or zero effects on wages, while longer leave entitlements can have adverse effects on mothers' employment and wages in the long term (Klerman and Leibowitz (1995); Ruhm (1998); Geyer and Steiner (2007); Blau and Kahn (2013); Lalive et al. (2013); Asai et al. (2015); Geyer et al. (2015); Dahl et al. (2016); Olivetti and Petrongolo (2017); Rossin-Slater (2017)). In addition empirical literature has shown that extensions of job-protected leave (not necessarily paid) delay maternal labor market re-entry, and that maternal labor market re-entry highly concentrates to the period after expiry of leave (Rønsen and Sundström (2002); Baker and Milligan (2008); Lalive and Zweimüller (2009); Joseph et al. (2013); Lalive et al. (2013); Schönberg and Ludsteck (2014)). Finally few papers focus on fathers' leaves (Ekberg et al. (2005); Haas and Rostgaard (2011); Kluve and Tamm (2013); Duvander and Jans (2009); Bünning (2015); Fernández-Cornejo et al. (2016)). While fair division of parental leave between the father and the mother helps women to return to work more quickly, it might also strengthen the father's involvement at home, which is often thought to be the foundation for gender equality.

A third explanation that might impact the working time is the prevailing gender norms. Mothers are often considered as more appropriate or more skillful caregivers than men. Together with social norms disapproving the mother's role in the labour market, this might explain the negative effect of children on women's labour supply. Indeed some papers explain national differences in work-care arrangements by differences in the prevailing gender culture (Pfau-Effinger (1993); Vella (1994); Pfau-Effinger (1998); Hakim (2000); Pungello and Kurtz-Costes (2000); Fortin (2005); Kremer (2010); Fernández (2011); Marianne (2011); Farre and Vella (2013); Uunk (2015); Jensen et al. (2017)). National preferences about gender equity may influence the level of employment along mothers by impacting the acceptability of female employment and the attractiveness of employment for women. The impact of culture on employment behaviour was first introduced by Pfau-Effinger (Pfau-Effinger (1993); Pfau-Effinger (1998); Pfau-Effinger (2012)). She has developed a theoretical classification that distinguishes between three ideal types of 'cultural family models': (1) the male breadwinner/female part-time care model, (2) the dual breadwinner/extended family care model, and (3) the dual breadwinner/state care model. This perspective is also linked to the identity economics framework developed by Akerlof and Kranton (Akerlof and Kranton (2000), Akerlof et al. (2011)) in which identity is defined

by social categories that are associated with behavioral norms prescribing how people belonging to a given group should behave (e.g. men are breadwinners, women are homemakers). The point is that both women and men face the expectations of the society about what it means to be a "good mother" or a "good father" and in some countries mothers could be strongly influenced to stay at home (traditional point of view) or to work and share care with the partner (egalitarian point of view). To care or to work is also a moral pressure and do not only depend on a cost-benefit analysis.

The main objective of this paper is to highlight the factors conditioning women's work-time patterns after a birth by disentangling these three motives. We do so by estimating multilevel models which take into account individuals characteristics, family policy components and the gender norms. We focus on mothers' working time two years after a birth as we are interested in short-term consequences of childbirth.

Only few papers take into account these three types of explanations simultaneously. Stier et al. (2001) are one of the first to model women's employment behavior for 12 industrialized countries and assess both the effects of individual characteristics and the effects of national conditions such as welfare regimes and gender-specific policies. They rely on single-level regressions but their methodology reveals to be inapt to handle data sampled from clustered populations (here for instance women nested in countries)[2]. To take into account the nested nature of the data, multilevel analysis can be used as they highlight the importance of the socioeconomic context in the analysis of individual behaviors, and especially employment decisions as in Uunk et al. (2005) and Pettit and Hook (2005). Uunk et al. (2005) model the effect of institutional and cultural factors on the child effect (change in working hours before birth and two years after) among first mothers from 1994 to 1999. They find that cross-national differences in the impact of children on women's labour supply can to a large extent be attributed to differences in public arrangements supporting the employment of mothers. Pettit and Hook (2005) want to quantify the importance of economic and demographic forces on women's employment across different institutional contexts. They find that individuals characteristics explain a respectable amount of variance in women's employment and that children affect women's employment significantly less in countries that provide public childcare and parental leave. For these two studies, national gender norms lack explanatory power.

Our research is inspired by these two papers but we expand their research differently in several points. Based on more recent databases we focus on mothers' working time so we exclude non-working mothers. We also insist on the role that the father might take after birth. Considering that the mothers' working time is impacted by the household situation, we do not focus solely on the mother's

[2]Indeed single-level models that ignore structure might, in some cases, produce standard errors that are too small, leading to incorrect inferences. Standard errors for the coefficients of higher-level predictor variables will be the most affected by ignoring grouping (Park and Lake (2005)).

characteristics but we include more information about her partner (economic status, educational level or parental leaves dedicated to fathers). Regarding the prevailing gender norms, we build our own cultural indicator and test different cultural proxies. We find that the impact of national factors (family policies and gender norms) explain up to 16% of the difference in mothers' working time. At the individual-level, older, single mothers and mothers in a relationship with a high educated partner tend to work less whereas richer and higher educated mothers are more likely to work more. At the country-level, public spending on childcare and early education impact positively mothers' working time. Gender norms have an impact but the sign of the effect depends on the proxy used.

This paper is organized as follows. Section 2 develops our empirical strategy by presenting multilevel models. Section 3 describes our data and the different variables. Section 4 presents the main empirical results, section 5 presents our robustness tests and section 6 concludes.

2 Empirical strategy

Multilevel analysis is a statistical technique whose roots can be traced back to classical sociological studies (Blau (1960)). Technically, one advantage of multilevel analysis is that it allows one to take into account the dependency of observations between respondents from the same context. Independence is an assumption of general linear models, which states that cases are random samples from the population and that scores on the dependent variable are independent of each other. But when individuals form groups or clusters, we might expect that two randomly selected individuals from the same group will tend to be more alike than two individuals selected from different groups. Furthermore, multilevel modeling allow us to estimate the extent to which dependent measures vary across countries, and the degree to which variance on each criterion can be explained by individual-level and country-level effects (Tom et al. (1999); Gelman and Hill (2006)). These models fit perfectly our study as we expect variability in working time not only between individuals but also between countries where different policies and different cultures take place. In order to understand those models, we will present different steps, from the most simple model to the more elaborate one[3]. More specifically, we use first the **variance components model** which allows for group differences in the mean of the explained variable.

We start with a single-level regression written as:

$$y_i = \beta_0 + e_i, \tag{1}$$

where y_i is the value of y for the ith individual ($i = 1, ..., n$), β_0 is the mean of y in the population, and e_i is the error term for the ith individual. We assume that the error term follow a normal distribution with mean zero and variance

[3]For more details, see the Learning Environment for Multilevel Methods and Applications (LEMMA) of the University of Bristol.

σ^2, i.e., $e_i \sim N(0, \sigma^2)$. All residuals are mutually independent and in all groups they have the same variances (the homoscedasticity assumption).

From this single-level regression we move to the simplest form of a multilevel model with a two-level structure, with individuals at level 1, nested within groups at level 2. In this paper, level 2 is the country-level.

$$y_{ij} = \beta_0 + u_j + e_{ij}, \tag{2}$$

In Equation (2) y_{ij} is the value of y for the ith individual in the jth country ($j = 1, ..., n$). In this two-level model, the error term is split into two components, corresponding to the two levels in the data structure. u_j is the country-level error term, also called group random effects, and e_{ij} is the individuals error term. β_0 is the overall mean of y_i (across all countries). Error terms at both levels are assumed to follow normal distributions with zero means: $u_j \sim N(0, \sigma_u^2)$ and $e_{ij} \sim N(0, \sigma_e^2)$. The total variance is therefore partitioned into two components: the between-country variance σ_u^2, based on departures of country means from the overall mean, and the within-country between-individual variance σ_e^2, reflecting individual departures from country means.

We can calculate the variance partition coefficient (VPC) which measures the proportion of total variance that is due to differences between countries:

$$VPC = \frac{\sigma_u^2}{\sigma_u^2 + \sigma_e^2} \tag{3}$$

The VPC ranges from 0 (no country differences) to 1 (no within-country differences).

From this model with no explanatory variables, we consider now the model with one explanatory variable defined at the individual level, denoted by x_{ij}. Equation (4) represents a **random intercept model** where the overall relationship between y and x is represented by a straight line with intercept β_0 and slope β_1. We can still calculate the country effect equals to u_j as the intercept for a given country j is $\beta_1 + u_j$ so the intercept is higher or lower than the overall intercept β_0 by the amount of u_j.

$$y_{ij} = \beta_0 + \beta_1 x_{ij} + u_j + e_{ij}, \tag{4}$$

Usually Equation (4) is decomposed in two components: a fixed part which specifies the relationship between the mean of y and the explanatory variables $\beta_0 + \beta_1 x_{ij}$, and a random part that comprises the level 1 and 2 error terms $u_j + e_{ij}$ with random part parameters σ_u^2 and σ_e^2.[4] With this model, the intercept of the group regression lines is allowed to vary across countries. On the contrary, the slope β_1 is assumed to be the same for each country and is fixed.

[4]The error terms u_j and e_{ij} are mutually independent and have 0 mean given the values x_{ij} of the explanatory variable. The population variance of the individual-level error term e_{ij} (denoted by σ_e^2) is assumed to be constant across the groups.

The last step is to consider explanatory variables at the country-level in a **contextual effects model**. Variables defined at the country level are often called *contextual variables* and their effects on an individual's y-value are called *contextual effects*. If we have a level 1 variables x_{1ij} and a level 2 variable x_{2j}, the random slope model (4) becomes:

$$y_{ij} = \beta_0 + \beta_1 x_{1ij} + \beta_2 x_{2j} + u_{0j} + u_j x_{1ij} + e_{ij}, \tag{5}$$

The use of multilevel models fits perfectly our research question. Our three factors can be divided into two levels: level 1 would be individuals characteristics and level 2 country features that gather social policy design and the gender norms. We use two types of multilevel models: a variance components model to compare our different countries, and random intercept models with individuals and countries characteristics. In the following section we describe which characteristics and which policies are used in our models.

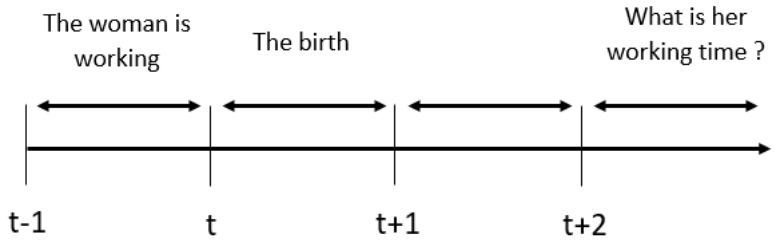
3 Data and descriptive statistics

3.1 Individual level

The data we use come from the EU-SILC (European Union Statistics on Income and Living Conditions) database. It is a cross-sectional and longitudinal sample survey, coordinated by Eurostat, based on data from the European Union member states. EU-SILC provides comparable data on income, poverty, social exclusion and living conditions in the European Union. From this database we obtain both household as well as individuals characteristics such as age or marital status but also information about mothers' labor supply. In order to get a larger sample size, we pooled four waves of longitudinal data from 2008 to 2014[5] in which we can observe individuals over four years. The study was conducted for 13 European countries: Austria, Belgium, Czech Republic, Finland, France, Hungary, the Netherlands, Norway, Poland, Portugal, Spain, Sweden and the United Kingdom. The countries were selected based on the data available and in order to better represent the different welfare systems in Europe.

From the EU-SILC database, we selected women aged 20 to 49 years old, who became mothers during the four years we can observe them and who worked before birth. More precisely, Figure 1 illustrates our approach. We start with wave *t* and assess whether a child was born since the prior wave *t-1*. If so, we look at employment status (is she working or not) before childbirth. Working time in *t+1* is directly affected by country differences in parental leave arrangements (usually up to one year after childbirth). So we chose to define post birth working time as the working time in *t+2*. Even if initially we had large sample sizes, only few childbirths occur exactly the second year of the observation period. The final sample size is 1139 mothers with four waves from 2008 to 2014.[6]

Figure 1: **Time window of the study**



[5]The first wave goes from 2008 to 2011 and the fourth one from 2011 to 2014

[6]The sample size is comparable to Uunk et al. (2005) sample. The existence of a selection bias has been rejected by a logit two stage Heckman model.

Individual variables

The dependent variable is the weekly number of hours worked in the main job declared by mothers two years after the birth of her child. It is a continuous variable.

Table 1: Individual-level variables descriptions

Variable	**Description**
Age	Age in years from 20 to 49.
Partnership Status	Coded to 1 if the respondent is single.
Educational level	International Standard Classification of Education (ISCED). Highest level attained. Coded to 1 to 5 1 = primary education 2 = lower secondary education 3 = upper secondary education 4 = post-secondary non tertiary education 5 = tertiary education
Household disposable income	Monthly equivalised disposable income in euros. It is the total income of a household, after tax and other deductions, divided by the number of household members converted into equalised adults.
Partner's age	Age in years.
Partner's working time	Number of hours weekly worked in the main job.
Partner's educational level	ISCED highest level attained by the partner. Coded to 1 to 5.
Number of children	Number of children aged less than 18 in the household.
Age of the children	Age of children aged less than 18 in the household.

Source: EU-SILC database

Nine individual-level variables were included in the study and are described in Table 1[7]. We include information on the mother's age, partnership status and educational level. We take into account the same characteristics for her partner as it might impact the mother's working time. Indeed in a household in which both partners are working, it might be easier for women to reduce their working time compare to households in which she is the only one to work. We use the equivalised disposable income given by EU-SILC in order to represent the wealth of the household. The number of children is also added as the impact of birth might differ if the birth concerns the first child or not. With a second child, the mother could already have find a good balance between work and her family and the new child might not change her behavior. Nevertheless, with more than two children, the burden of care might be to heavy and she could have to adapt her working hours accordingly. Finally we use the age of the children as the burden

[7]The correlation between those variables is available in the Appendix (7.2).

of care is especially heavy for young children.

Table 2 and Table 3 present descriptive statistics. In our sample, mothers work on average 34 hours per week, with 26,6 hours in the Netherlands to 39,1 in Hungary. They give births between 32 and 36 years old. 6,1% of the women are single. The share of women with post-secondary education varies a lot, from 27,5% in Portugal to 80,3 in Belgium. Mothers' partners work on average 36.1 hours per week (with 11.9% who don't work at all). They are on average 3 years older and have a lower education level than the mothers. Households are on average richer in Western and Nordic countries, such as in Norway, Finland, Sweden, Belgium or France. Households' income are lower in Eastern and Southern countries, especially in Hungary and Poland. Households are bigger in Austria, Norway or in the United Kingdom. We have to keep in mind that our sample is relatively small and for some countries we can't have a representative picture of the women's situation (5 observations in Austria or 27 in Finland). Because of these constraint, no country specific analysis can be run.

Table 2: Individual variables descriptive statistics

Country	Weekly hours Mean	Age Mean	Single Mothers %	Post-secondary Education %	Observations
Austria	32.6	34.2	20	60	5
Belgium	34.6	34.1	10	80.3	62
Czech Republic	37.1	35.17	9.8	41.5	41
Finland	33.6	32.8	0	55.6	27
France	34.8	34.5	5.2	62	308
Hungary	39.1	34.3	19	69.2	26
Netherlands	26.6	35	1.3	63.6	159
Norway	35.2	34.9	3.4	71.1	118
Poland	37.6	34.3	11.3	63.1	133
Portugal	39.5	35.2	19	27.5	42
Spain	33.2	36,6	5.6	60.7	89
Sweden	35,9	35.3	1.3	63.8	80
United Kingdom	27	35.6	4.1	68.8	49
Average	34.0	34.8	6.1	63.1	1139

Sample: Mothers aged 20 to 49, who worked before birth.
Source: EU-SILC: longitudinal data from 2008 to 2014, own calculations

Table 3: Household variables descriptive statistics

Country	Partner age	Partner working time	Partner Post-secondary Education	Household Income in €		Three or more children	Presence of 4-6 yo	Observations
		Hours	%	Mean	S.D	%	%	
Austria	37.0	25.6	50.0	2388.0	756.2	20.0	20.0	5
Belgium	36.1	32.9	63.6	2228.4	844.9	11.1	38.7	62
Czech Republic	37.3	39.3	13.5	806.2	373.7	14.6	22.0	41
Finland	34.8	39.5	50.0	2363.9	631.3	7.4	37.0	27
France	36.8	37.6	41.7	2111.3	908.5	11.0	26.2	308
Hungary	38.0	30.6	47.6	553.6	258.5	3.9	23.1	26
Netherlands	37.2	38.1	49.0	2150.5	766.2	14.3	37.1	159
Norway	37.3	36.2	64.0	3863.8	1348.1	19.5	29.6	118
Poland	36.7	34.3	39.6	549.4	323.5	6.8	15.0	133
Portugal	37.5	28.6	12.5	901.1	361.5	9.5	7.1	42
Spain	39.4	31.7	34.5	1564.6	574.0	9.0	26.9	89
Sweden	37.3	38.2	59.4	2417.8	934.5	15.0	36.3	80
United Kingdom	37.5	39.9	53.2	2313.6	1516.3	16.3	16.3	49
Average	37.1	36.1	46.1	1989.9	1241.3	10.9	27.1	1139

Sample: Mothers aged 20 to 49, who worked before birth.
Source: EU-SILC: longitudinal data from 2008 to 2014, own calculations

3.2 Country level

The data at the country level were drawn from five databases: the OECD Family Database and the International Network on Leave Policies and Research (INLPR) to extract family policies indicators and in order to built our cultural index, we used the International Social Survey Programme (ISSP) and the Eurobarometer surveys. The OECD Family Database was developed to provide cross-national indicators on family outcomes and family policies across the OECD countries. The International Network on Leave Policies and Research produces an annual review of leave policies and related research that covers Maternity, Paternity and Parental leaves, leave to care for sick children and other employment-related measures to support working parents and early childhood education and care policy. The ISSP is a continuous program of cross-national collaboration running annual surveys on topics important for the social sciences. More specially, the ISSP Family and Changing Gender Roles modules of 2012 mainly deal with gender related issues, such as attitudes towards women's employment, marriage or children. The Eurobarometer surveys monitor the evolution of public opinion in all 28 EU Member States. Its aim is to assess EU citizens' awareness and support for the European Union's activities. We used the special report of 2014 "Gender Equality" that include respondents' view about gender issues in their country. Finally the unemployment rates were drawn from the OECD labour market statistics.

Country-level variables

Our country-level is threefold, we take into account the family policies in place in the country, the prevailing gender norms in the society and the economic context. These variables represent the global setting in which individuals live, the main point is to insist on differences between countries rather than looking at the special situation of each individual. Five country-level variables were included in the study and are described in Table 4.

Three variables represent the family policies in each country. Public expenditure on early childhood education and care covers all public spending (in cash or in-kind) towards formal day-care services generally aimed at children aged 0 to 2 (e.g. creches, day care centers, and family day care) and pre-primary education services (including kindergartens and day-care centers) for children aged from 3 to 5.[8] We also include information about the length of well paid leaves for both parents (the sum of maternity, paternity and parental leaves)[9]. A well paid leave is paid 66% of earning or more, the latter being an indicator used by the European Commission in monitoring member states' progress in meeting Employment Guidelines[10]. We chose to include the length of well paid leave because

[8] Even if we do not have the information for 2014, we take into account the average spending from 2011 to 2013 and checked that these expenses remained relatively constant from one year to another.

[9] The details about the length of the different leaves is available in the Appendix (7.1).

[10] See http://www.nbbmuseum.be/doc/seminar2010/fr/bibliographie/risque/compendiumjul2010.pdf

we believe that parents are more inclined to take a leave if the replacement rate is higher as it impacts their opportunity costs to work.

One variable represents the norms in relation to working mothers in the country. In order to reflect the gender norms in each country, we select questions about gender equity for which countries were most in disagreement to stress heterogeneity across countries. About 1000 respondents per country were asked to answer different questions about gender roles in the society and say whether they agree or disagree with the statements. Three questions were selected: "All in all family life suffers when the mother has a full time job", "In overall men are less competent than women to perform household tasks" and "A job is all right, but what most women really want is a home and children". Based on these three questions we consider countries as being "traditional" or not. Traditional countries present more traditional views of women, that is to say that they are still closed to the male breadwinner model in which mothers are mainly expected to care about the children and the house. We consider a country as traditional if the Eurobarometer and ISSP surveys indicate that the society tends to confined mothers at home. The details of the construction of our cultural indicator is available in the Appendix (7.3). Finally unemployment rates were included to represent the economic situation and the working environment in the country.

Table 4: Country-level variables descriptions

Variable	**Description**
Public Spending	Public spending on childcare and early education as percentage of GDP. *Source*: OECD Family Database
Well paid leave for mothers	Maximum length in weeks of post-natal paid (66% of earnings or more) leaves for mothers (Maternity and Parental). *Source*: The INLPR
Well paid leave for fathers	Maximum length in weeks of post-natal paid (66% of earnings or more) leaves for fathers (Paternity and Parental). *Source*: The INLPR
Gender Norms	Coded to 1 if the country is considered as traditional. *Source*: Own calculation based on ISSP and Eurobarometer surveys
Unemployment rates	The number of unemployed people as a percentage of the labor force in each country. *Source*: OECD labour market statistics

In Table 5 we can distinguish several groups of countries that share similar characteristics in 2014[11]. Regarding public spending on early childhood educa-

[11]For more details, see Thévenon (2011) and Moss (2014). We only present data for 2014

tion and care, a first group of countries stand out from the others: the Nordic countries and France. Those four countries spend more than 1% of GDP for early childhood education and care (from 1.09% in Finland to 1.58% in Sweden) and offer good quality public day care centers. Belgium, the Netherlands and the United Kingdom spend about 0.75% of their GDP in formal day-care and pre-primary services. In the United Kingdom for example, the provision of educational services for preschool children is a focus of childcare investment, children's educational and cognitive development is a key driver of state intervention (Thévenon (2011)). The Eastern European countries spend relatively less than the others countries but Hungary stands out the two others by spending 0.62% compared to 0.43% in Czech Republic and 0.48% in Poland. Portugal, that perform rather well with the other indicators, is here the last with 0.37%.

Regarding post-natal well paid leaves for mothers, the Eastern European countries are among the most generous countries. In Czech Republic and in Hungary, mothers can stay at home more than two years. In Hungary the parental leave can be taken full time or part time and the period of high paid parental leave until 12 months after the birth can only be taken by the mother. On the contrary in Czech Republic both parents can take all leave at the same time. In an intermediate position, Norway, Sweden and Poland offer one year of well paid leave for mothers. In Norway, the law does not distinguish separate Maternity and Parental leaves, referring only to 'birth leave', part of which is for mothers, part for fathers, and part for parents to divide as they choose. In Poland, women have the option to take 26 weeks of maternity leave at 100% of earnings or 52 weeks at 80%. In those three countries, the parental leave can be taken in one block of time or several blocks and both parents can take some leave at the same time. Among the less generous countries, we find the United Kingdom (less than 2 months), Austria, the Netherlands, Belgium and France (between 3 and 4 months). If the well paid post-natal maternity leave is about 3 months in Belgium, France and the Netherlands, there is no well paid parental leave in all those five countries.

In regard to post-natal well paid leaves for fathers, there is even more disparities than for mothers' leaves. As for mothers' leave, Czech Republic and Hungary are the most generous countries as they offer generous parental leave to both parents. But we have to keep in mind that regarding parental leave, in Czech Republic in 2013, less than 2% of recipients were men (Moss (2014)). The possibility to take a long well paid leave can not be sufficient as cultural norms might discourage fathers to take care of their children alone. On the contrary, in the United kingdom the leaves are not well paid. There is a flat-rate payment of 170 euros a week for the paternity leave and the parental leave is unpaid. In the Netherlands, fathers are entitled to two days of well paid paternity leave but the parental leave is unpaid. In Belgium, France, Poland and Spain, fathers have access to two weeks of well paid leave. In Finland and in Portugal, fathers benefit from 7 to 8 months of well paid leaves, including 9 weeks of well paid paternity

but all country-level variables were selected for each EU-SILC wave, meaning we extracted data for 2011, 2012, 2013 and 2014

leave in Finland. Finally in Sweden and in Norway, fathers are entitled to one year of well paid leaves.

Based on our own cultural indicator (described in the Appendix (7.3)), we identified six traditional countries regarding gender roles. All Eastern European countries present traditional views about mothers. For example in 2014, 77% of Hungarians thought "family life suffers when the mother has a full time job" (60% in Czech Republic and 68% in Poland). Southern European countries are also considered as traditional, 79% of Portuguese and 72% of Spanish people agree with the previous affirmation. Austria is the last traditional country selected with for example 58% of the population considering men as less competent than women to perform household tasks.

Finally the economic situation is especially difficult in Spain where nearly a quarter of the labour force is unemployed. The unemployment rate is also high in Poland (13.9%) and in France (10.3%). On the contrary, in Norway and in Austria the economic setting is much more favourable for mothers' employment as the unemployment rate is respectively 3.5% and 56%.

Regarding the correlations between those variables (available in the Appendix (7.2)), two problems rise. Unsurprisingly, the length of well paid leaves for mothers and fathers are highly correlated (about 94%). Likewise, public spending on childcare and early education and gender norms are linked (76%): the more the country is traditional, the less the State needs to invest in childcare as it is the mothers' role. The main difficulty is to deal with the interaction between family policy and gender norms. Do norms impact the shape of policies or can a policy change impact gender roles ? Rossier et al. (2011) and Olivetti and Petrongolo (2017) highlight this cause-and-effect relationship. Olivetti and Petrongolo (2017) conclude that "changing economic, cultural, and political economy considerations appear to shape (and be shaped by) [family] policies". To get round this inverse causality problem we will at first deliberately ignore the high correlation of these variables in the regressions and then drop some of them to avoid multicollinearity. In the next section we will present the principal results of our multilevel regressions.

Table 5: Country-level variables descriptive statistics in 2014

Country	Public Spending % GDP	Paid Leave Mothers Weeks	Paid Leave Fathers Weeks	Traditional View	Unemployment Rates %
Austria	0.47	8.3	8.3	1	5.6
Belgium	0.73	14.4	2	0	8.5
Czech Republic	0.43	126.6	104.4	1	6.1
Finland	1.09	39.1	35.5	0	8.7
France	1.23	14.4	2	0	10.3
Hungary	0.62	128.8	105.4	1	7.7
Netherlands	0.75	12.2	0.3	0	7.4
Norway	1.23	56.5	56.5	0	3.5
Poland	0.48	52.2	2	1	9
Portugal	0.37	30.4	30.4	1	13.9
Spain	0.54	20.4	2.1	1	24.4
Sweden	1.58	56.5	58.5	0	8
United Kingdom	0.78	6	0	0	6.1

Source: OECD Family Database and Labour Market Statistics (2014), the International Network on Leave Policies and Research (2014), the ISSP module (2012) and the Eurobarometer survey (2014).

4 Results

Our results are drawn from different multilevel random intercept models, in which the regression lines of the country units are allowed to have different intercepts but are forced to have the same slopes (Table 6). *Model 0* is an "empty model" of overall hours worked two years after a birth without adjustment for predictors. *Model 1* includes individual-level variables, *Model 2* introduces family policies and finally all the variables are presented in a final *Model 3*.

Model 0 can be written as follow:

$$Hoursworked_{ij} = \beta_0 + u_{0j} + e_{ij} \tag{6}$$

where $Hoursworked_{ij}$ is the weekly working time of mother i in country j, β_0 is the overall mean across countries, u_{0j} is the effect of country j on working time, and e_{ij} is the individual-level error term. The country effects u_{0j} are assumed to follow a normal distribution with mean zero and variance σ^2_{u0}. From *Model 0*, we can say that the overall working time is estimated as 34.38. The intercept for country j is estimated as $34.38 + u_{0j}$. The between-country variance of u_{0j} is estimated as $\sigma^2_{u0} = 13.80$ and we can test its significance with a likelihood ratio test comparing the "empty model" with a null single-level model. The test statistic is 162.36 with a corresponding p-value of than 0.00. Thus, there is strong evidence that the between-country variance is different from 0, meaning that there is significant variation between countries in the working time of mothers two years after a birth. We will therefore use multilevel models with country effects. The variance partition coefficient (VPC) for this model is 0.16, which means that 16% of the remaining variance in the working time is due to unobserved country characteristics. This suggest that the omission of country-level variables does not allow identifying an important aspect of the working time two years after the birth of the child.

Model 1 includes all individual-level variables[12] and is represented by Equation (7):

$$Hoursworked_{ij} = \beta_0 + \beta_1 x_{ij} + ... + \beta_9 x_{ij} + u_{0j} + e_{ij} \tag{7}$$

where $Hoursworked_{ij}$ is the weekly working time of mother i in country j, β_0 is the overall mean across countries, β is the effect on the working time of our nine x_{ij} individual explanatory variables, u_{0j} is the effect of country j on working time, and e_{ij} is the individual-level error term. For each explanatory variable β is assumed to be the same for each country (e.g. the effect of education on the working time is the same for all countries). *Model 1* results show that older mothers are more likely to work less than younger ones. For any country, the effect of one year increase in age is to reduce the predicted number of hours worked by 0.17 hours. Single mothers tend to work less, probably because they

[12] Individual-level variables have been country-mean centered as suggested by Sommet and Morselli (2017)

have to adjust their working time to the care facilities. The effect of education is twofold : higher educated mothers are more likely to work more whereas a higher level of education for the partner implies a reduction of the working time. This might be explained by the income effect, better educated partner might have a higher income which can allow some mothers to reduce their working time. On the contrary, better educated mothers might also earn more which increase the opportunity costs of working less. If globally the effect of the equivalised income on the working time is positive, we have no idea of the share of each partner's income. The household composition has no significant effect. The addition of individual-variables has reduced the between-country variance from 13.80 to 8.04, suggesting that the distribution of one or more variables varies across countries. The variance partition coefficient(VPC) for *Model 1* is 0.11, which means that after adding individual variables 11% of the remaining variance in the working time two years after a birth is still due to unobserved country characteristics.

We add family policies in *Model 2*[13] represented by Equation (8) :

$$Hoursworked_{ij} = \beta_0 + \beta_1 x_{ij} + ... + \beta_9 x_{ij} + \beta_{10} x_j + ... + \beta_{13} x_j + u_{0j} + e_{ij} \quad (8)$$

where the only difference with *Model 1* is that we add three family policies x_j at the country level : well paid leaves for mothers and fathers and public spending on childcare and early education. All individual variables coefficients remain the same, except the partnership status which nearly doubles but stays negative. Among the three family policies added, only the public spending on childcare and early education is significant. Mothers living in countries that invest more on childcare tend to work more two years after a birth. These investments increase childcare availability which allows mothers to combine work and family. The VPC of *Model 2* is 0.07 thus after adding family policies variables 7% of the remaining variance in the working time two years after birth is due to unobserved country characteristics.

Model 3 includes all individual and country-level variables. The results of *Model 2* still hold and we find that gender norms impact significantly the number of hours worked. If the gender norms coefficient is significant, the sign is unexpected. Indeed mothers living in more traditional countries tend to work more, which contradicts the assumption that these women are encouraged to stay at home after a birth. In *Model 3*, only 3% of the remaining variance in the working time is due to unobserved country characteristics. In order to test the validity of our results, we carry out several robustness tests in the following section.

[13] Country-level variables have been grand-mean centered as suggested by Sommet and Morselli (2017)

Table 6: Random Intercept Models with Individual and Country-level variables

	Model 0	*Model 1*	*Model 2*	*Model 3*
Constant (β_0)	34.38***	31.40**	30.46***	31.22***
	(1.09)	(1.36)	(1.19)	(0.97)
Age		-0.17**	-0.18***	-0.18***
		(0.08)	(0.08)	(0.08)
Partnership status		-37.98***	-60.91***	-49.08***
		(13.77)	(15.99)	(13.96)
Education level		0.75***	0.75***	0.76***
		(0.27)	(0.27)	(0.27)
Income		0.24***	0.24***	0.24***
		(0.03)	(0.03)	(0.03)
Age partner		0.06	0.06	0.06
		(0.06)	(0.06)	(0.07)
Educ level partner		-0.89***	-0.83***	-0.83***
		(0.26)	(0.27)	(0.27)
Hours worked partner		-0.03	-0.03	-0.04
		(0.02)	(0.02)	(0.02)
Number of children		0.36	0.55	0.54
		(0.43)	(0.44)	(0.44)
4-6 y-o children		-0.62	-0.69	-0.68
		(0.65)	(0.65)	(0.65)
Public Spending			6.56***	10.39***
			(2.72)	(2.41)
Leave for mothers			0.08	0.05
			(0.05)	(0.05)
Leave for fathers			-0.08	-0.05
			(0.06)	(0.05)
Gender Norms				5.82***
				(2.47)
Unemployment				-0.03
				(0.13)
Between-country variance (σ_u^2)	13.80	8.04	4.73	1.98
VPC	0.16	0.11	0.07	0.03

****p<0.01 ; **p<0.05*
Values in brackets are standards errors.
N = 1139
Note: The dependent variable is the number of hours worked by the mother two years after the birth of her child.

5 Robustness test

5.1 The impact of gender norms

In *Model 3* we find that gender norms impact significantly the working time of mothers but in the way that mothers tend to work more in more traditional countries. We test this result in two ways : first we use a different proxy for gender norms used by Pettit and Hook (2005) (*Model 4*) and secondly we explore whether gender norms can be identified by disentangling different groups of countries (*Model 5*).

Based on data from the United Nations we use another measure of the prevailing gender norms: the share of seats in national parliaments held by women. This variable might be a good alternative to represent the way women' role is perceived in the country by describing the influence of women in the political sphere. Table 7 displays the values of this indicator for 2014 for each country of our sample. Unsurprisingly the Nordic countries, the best examples of egalitarian countries, have higher shares of seats in parliaments held by women. Hungary and Czech Republic have the lowest shares. Using this gender norms proxy, *Model 3*'s results do change. In Table 8 *Model 3* is compared to *Model 4* in which we replace our dichotomous gender norms indicator by the share of seats in parliaments by women. All variables remain the same, except the new gender norms indicator which is not significant, meaning that the proxy we use to represent norms matters impact our results.

Table 7: The share of seats in national parliaments held by women in 2014

Country	**Parliament seats** (in %)
Austria	31.4
Belgium	42.4
Czech Republic	18.5
Finland	42.5
France	25.7
Hungary	10.1
Netherlands	37.8
Norway	39.6
Poland	22.3
Portugal	31.3
Spain	37,0
Sweden	44.7
United Kingdom	23.0

Source: United Nations Development Programme Database (*Gender Dimension*).

Table 8: Random Intercept Models with Individual and Country-level variables

	Model 3	*Model 4*	*Model 5*
Constant (β_0)	34.38***	29.84***	33.92***
	(1.09)	(1.15)	(1.58)
Age	-0.18***	-0.18***	0.18***
	(0.08)	(0.08)	(0.08)
Partnership status	-49.08***	-68.26***	-103.4***
	(13.96)	(15.30)	(21.50)
Education level	0.76***	0.75***	0.76***
	(0.27)	(0.27)	(0.27)
Income	0.24***	0.24***	0.24***
	(0.03)	(0.03)	(0.03)
Age partner	0.06	0.06	0.06
	(0.07)	(0.06)	(0.07)
Educ level partner	-0.83***	-0.83***	-0.85***
	(0.27)	(0.27)	(0.27)
Hours worked partner	-0.04	-0.03	-0.03
	(0.02)	(0.02)	(0.02)
Number of children	0.54	0.54	0.53
	(0.44)	(0.44)	(0.44)
4-6 y-o children	-0.68	-0.70	-0.70
	(0.65)	(0.65)	(0.65)
Public Spending	10.39***	7.01***	6.07***
	(2.41)	(2.50)	(2.08)
Leave for mothers	0.05	0.10	0.17***
	(0.05)	(0.05)	(0.05)
Leave for fathers	-0.05	-0.10	-0.19***
	(0.05)	(0.06)	(0.06)
Unemployment	-0.03	0.13	0.26**
	(0.13)	(0.12)	(0.16)
Gender Norms	5.82***		
	(2.47)		
Share parliament		0.09	
		(0.08)	
Group 2 (NL, UK, FR)			-7.01***
			(1.90)
Group 3 (BE, CZ)			-6.68
			(3.56)
Group 4 (PL, ES, AT)			-9.00
			(4.79)
Group 5 (HU, PT)			-11.41
			(6.07)
Between-country variance (σ_u^2)	1.98	3.27	0.00
VPC	0.03	0.05	0.00

****p<0.01 ; **p<0.05* ; Values in brackets are standards errors ; N = 1139

Note: The dependent variable is the number of hours worked by the mother two years after the birth of her child.

Another way to test the influence of norms is to group countries with similar views on gender equality. The objective is to refine our binary indicator. Based on the answers to the first question used to built our cultural indicator "All in all family life suffers when the mother has a full time job." we identify five groups of countries. We select this question specifically because it represents the importance of the social guilt and pressure directed to working mothers. The Nordic countries represent the most egalitarian countries[14] with less than 35% of people answering positively to that question; the second group includes the Netherlands, the United Kingdom and France with positive answers between 45% and 55%; the third group is Belgium and Czech Republic with 55% to 65% positive answers; the fourth group includes Poland, Spain and Austria (between 65% tot 75%) and the last group consists of Hungary and Portugal with more than 75% positive answers. This unusual grouping is different than previous grouping done by Korpi (2000) for example as we want to disconnect as much as possible welfare state models from gender norms. In *Model 5* we replace our first gender norms indicator by the five groups previously mentioned. The group of reference is the Nordic countries : Finland, Sweden and Norway. The only significant comparison is between the Nordic countries and the second group. Mothers living in the United Kingdom, the Netherlands and France tend to work less than mothers in Sweden, Finland and Norway where the views of working mothers are more egalitarian. Using this indicator also change the coefficients at the country-level. The effects of leaves become significant, mothers entitled to longer well paid leaves are more likely to work more and longer leaves dedicated to the fathers reduce the number of hours worked by the mothers. These results suggest that longer well paid leaves enable mothers to work more after their leaves but that sharing leaves between partners do not necessarily allow mothers to work more.

5.2 Leave policies

In *Model 2*, *Model 3* and *Model 4* we use the International Network on Leave Policies and Research (INLPR) data on well paid leaves (66% of earning or more). A more common way to study leaves is to consider the length of paid leave and not only the part that is well paid . Table 9 is comparing *Model 3* and *Model 6* in which we replace well paid leave data by the maximum length in weeks of paid leaves from the OECD Family database. The results of *Model 3* still hold so that considering the length of paid leaves or of well paid leaves do not impact our findings: the length of leave policies do not impact significantly the number of hours worked by mothers two years after a birth.

[14]Based on Jakobsson and Kotsadam (2010) work, we can add Norway to this group.

Table 9: Random Intercept Models with Individual and Country-level variables

	Model 3	*Model 6*
Constant (β_0)	34.38***	31.27*** *
	(1.09)	(1.01)
Age	-0.18***	-0.18***
	(0.08)	(0.08)
Partnership status	-49.08***	-44.91***
	(13.96)	(14.12)
Education level	0.76***	0.76***
	(0.27)	(0.27)
Income	0.24***	0.24***
	(0.03)	(0.03)
Age partner	0.06	0.06
	(0.07)	(0.07)
Educ level partner	-0.83***	-0.84***
	(0.27)	(0.27)
Hours worked partner	-0.04	-0.04
	(0.02)	(0.02)
Number of children	0.54	0.53
	(0.44)	(0.44)
4-6 y-o children	-0.68	-0.69
	(0.65)	(0.65)
Public Spending	10.39***	9.22***
	(2.41)	(2.31)
Leave for mothers (Well paid)	0.05	
	(0.05)	
Leave for fathers (Well paid)	-0.05	
	(0.05)	
Leave for mothers (Paid)		0.01
		(0.01)
Leave for fathers (Paid)		0.03
		(0.04)
Gender Norms	5.82***	6.08***
	(2.47)	(2.43)
Unemployment	-0.03	0.01
	(0.13)	(0.14)
Between-country variance (σ_u^2)	1.98	2.15
VPC	0.03	0.03

****p<0.01 ; **p<0.05* ; Values in brackets are standards errors ; N = 1139
Note: The dependent variable is the number of hours worked by the mother two years after the birth of her child.

6 Conclusion

The main objective of this paper is to understand the main determinants of mothers' working time after a birth. Three main factors could impact the number of hours worked: individuals' characteristics, family policies design and the prevailing gender norms. Using multilevel analysis we disentangle these three factors into two levels of analysis. Our results suggest that studies confined to an individual-level perspective fail to entirely uncover the determinants of mothers' decisions to work. Country-level variables explain about 16% of the remaining variance in the working time two years after birth.

Regarding mothers' characteristics, we find that their age, the partnership status, the education level, the family income and the partner's education level impact their working time. Older, single mothers and mothers in a relationship with a high educated partner tend to work less whereas better off families and higher educated mothers are more likely to work more. At the country-level, public spending on childcare and early education impact positively mothers' working time. Gender norms has an impact but the sign of the effect depends on the proxy used. With our binary indicator, more traditional countries allow mothers to work more. This might be because of historical contexts as Eastern countries have a strong tradition of high level of employment for men and women. Grouping countries based on their views on working mothers allow us to differentiate different levels of gender equality acceptance. Mothers are working significantly more in the Nordic countries than in Western European countries if we take into account this egalitarian sensibility.

Our study has different limitations that need to be discussed. First our sample size is critical. Even if Uunk et al. (2005) use multilevel analysis with fewer observations, Maas and Hox (2005) and Schoeneberger (2016) show that small sample size at level two (country-level in our study) can lead to biased estimates. Secondly, our variables remain highly correlated as it is nearly impossible to disentangle norms from policies. An instrumental variable model could be used in a future work in order to overcome this inverse causality problem.

7 Appendix

7.1 Maternity, paternity and parental leaves in the selected countries

Leave policies definitions come from the International Network on Leave Policies and Research:

Maternity leave: Leave generally available to mothers only (except in a few cases where part of the leave can be transferred to other carers under certain circumstances). It is usually understood to be a health and welfare measure, intended to protect the health of the mother and newborn child, to be taken just before, during and immediately after childbirth.

Paternity leave: Leave generally available to fathers only, usually to be taken soon after the birth of a child, and intended to enable the father to spend time with his partner, new child and older children.

Parental leave: Leave available equally to mothers and fathers, generally understood to be a care measure, intended to give parents the opportunity to spend time caring for a young child; it usually can only be taken after the end of Maternity leave.

A well paid leave is paid 66% of earning or more, the latter being an indicator used by the European Commission in monitoring member states' progress in meeting Employment Guidelines.

Table 10: Maximum length of well paid leaves for mothers and fathers (in weeks)

Country	**Maternity Leave**	**Paternity Leave**	**Parental Leave**
Austria	8.3	0	0
Belgium	14.4	2.0	0
Czech Republic	22.2	0	104.4
Finland	12.6	9.0	26.5
France	14.4	2.0	0
Hungary	24.4	1.0	104.4
Netherlands	12.2	0.3	0
Norway	0	0	56.5
Poland	52.2	2.0	0
Portugal	0	0	30.4
Spain	20.4	2.1	0
Sweden	0	2.0	56.5
United Kingdom	6.1	0	0
Average	17.0	1.6	29.1

Source: 10th International Review of Leave Policies and Related Research 2014.

7.2 Correlation between the variables

Table 11: Individual-level variables correlations

	Age	**PS**	**Educ**	**Income**	**NbC**	**4-6yo**	**PA**	**PE**	**PWT**
Age	1.00								
Partnership Status	-0.08	1.00							
	(0.80)								
Education	0.10	-0.10	1.00						
	(0.00)	(0.00)							
Income	0.15	-0.13	0.27	1.00					
	(0.00)	(0.00)	(0.00)						
Number of children	0.26	-0.02	-0.05	-0.08	1.00				
	(0.00)	(0.44)	(0.10)	(0.00)					
Presence of 4-6yo	0.08	-0.05	0.07	0.00	**0.50**	1.00			
	(0.01)	(0.11)	(0.02)	(0.90)	(0.00)				
Partner's age	**0.68**	0.00	0.03	0.10	0.24	0.08	1.00		
	(0.00)	(1.00)	(0.41)	(0.00)	(0.00)	(0.01)			
Partner's education	0.09	0.00	0.39	0.27	0.04	0.12	0.03	1.00	
	(0.00)	(1.00)	(0.00)	(0.00)	(0.22)	(0.00)	(0.33)		
Partner's working time	-0.05	**-0.60**	0.05	0.20	0.02	-0.01	-0.08	0.05	1.00
	(0.11)	(0.00)	(0.09)	(0.00)	(0.55)	(0.63)	(0.01)	(0.13)	

Values in brackets are significance level.

Table 12: Country-level variables correlations

	PS	**Leave Mothers**	**Leave Fathers**	**Norms**	**Unemp**
Public Spending	1.00				
Leaves for mothers	-0.02	1.00			
	(0.53)				
Leaves for fathers	0.17	**0.94**	1.00		
	(0.00)	(0.00)			
Gender norms	**-0.76**	0.29	0.09	1.00	
	(0.00)	(0.00)	(0.00)		
Unemployment rate	-0.37	-0.15	-0.25	**0.58**	1.00
	(0.00)	(0.00)	(0.00)	(0.00)	

Values in brackets are significance level.

7.3 The construction of the cultural indicator

In Table 10 we present the share of "Agree" answers per country to the three selected questions. Two questions were taken from the Eurobarometer in 2014:

- Q1: All in all family life suffers when the mother has a full time job
- Q2: In overall men are less competent than women to perform household tasks

As Norway was missing in Euraborameter we completed the data with a third question of the ISSP in 2012:[15]

- Q3: A job is all right, but what most women really want is a home and children

Table 13: Gender role expectations in Europe, in % of "Agree" answers

Countries	**Q1**	**Q2**	**Q3**	**Traditional**
Austria	73	58	29	1
Belgium	58	36	27	0
Czech Republic	60	51	46	1
Finland	27	37	27	0
France	51	31	34	0
Hungary	77	71	54	1
Netherlands	46	20	15	0
Norway	-	-	15	0
Poland	68	57	39	1
Portugal	79	57	41	1
Spain	72	58	36	1
Sweden	32	30	18	0
United Kingdom	47	37	28	0

Source: Eurobarometer and ISSP

Based on these three questions we consider countries as being "traditional" or not. Traditional countries present more traditional views of women, that is to say that they are still closed to the male breadwinner model in which mothers only are expected to care about the children and the house. We apply different thresholds for the ISSP and the Eurobarometer. For the two first questions we decide that a country is traditional if the majority of people (55%) agreed with the statements. For the third ISSP question, the shares of "Neither agree or disagree" were especially high, so we consider a country as traditional if "Agree" was the most often given answer (no matter the percentage). With three questions we automatically have at least two similar answers and the fourth column of the Table 10 presents the final situation of the country (traditional =1 and not traditional =0).

[15] No data were available for 2014 so we make the hypothesis that the norms won't drastically change in two years.

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