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Female employment, institutions and the role of reference groups: a multilevel analysis of 22 European countries

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ABSTRACT

This article argues that the effect of policy institutions on female labor market participation is mediated by reference groups surrounding individual women. Using recent data on individual women between 20 and 49 years in 22 European countries, we distinguish between two types of institutions: public childcare availability and public sector employment. We hypothesize that both institutions are conducive to women's employment but that the effect differs across different social groups. More generally the analysis aims at the identification of good practices, i.e. countries that succeed in shaping women-friendly circumstances on the labor market. By means of a logistic multilevel model, we find that both public childcare and public sector employment are associated with higher female employment chances. We also find that women embedded in different reference groups behave differently on the labor market, that public childcare provision and public sector employment are helpful to raise the odds of employment for lower and medium educated women respectively. Finally, we observe that, ceteris paribus, non-urban areas shape better employment opportunities than urban areas.

Keywords:
women's employment; institutions; reference groups; embeddedness; childcare; public sector

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1. Introduction

"The ongoing liberation of women after millennia of oppression is one of the great moral achievements of our species, and I consider myself fortunate to have lived through some of its major victories" (Pinker, 2002: 337). This quote of Harvard evolutionary psychologist Steven Pinker is more explicit than the usual in social sciences, yet it reflects quite well the implicit consensus about women's emancipation. Undoubtedly, the sharp rise of female employment since the sixties is one of the most remarkable post-war achievements. However, not all women have emancipated themselves on the labor market to the same extent and there exist large differences *across* and *within* European countries.

A vast amount of research is devoted to explain this differentiated female labor market emancipation in industrialized countries. First of all, most of the previous articles adopt a structural approach and focus on comparing female employment outcomes at the macro level by looking at the different institutional configurations (often referred to as "family policies") in countries and welfare regimes. In general, a positive and strong relationship between women's employment and state policies is found (Esping-Andersen, 1999; Gornick and Jacobs, 1998; Gornick et al., 1998; Mandel and Semyonov, 2006). However, as cross-national variation in family policies explains a portion of the inter-country variation in women's employment, it generally fails to account for heterogeneity within countries (Pettit and Hook, 2005). In addition, some authors argue that structural explanations at the macro-level are not suitable to fully explain cross-national differences in women's employment and adopt a cultural approach (Daly, 2000b; Kremer, 2007; Pfau-Effinger, 2005). They focus on the cultural basis of institutional configurations and claim that differences between female employment rates stem mainly from the prevailing 'family culture'. However, the relationship between structural and cultural factors is not straightforward and neither factor can fully account for female employment diversity (Steiber and Haas, 2009). More recently, scholars such as Hakim (2000) defended the idea that preferences towards work and care of individual women have the most determining impact in shaping employment decisions and that different employment trajectories arise from different preferences. In the slipstream of this debate, most sociologists refute this idea and state that attitudes are not good determinants of labor market behavior as long as women face structural constraints in their work and care options (Crompton and Harris, 1998; Crompton and Lyonette, 2005). In response to these evolutions, more sophisticated explanatory frameworks emerged to assess the effect of institutions on female labor supply, such as macro-micro approaches combining individual level data and both structural and cultural explanatory variables on the country level (van der Lippe and van Dijck, 2002). The findings of these studies tend to confirm the primacy of the structuralist explanations (Steiber and Haas, 2009).

Present research builds on this tradition and aims to enhance knowledge of how institutions shape female employment decisions by including an explanatory dimension neglected thus far: the norms and opportunities stemming from the direct environment, or the reference groups, of individual women. Because individuals are embedded in a certain social context which includes certain norms and values which may support or counteract policy outcomes, it can easily be assumed that this influence will also form part of the explanation (Korpi, 2000). To date, however, it remains unclear to what extent these reference groups mediate the effect of policies designed to enhance female employment rates.

This study contributes to the literature by exploring the idea of reference groups to assess in a more thorough way the complex relationship between country-level institutions and women's employment decisions, not only *between* but also *within* countries. In order to reach this goal, we test several hypotheses using recent EU-SILC 2007 data for a large number of European countries (n = 22). This includes 7 former socialist economies which is expected to provide us with a great source of variation because socialist states incorporated women in paid employment almost to an equal extent as men and had female employment figures that in the twentieth century European Union were only known in Scandinavian countries (van der Lippe and van Dijck, 2002). As cross-country comparisons are a natural byproduct of using European-wide survey data, we also identify 'good practices', i.e. countries that succeed in shaping women-friendly circumstances on the labor market.

The article is structured as follows. We start with the clarification of our rationale for choosing two specific institutions, followed by a theoretical elaboration regarding the importance of reference groups when assessing institutional effects and the formulation of our hypotheses. Next, we discuss the data, methods and the operationalization of the variables followed by the multivariate analysis. We conclude with an overview of our results and discuss the broader (policy) implications of our findings.

2. Shaping employment decisions in Europe: the role of institutions

The term *institution* refers to "a set of rules or arrangements designed to affect the behavior of individual persons" (Uunk et al., 2005: 43). To avoid overgeneralization[1], we will not follow an institutional regimes approach (Esping-Andersen, 1990) but rather measure the influence of 'domain-specific' institutions which are assumed to enhance women's employment. In what follows, we focus on two roles of the welfare state related with female employment and emancipation: the welfare state as *legislator* and as *employer* (Kolberg and Esping-Andersen, 1991). However, it has to be mentioned that we do keep welfare regimes in mind, as they can help identifying the emergence of possible 'clusters of welfare states'.

The welfare state in its role as legislator can take many forms with regard to female employment; the following institutions are often mentioned in the literature: parental leave arrangements, child benefits and other financial child-related support, public childcare provisions and taxation policies (Rubery et al., 1998; van der Lippe and van Dijck, 2002; Van Dijck, 2001). It is however tricky to select an appropriate indicator to include in statistical models, because of the unavailability of reliable and comparable data for most of the aforementioned institutions. In what follows, we assume the public provision of childcare as representative for the welfare state as legislator for three reasons: 1) our dataset provides highly comparable variables on childcare use for all our countries considered; 2) other policies are often seen as complementary to childcare from an employment-enhancing point-of-view[2]; 3) previous research has shown that the level of public childcare provision is the strongest determinant of female labor supply (Gornick et al., 1998; Kreyenfeld and Hank, 2000; Uunk et al., 2005; van der Lippe and van Dijck, 2002). The latter is a logical consequence of the profound impact childbirth has on the decision of women to exit the labor market. Indeed, in the absence of decent care provisions, women often cut back on their working hours or quit the labor force to take care of their children, especially when they are of preschool age. This so-called child effect has been observed in all countries and for all women, although not necessarily

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[1] Using a welfare regimes approach is too crude for our purpose as a large degree of variation exists within welfare regimes and it can only provide us with a birds-eye view of the effect of institutions on female labor supply. Furthermore, the welfare regime approach has been criticized for neglecting the gender dimension. Finally, it remains unclear into which welfare regimes the former socialist economies would fit.

[2] For instance, the effect of extensive parental leave arrangements is ambiguous and only conducive to female employment in combination with childcare availability (Matysiak and Steinmetz, 2008).

to the same extent (for an overview see Uunk et al., 2005). In sum, given the fact that women still face the main burden of care and family duties, childcare arrangements 'liberate' women to devote more time on the labor market. Although most early research on the effect of childcare provisions on women's employment focused on the affordability of care services (Blau and Robins, 1991; Connely, 1992), we follow more recent insights that access to and availability of childcare are more important factors to provide women with the opportunity to participate in the labor market (De Henau et al., 2007; Ghysels and Van Klaveren, forthcoming). We do not claim that childcare costs are irrelevant in women's decision-making process. Rather we assume that availability of childcare is a precondition to gain access to job opportunities for many mothers. Thus we can formulate our first hypothesis:

H1: the availability of public childcare provisions is positively related to the likelihood for women to engage in paid employment.

The welfare state not only operates as a legislator, but also as an employer by providing job opportunities in the public sector. It has been argued that in the public sector the conditions for employment are much more women-friendly than in the private sector. Not only does the public sector offer jobs in areas overwhelmingly occupied by women such as education, health, social services and administration (Mandel and Semyonov, 2006), it also makes it manageable to combine paid work and motherhood by providing flexible opportunities for part-time work, parental leave and flexible working hours (Esping-Andersen, 1990; Gornick and Jacobs, 1998; Okun et al., 2007). Finally, the public sector is also the sector where anti-discriminatory and affirmative action policies can be fully applied, which should also lead to overrepresentation of disadvantaged groups in the labor market, such as women struggling with the work-family combination (Yaish and Stier, 2009). Research into the effects of publicly-provided employment on female employment patterns indeed showed that a large share of public sector goes hand in hand with higher female employment rates (Gornick et al., 1998; Kolberg, 1991; Mandel and Semyonov, 2006). Huber and Stephens (2000) duly noted, however, that the relationship between public employment and female employment works in both directions because a higher level of female employment fuels the need for social services which, as argued above, creates jobs mostly women tend to be qualified for. This is certainly true but less relevant from an employment-enhancing perspective. In this article, we only aim to explore whether the government in its role as employer can shape female employment decisions, irrespective of the direction of causality in this respect. Hence our second hypothesis:

H2: a large share of work in the public sector is positively related to the likelihood for women to engage in paid employment.

In the introductory section, we stated that a more general aim of this article is to identify countries which institutional configurations shape employment-enhancing conditions for women. As mentioned above, previous comparative welfare research identified vast differences between welfare regimes and between countries in their set of policies and in their employment outcomes. In his seminal work *The Three Worlds of Welfare Capitalism*, Esping-Andersen (1990) argued that the female labor market would differ across the three welfare regimes discussed. He anticipated that the Scandinavian and Liberal countries would have high female employment rates, despite very different institutional configurations, while the conservative regime would show low female employment rates. Indeed, this pattern has been found in previous studies (Cantillon et al., 2001). In later studies often a fourth regime was added consisting of the Mediterranean welfare states where female employment rates are even lower. (van der Lippe and van Dijck, 2002) Although, as we stated above, we are not interested in welfare regimes *an sich*, they can easily be used as a heuristic tool to rank the countries in our sample. Hence our third hypothesis:

H3a: the likelihood for women to engage in paid employment differs between countries, even when taking compositional effects into account.

H3b: the odds to be employed are highest in the Nordic and the Liberal countries, lower in the Conservative countries and lowest in the Mediterranean countries.

It will also be interesting to observe whether the former socialist economies will cluster together or turn out to be a very heterogeneous group. Previous research points to the latter (van der Lippe and van Dijck, 2002).

3. Between the individual and society: the role of the social context

It may be truistical to point out that people do not act and behave in a social vacuum. However, in analyses of the relationship between employment behavior and policy measures this aspect of the social reality is often neglected. Individuals are members of social groups, are embedded in social networks, live in certain neighborhoods *et cetera.* In sum: people interact with others all the time and constantly compare themselves with their environment. This "web of social relationships" influences the manner in which individuals behave (Pennar, 1997: 154), for instance in the labor market.

Within sociological research this is called *embeddedness*, the idea that individuals cannot be seen as "atomized decision-makers maximizing their

own utility" (Ghezzi and Mingione, 2007: 15) but have to be understood and interpreted only within relational contexts (Sevä, 2009). Individuals' attitudes are affected both by personal characteristics and institutions, but also by the norms and values internalized in social networks. Therefore, in order to have a correct understanding of how institutions work in shaping individuals' employment behavior, it is essential to include this 'contextual level' into the analysis to avoid the so called 'rationality mistake' (Duncan and Irwin, 2004). Or, as stated by Irwin: "without analysis of experience and context, choice holds limited explanatory purchase" (Irwin, 2004).

The concept of embeddedness was first coined by Polanyi and his colleagues (1957) in the context of trades and markets and later applied by Mark Granovetter (1985) as a critique of the neoclassical economic view of the 'undersocialized man', thus refueling the sociological debate on individual behavior and the social context. Of course, this debate was already present in the writings of Max Weber who stressed the importance of shared values and cultures, habits and tradition in influencing individual social action (Ghezzi and Mingione, 2007). The way embeddedness is conceptualized in this article resembles the concept of *habitus* of Pierre Bourdieu, a system of "dispositions acquired by internalizing a determinate type of social and economic condition" (Bourdieu, 1992: 105), which can be described as "a set of unconscious underlying principles" (Hinde and Dixon, 2007: 413). It draws on the idea that a group of people (or in Bourdieu's vocabulary: *class*) share norms and practices. Simply put: they share a certain lifestyle. Habitus is useful for the understanding of our approach as it theoretically links the internal dispositions of individual actors with their embeddedness in social structures. Finally, our approach can also be situated within the wide social capital literature[3].

Most research on embeddedness in social networks focused on their *instrumental* value, i.e. information and resources are transmitted through social interaction. For instance, numerous studies showed that resources available in certain social networks help people to achieve a better social status or find a better job (for an overview, cf. Lin (1999)). However, of interest here is the role of embeddedness in constructing *normative* expectations. Several studies have supported the assertion that contact with network members affects the adoption of behavior that

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[3] The emergence of social capital as a concept can be attributed to Bourdieu (1980) and Coleman (1988) and became immensely popular with the publication of Bowling Alone: America's Declining Social Capital. (Putnam, 1995) However, there are many conceptualizations and definitions and there is no consensus about its measurement and the types of social capital, making it an "umbrella concept". Therefore we do not elaborate this any further in this article. For an overview of the literature, see Portes (1998) and Van Oorschot et al. (2006).

conforms to group norms (e.g. the classic study of Newcomb (1943)[4]). In economics literature, a research strand called "keeping up with the Joneses" stressed the importance of reference groups on individual economic behavior. For instance, Neumark and Postlewaite (1998) found that women's employment decisions are influenced by the decisions of other women by using a neoclassical model that incorporates relative income concerns. Clark (2003) investigated the effect of unemployment in reference groups on the well-being of unemployed individuals and found strong correlations. Similarly, Stutzer and Lalive (2004) found strong effects of social pressure on job searching for unemployed people. Finally, Barber (2001) showed that attitudes towards childbearing did not affect childbearing behavior when that behavior was not socially supported.

This research concerns the influence of prevailing norms about work and care decisions in social networks on women's employment decisions. A major premise of this article is that (the members of) social networks play an essential role in constructing and maintaining normative expectations (Guerra, 2004). Therefore, it is argued that women will react in a heterogeneous way on state policies designed to increase female participation rates, depending on the norms and expectations in their networks even if these are in contradiction with their personal beliefs and preferences. Following Moseley and Darby (1978), we make a distinction between 'opportunity factors', such as the structure of the labor market or the availability of childcare, and 'desire factors'. The latter arise from the social and cultural environment within which women live and also shape individual labor market decisions.

Let us clarify this argument with an example. Suppose A and B are mothers with preschool children living in a country X where childcare is both affordable and available. They both have adaptive 'lifestyle preferences' in the *Hakimean sense*, i.e. they want to work but they are not devoted to have a career. However, while A engages in paid work and uses childcare, B decides to stay at home taking care of the children herself. The seemingly non-rational behavior of B can be understood better by taking normative expectations prevailing in social networks into consideration. If B is embedded in a social context where the idea of 'good mothering' is to stay at home and care for the children while in A's context it is considered foolish to give up a career for the family, it becomes much clearer why A and B react in a different way to identical childcare policies.

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[4] Newcomb showed that young women living in a student community adopted more liberal attitudes as they progressed through their study, due to the influence of reference groups.

In sum, to fully comprehend the effect of policy instruments on individual economic actions such as employment decisions one has to consider the normative expectations prevailing in the reference group of the actor, i.e. the desire factors, next to the opportunity factors. Such endeavor is essential to have a correct understanding of how institutions work in shaping women's employment behavior. As a consequence, we can formulate a final hypothesis:

H4: the effect of institutions is mediated by the social context. In other words, the effect of institutions within countries is different for women influenced by different reference groups.

4. DATA, METHOD AND VARIABLES

4.1. Data

For our empirical analysis, we draw data from the Survey on Living and Income Conditions (EU-SILC 2007) which has 2006 as income reference year. The SILC was officially established in 2004 as a replacement of the EHCP (European Community Household Panel). The survey is conducted annually on a representative panel of households in each member state of the EU. We selected 22 European Union member states: Belgium, Denmark, Germany, Greece, Spain, France, Ireland, Italy, Austria, Portugal, Finland, Sweden, United Kingdom, Czech Republic, Hungary, Poland, Estonia, Latvia, Lithuania and Slovak Republic. The choice of the countries has been constrained by the availability of data on urbanization (*infra*). As a consequence, due to lack of sufficient data we excluded The Netherlands, Slovenia and Cyprus from our analysis. We include seven former socialist countries, which will provide us with an important source of variation as those countries are historically expected to have high female employment rates (van der Lippe and van Dijck, 2002).

Our sample consists of all female individuals at prime working age, which we define as being between 20 and 49 years old (Taylor-Gooby, 2004). In this age period women face the challenge of balancing a family with developing a career. By using a lower age limit of 20 years (instead of the more commonly used lower limit of 25 years old), lower educated women who tend to have children at younger age are fully included in our analysis. The upper limit of 49 years old excludes early retirement and cohort effects.

Table 1 gives the unweighted number of women aged 20 to 49 per country in the sample available for our analysis.

Table 1: Overview of the dataset (N = 85.794).

Country	Code	N	Country	Code	N	Country	Code	N
Austria	AT	3.194	Finland	FI	4.563	Luxemburg	LU	2.224
Belgium	BE	2.733	France	FR	4.749	Latvia	LV	1.960
Czech Republic	CZ	4.246	Greece	GR	2.767	Norway	NO	2.642
Germany	DE	5.438	Hungary	HU	4.144	Poland	PL	7.865
Denmark	DK	2.512	Ireland	IE	2.190	Portugal	PT	2.085
Estonia	EE	2.841	Italy	IT	10.251	Sweden	SE	3.259
Spain	ES	6.982	Lithuania	LT	2.203	Slovak Republic	SK	3.273
						United Kingdom	UK	3.673

Source: EU-SILC 2007.

4.2. Dependent variable

Our dependent variable is the *labor market status* of our female respondents based on the variable "self-defined current economic status" whereby respondents working fulltime or part-time were coded as 1 (0 = otherwise). We do not make a distinction between fulltime or part-time because we are solely interested in the odds of participating in the labor market, not in the odds of attaining a fulltime job. For this purpose, we prefer a self-defined status of having work because it is a better reflection of the *current* (i.e. the situation at the time of the interview) situation than variables averaging the employment situation over a whole year.

4.3. Level 1 Control Variables

In order to control for country differences due to compositional effects, we include several socio-economic and demographic controls (descriptives in Table 2). To begin with, we include women's *age* to control for age-related effects as predicted by human capital theory (age as accumulated labor market experience) and cohort effects: younger generations are assumed to have higher odds to participate in the labor market. We also include the quadratic form of age (age squared) to allow for the commonly observed inverted U-pattern of the relationship between the age of women and their probability of being employed. We expect age to have a positive sign, while age squared should behave adversely.

A second human capital variable is the *level of education*. We distinguish three levels of education: 'low skills' refer to all educational qualifications

up to lower secondary school, 'medium' refers to higher secondary school and post-secondary non-tertiary education and 'high' to all types of tertiary education. These classifications rest on the ISCED 1997 typology which is based on the content of the national educational programs. Human capital theory predicts that the more human capital people are endowed with through formal schooling, the better the opportunities to acquire 'good', rewarding jobs with higher wage returns. Moreover, higher education is also associated with more modern views on motherhood and childcare (an issue we elaborate further when discussing the modeling of our reference groups, *infra*). In sum, higher education is expected to have a positive influence on labor market attachment. We take medium education as a reference category to account for the different educational composition of our sample (medium educated women are the largest group).

To control for the motherhood-induced labor market penalty, we include the number of children (no children as reference category) and the age of the youngest child into the model. It is expected that the more children present in the household, the lower the odds to be employed. Similarly, the lower the age of the youngest child, the lower the odds (because a younger child has a greater need for care than an older child). Hence we expect a negative sign for number of children and a positive sign for age of the youngest child.

Also included is a dummy variable whether the woman has a partner (1=yes). *If* a partner is present, we also control for the partner's occupational status and whether the partner has the same educational level (*assortative mating* or *educational homophily*, *infra*). The latter is important, as assortative mating tends to reinforce labor market (dis)advantages on the household level. (Cantillon et al., 2001) It can thus be assumed that this control will result in a positive sign for highly educated couples and in a negative sign for the low educated. We will explicitly test for this phenomenon in our model. *Degree of urbanization* is assumed to yield a positive sign. Urban areas are not only associated with more job opportunities and a larger availability of care services, they can also reflect a certain 'urban lifestyle' (cf. the modeling of our reference groups, *infra*).

Finally, we also control for the income neediness of the household with a *personal non-labor income* variable. This is operationalized as the monthly disposable household income minus the income of the woman. The higher the income from other sources, the lower the incentives for women to engage in paid employment, as the absence of their income has a smaller effect on the households economic position. (Van Dijck and Siegers, 1996) Thus we expect the higher the household income minus the earnings of the woman, the lower the odds for women to engage in paid employment.

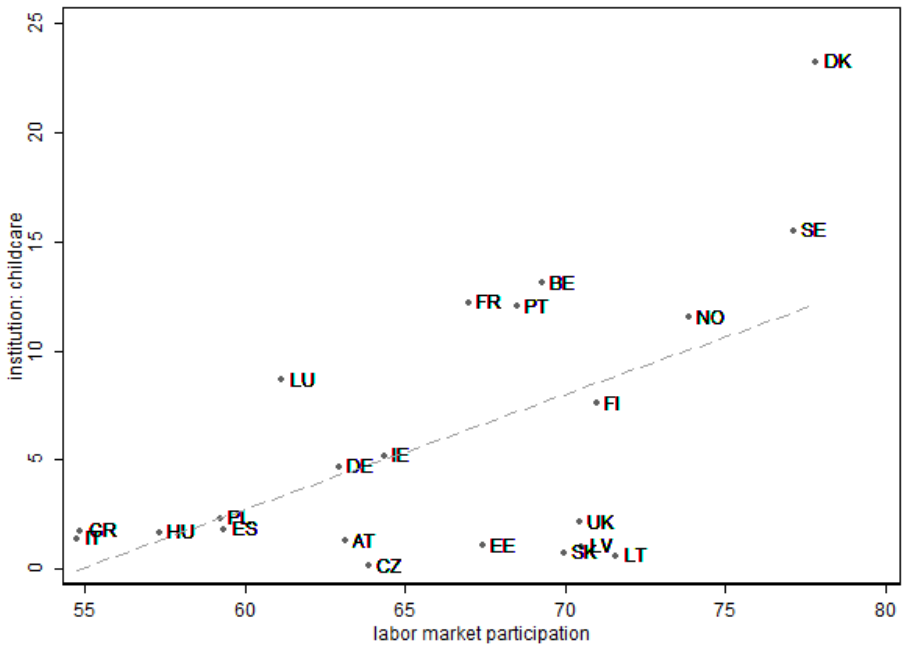
Table 2: Descriptives of the individual-level variables (N = 85.794).

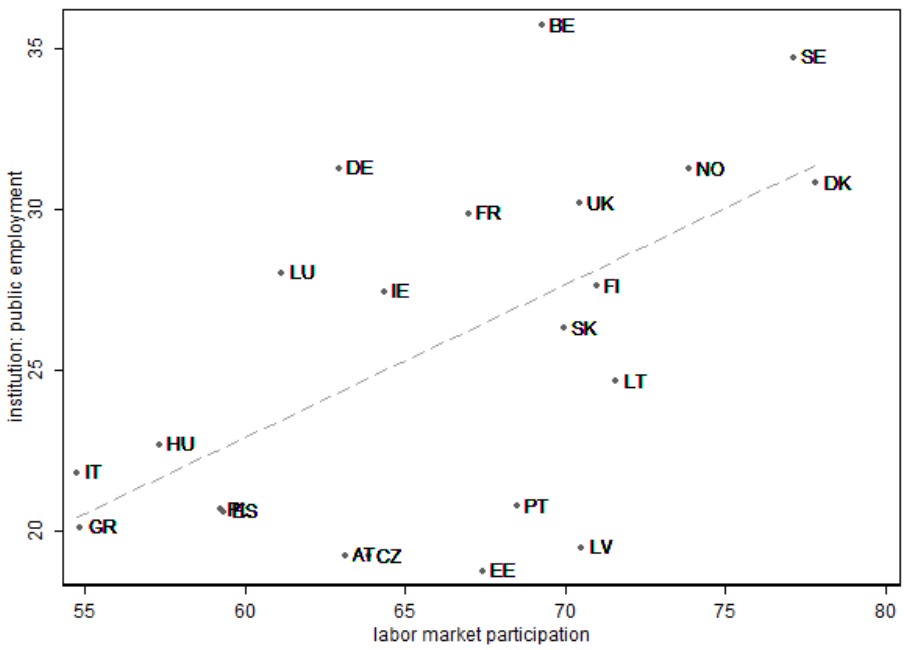
Variable	Mean	SD	Min	Max
Dependent				
Labor market status (1 = working)	64%			
Independent				
Age (centered)	0	8,7	-15	14
Age squared (centered)	75	69	0,15	237
No children	40%			
1 child	28%			
2 children	23%			
More than 3 children	8%			
Low educated	19%			
Medium educated	55%			
High educated	26%			
Degree of urbanization (1 = living in the city)	39%			
Age of the youngest child	4,8	5,6	0	17
Partnership status (1 = having a partner)	68%			
Occupational status of the partner (1 = working)	61%			
Educational status of the partner (1 = educational homogamy)	43%			
Other household income (divided by 1000)	9,6	1,1	0	12

Notes*:* for covariates only the percentage is given.

Source: EU-SILC 2007, authors' calculations.

Figure 1: Labor force participation rates by childcare and public employment





Source: EU-SILC 2007.

4.4. Level 2 control variables

We also include two macro-level control variables. First, to account for labor market conditions we include the overall *unemployment rate* for 2007 (Eurostat). It can be assumed that it is harder for women to engage in paid employment when countries are facing high unemployment rates. As a consequence, we expect a negative sign.[5] Second, we include a control variable as a proxy for the family culture, i.e. the societal care ideals, of the countries in our sample. This is important because we want to separate the cultural norms on the level of the country from norms stemming from the direct social structure, i.e. the social groups wherein women are embedded. This variable is constructed on the basis of the question "A pre-school child is likely to suffer if his or her mother works"

[5] Other potentially relevant country-level variables such as GDP per capita were also tested for, but did not yield different results. As they were highly correlated with the unemployment rate, we removed them from the final analysis. The same holds for the part-time work ratio which we included in preliminary analyses (not shown) to control for the female-friendliness of the labor market because a large part-time labor market is expected to facilitate female employment. (Del Boca, 2003; Jaumotte, 2003) However, the variable was highly correlated with GDP per capita and unemployment variables and made the results become spurious, while yielding no significant result whatsoever on its own. This provides modest evidence for Mary Daly's claim that "there is no automatic or necessary relationship between the volume of part-time employment and the female employment ratio." (Daly, 2000a: 481)

from the European Values Study wave 1999 (1996 for Norway). Based on the use of this question in previous analyses (Steiber and Haas, 2009), we consider the proportion of the answer category 'strongly agree' as a measure of conservatism in gender role attitudes. It is expected that higher values will lead to lower odds for women to engage in employment. Descriptives are listed in Table 3.

4.5. Modeling institutions

In this article, we seek to test the effect[6] of two government institutions on the likelihood for individual women to engage in paid employment. These two country-level explanatory variables are modeled as follows. First, the *share of public employment* is coded as the ratio between all workers in the public sector and all employed. A large share of public employment points to the importance countries attach to their role as employer and as provider of women-friendly jobs. Due to the difficulty of finding up-to-date and comparable data on public employment (e.g. European states do not deliver this data to Eurostat and the OECD database does not cover all of the countries included in this study), we construct this variable from our survey based on a broad version of the NACE classification found in our dataset: public employment is measured as the sum of public health, education and welfare employment (categories L, M and N). Second, *public childcare* provision is constructed by multiplying the median number of hours of public childcare use for children aged 0-2 by the proportion of households with a youngest child under three using public childcare services.[7] This way, we model the interplay of the effective supply of childcare services and the 'social acceptance' of care use. For instance, for Sweden, with its guaranteed childcare availability for preschool children and its custom to use those services on a fulltime basis, the score is higher than for United Kingdom, a country with an average percentage of care use but mostly on a part-time basis (Plantenga and Remery, 2009). A large share of public childcare combined with full-time care use signals public support for the externalization of parental childcare (Pettit and Hook, 2005). Hence, we add a social layer to the usual, more restrictive, understanding of availability.

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[6] One must bear in mind that 'effect' is not used in the causal but in the statistical sense throughout this paper.

[7] We restrict ourselves to the childcare services for preschool children because they are most determining for female employment and the reconciliation of the work-family conflict. In most of the European countries the educational system starts around age three, which provides mothers with more freedom to attain employment.

A bivariate descriptive analysis of the relationship between our two institutional measures and labor force participation rates of women in our sample provides *prima facie* moderate support for the first two hypotheses formulated above. Figure 1 shows that both public childcare ($r = 0.64$, $p < 0.0001$) and public employment ($r = 0.62$, $p < 0.0001$) are significantly and strongly associated with higher employment rates and that considerable differences between countries can be observed. However, some countries with a high share of public sector work do not have high female employment rates while countries with high employment rates do not necessarily have a large public sector, an observation also made by Gornick and Jacobs in their study of seven OECD countries (1998).

Table 3: Descriptives of the country-level variables (N = 22)

Code	Unemployment rate[A]	Family culture[B]	Public sector employment	Public childcare
AT	5,2	31,9	19,3	1,3
BE	8,5	19,2	35,7	13,1
CZ	7,9	9,2	19,2	0,1
DE	10,7	18,2	31,3	4,7
DK	4,8	3,4	30,8	23,3
EE	7,9	16,4	18,8	1,1
ES	9,2	7,6	20,6	1,8
FI	8,4	7,2	27,6	7,6
FR	9,3	21,9	29,9	12,2
GR	9,9	17,3	20,1	1,7
HU	7,2	25	22,7	1,7
IE	4,4	5,9	27,4	5,2
IT	7,7	19,6	21,8	1,4
LT	8,3	15,5	24,7	0,6
LU	4,6	27,6	28,0	8,6
LV	8,9	14,2	19,5	1,0
NO	4,5	13,4	31,3	11,5
PL	17,8	22,9	20,7	2,3
PT	7,7	14,7	20,8	12,0
SE	7,7	7,1	34,7	15,5
SK	16,3	18,3	26,3	0,8
UK	4,8	9,5	30,2	2,2

Source: EU-SILC 2007, authors' calculations.

[A] Eurostat, 2007.

[B] European Values Survey, wave 1999 (Norway 1996).

4.6. Modeling reference groups

Modeling the social environment without having *real* data on individuals and their embeddedness is a thorny issue. To get around this, we create homogeneous *virtual reference groups*. We attribute all respondents to one group determined by their country, their educational level and the urbanization level of their place of residence. Since education is measured in three levels and urbanization is a dummy variable (living in an urban area or not), we distinguish six reference groups per country.

The allocation of individuals into homogenous groups (based on their educational level and degree of urbanization) may seem as totally arbitrary but is however justified by the fact that networks of every type are structured by the principle of homophily (Lazarsfeld and Merton, 1954). This is the principle that "contact between similar people occurs at a higher rate than among dissimilar people" (McPherson et al., 2001: 416). Otherwise stated, people tend to flock together if they have similar characteristics. This phenomenon was already described by psychological research[8] and has been a robust finding among friends, associations, organizations *et cetera* as well as in marriage. (Kalmijn, 1998) The similarity can be based on inherited characteristics such as race, age and sex or on 'acquired'[9] characteristics such as education and occupational status. In a postindustrial society, the latter becomes very important because they are to a large degree determinants of one's societal position. Following Marsden (1988), we consider educational homophily as one of the most important dimensions of similarity in contemporary societies and decisive in explaining patterns of support for women's work roles. (Suitor and Keeton, 1997) It has indeed been shown that education shapes the social distribution of opportunities (Stadelmann-Steffen, 2008) and that it can be seen as a predictor of values and norms on gender roles (e.g. higher educated individuals having more modern ideas about motherhood) (Crompton and Lyonette, 2005).

Similar arguments can be formulated about degree of urbanization, as living in an urban area provides women with more opportunities for social mobility (Shaver, 2002) and can be seen as a measure of 'distance': individuals are more likely to connect to others who are closer in geographic location (McPherson et al., 2001). Living in a densely populated area can indeed be seen as a spatial determinant of labor force participation: it is often said that urban areas have a high density of

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8 Festinger's 'theory of social comparison', stating that people use those who are similar as reference group, is a good starting point (Festinger, 1950).

9 Of course, 'acquired' should be interpreted carefully, as educational level cannot be seen independent of schooling opportunities, cognitive capacities, socio-economic background etc.

services which leads as a consequence to a better availability of supporting services such as childcare on the one hand and a larger job offer (De Meester et al., 2007). Furthermore, it is expected that commuting times are lower in urban areas, which can be of great importance for women who often have to face time constraints due to their domestic workload (van Ham and Büchel, 2006). Finally, living in an urban area can very well be a reflection of a certain, modern lifestyle (Karsten, 2003). If some households decide to move to urban areas, or decide to do the opposite, it can be assumed that the prevailing norms and values about motherhood and raising children are among the reasons. In sum, we also observe the interplay between opportunities and norms in the degree of urbanization.

In line with our theoretical arguments made before, it can be expected that women with higher education and living in urban areas will have more opportunities to find employment, but will also be more influenced by modern values about motherhood and gender roles than their evenly educated women living in rural areas and certainly in comparison with their lower educated counterparts. *Ergo*, given the fact that there exists homogeneity in reference groups, we model our homogenous virtual reference groups based on place of residence (inside or outside urban areas) and educational level (low, medium or high) to reflect the interplay between 'opportunity factors' and 'desire factors'. We expect a positive sign for 'high educated and urban' reference groups and a negative sign for 'lower educated non urban' reference groups. Given our final hypothesis, we also expect that the effect of institutions is different for women allocated to different reference groups.

4.7. Method

Because we are dealing with hierarchical data (individuals are nested in countries) and our dependent variable (*labor market status*) is a binary indicator of whether a women is working or not, we apply a multilevel logistic regression model with a random intercept and country as the higher level variable, (*xtmelogit* command in STATA version 11). A multilevel design takes the hierarchical structure of our data explicitly into account and yields less biased standard errors than a regular logistic regression model (Hox, 2002). An additional advantage of multilevel models is that the effects of country-level variables, i.e. institutions, on the odds of engaging in paid employment can be modeled while simultaneously controlling for individual-level characteristics (Rabe-Hesketh and Skrondal, 2008). We use the Maximum Likelihood procedure as our estimation fit, and the deviance (-2 LogLikelihood) to estimate the fit of the models.

5. Multivariate results

We follow several steps to answer our research questions. We first estimate the effect of our individual-level control variables (Model 1a) and explore the role of marital homogamy by interacting the effect with level of education (Model 1b). Second, we include our country-level controls (Model2). In a third step, we assess the effect of our institutional variables: public employment and public childcare (Model 3). Finally, we explore the idea of reference groups (Model4) and their possible mediating role in the effectiveness of our institutions (Model 5a & 5b). Table 4 reports the estimated coefficients (*b*) and the associated standard errors (*SE*) obtained by multilevel logistic regression models for the models 1-4, while models 5a & 5b are reported in table A.2. (see annex) and visualized in Figure 3 and Figure 4.

We start, however, with an empty model (*null model* or *baseline model)* to analyse the between-country variance without considering any control or explanatory variable on the individual or the country level. We calculate the intra class correlation coefficient[10] (ICC) as 0.03, indicating that only 3% of the residual variation in women's employment decisions can be explained by country-level differences. This is an interesting observation, because it means that almost all variation in female labor supply is attributable to differences between individuals. This does not mean, however, that the country-level is negligible[11], only that we cannot explain much by looking at pure country-differences. To explore whether a multilevel approach is appropriate, given the small ICC, we compared the empty model with a standard logistic regression model using a likelihood-ratio test. This showed that we can reject the null hypothesis that the variance at the country-level is equal to zero ($p < 0.001$), pointing to the relevance of using a multilevel approach.

The country variation estimated from the null model is illustrated in Figure 2. Without controlling for individual characteristics or macro level circumstances, the odds for women to be active on the labor market are highest in the Nordic countries, Lithuania, Latvia, United Kingdom and Slovak Republic. Women in Belgium also have higher odds to engage in employment than on country-average. In the Southern countries (with

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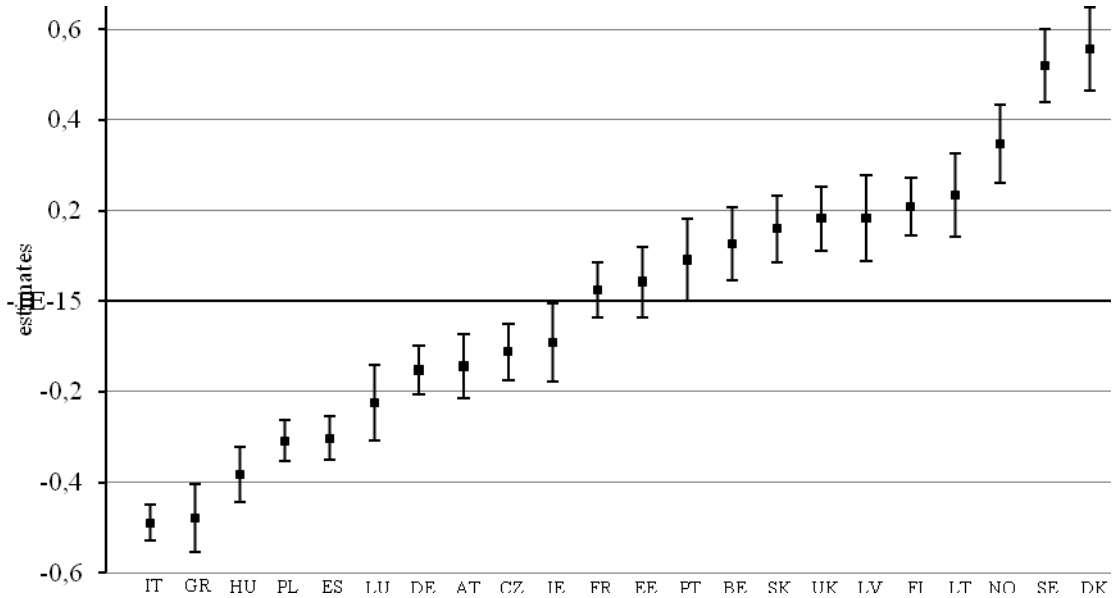
[10] Intra Class Correlation or Variance Partition component (VPC) in multilevel research represents the percentage variance explained at the higher level (symbolized by σ^2), i.e. country-level, by dividing the higher level variance by the total variance (level 1 + level 2). Because we are dealing with a binary dependent variable, we use 3.29 ($\pi/3$) as the level 1 variance following Snijders en Bosker (1999).

[11] Let us clarify this by a hypothetical example: if being higher educated is one of the most important preconditions to find a job, then a country can influence this, for instance by providing schooling of better quality. The 3% variation at the country-level thus cannot be equated with 'country effects'.

the exception of Portugal), Poland, Luxemburg, Hungary, Germany, Austria and Czech Republic the likelihood is lower.

Figure 2: Empirical Bayes estimates of country-level random effects (model 0).



Note: the graph displays country-level residuals of intercepts with their 95% confidence intervals, estimated from the empty random intercept model. In countries that show no overlap with the zero line, women are significantly more/less likely to be employed than on country-average ($p < 0.05$).

Source: EU-SILC 2007. Authors' calculations.

In model 1a we examine the influence of individual-level variables on female labor market decisions. The results are in line with previous findings in the literature and prove to be robust throughout the different models. Interestingly, the unexplained country-level variance increased by 8% (1-[0.153/0.085] = -0.8) with the inclusion of compositional factors in our model. This is not unusual in multilevel modelling (Rabe-Hesketh and Skrondal, 2008), and indicates that we cannot explain cross-country variation without taking individual-level factors into account.

The human capital variables behave as expected. Age and age² have a positive respectively negative sign showing that the relationship between age and the employment probability is indeed inversely u-curved. Next to this, being highly educated is conducive to engage in paid employment while the opposite holds for being low educated (with medium educational level as reference category). We also observe the motherhood-induced employment penalty: having children in comparison with being childless means a huge drop in the probability of being employed, especially when children are young. Other household income also has the expected effect: the higher the income from other sources, the lower the odds women are in paid employment. By including a dummy for having a partner and a

dummy if the partner is working, we can interpret both as a combined effect: having a working partner increases the odd for women to be employed, while having a non-working partner decreases the odds. The effect of having a partner with the same educational level (*assortative mating*) is not significant. However, we explicitly hypothesized that this effect would be different for higher and lower educated women. To test this assumption, we included an interaction effect between educational homogamy (having the same educational level, yes or no) and educational level (with medium education as reference category) in model 1b. The results confirm that assortative mating tends to reinforce labor market disadvantages: the effect is significantly negative for low skilled women, thus decreasing the likelihood to participate in the labor market, while the estimate is positive but not significant for their high skilled counterparts. Finally, the variable degree of urbanization does not behave as expected. We assumed that living in an urban area would be conducive for women's employment, but the opposite seems to hold: living in an urban area decreases the odds to engage in paid work.

Model 2 includes the country-level control variables. The estimates of the unemployment rate (which can be seen as a proxy for the state of the labor market) and the family culture (societal care ideals) have the expected sign and are significant. The higher a country's level of conservatism in gender role attitudes and the higher the unemployment rate, the lower the odds for women to be employed. The inclusion of these level-2 variables explains 41% (1-[0.089/0.153] = 0.41) of the between-country variation (controlling for compositional effects).

We estimated two models to test our first two hypotheses. First, in Model 3a we observe that *public sector employment* is related with higher female employment chances. The inclusion of this variable also results in a better fit of the model (looking at the deviance) and leads to a reduction of 24% in the unexplained variance at the country-level. As a consequence, the public employment hypothesis (H2) has to be accepted. Second, we find that *public childcare* is associated with a higher likelihood for women to be active on the labor market. However, it has to be noted that due to the inclusion of this variable, public sector employment loses its significance. The disappearance of the significance is more than possible due to collinearity (see table A.1 in annex), which means that the effect of public employment is absorbed by the public childcare variable. However, the strong correlation between the two institutions is an interesting finding, because it shows that countries seem to follow a 'double strategy': both roles of the welfare state are utilized to shape an women-friendly labor market. No European country combines a high share of public sector work with an underdeveloped childcare system. Next to this, the inclusion of our institutional variables leads to the insignificance of the 'family culture' variable. This is not unexpected because we assumed that a high score on the childcare indicator also

reflected a positive stance against the externalization of parental care, which cannot be but related with views on motherhood. This shows that we indeed capture the interplay between norms and opportunities with our childcare variable. The same holds for public employment as it is highly correlated with public childcare. These results indicate that, following Uunk et al. (2005), societal care ideals do matter, but that they are not independent from institutions. In sum, we also have to confirm our first hypothesis (H1). Noteworthy is that due to the inclusion of the institutions in our model, 73% (1-[0.041/0.153] = 0.73) of the cross-country variation is explained.

6. The effect of reference groups

We hypothesized that the effect of our institutional variables would be mediated by the influence of reference groups. However, first we have to assess to what extent it makes a difference for individual women to be allocated to different reference groups. Model 4 shows that we effectively find significant differences in the odds of being employed for women according to their reference groups. We notice that women living in an low educated non-urban environment have lower odds of being employed while a high educated non-urban environment is conducive for employment. The same pattern can be observed in urban environments. We do not find significant differences for the medium educated urban category with respect to women allocated to the reference category. However, our reference group variables do not behave exactly as expected. The effect of the urban environment seems to mitigate the effect of education: the likelihood to participate for women allocated to a high educated non-urban environment is higher than for women allocated to a high educated urban environment. *Vice versa* is the effect of having a low educated reference group more detrimental for employment chances in urban areas than in non-urban areas. These findings are in contrast with our expectations but reflect the findings on the influence of living in an urban area in model1.

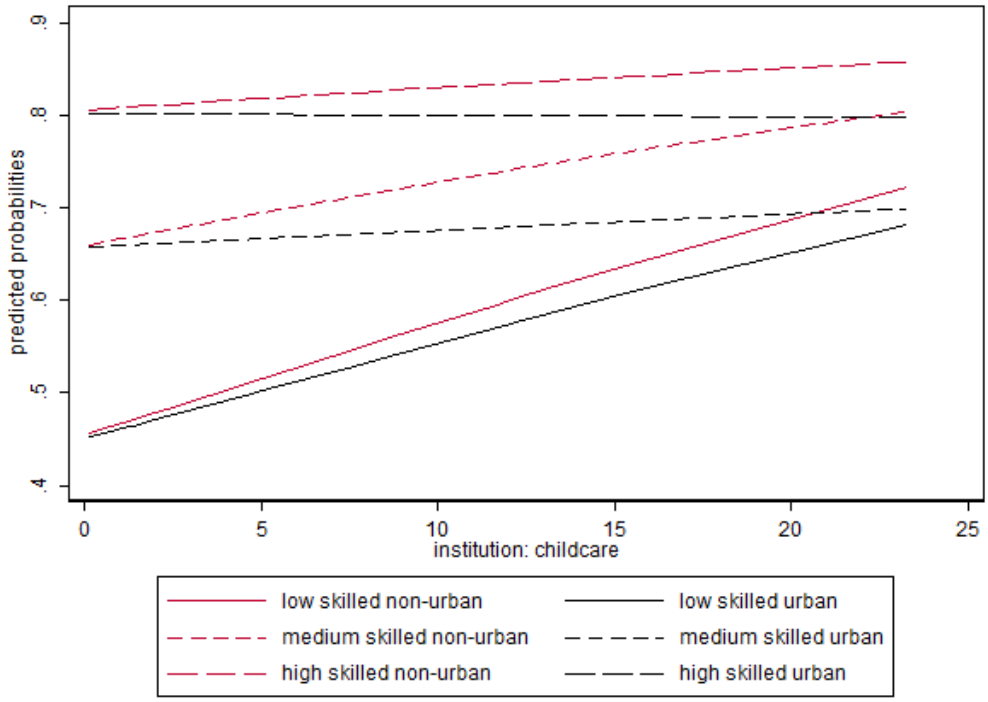
Our main research interest was to explore whether the allocation of individual women to certain reference groups would mediate the effect of childcare availability and public sector employment. In order to explore this, we estimate cross-level interactions between our institutional variables and reference groups. Because it is not straightforward to interpret logistic cross-level interactions on a logit scale, we plotted the results as predicted probabilities in Figure 3 and Figure 4 (full models are to be found in annex).

Table 4: Multilevel logistic regression analysis of women's employment status (N = 85.794).

	Model 0		Model 1 (a)		Model 1 (b)		Model 2		Model 3 (a)		Model 3 (b)		Model 4	
	b	SE	B	SE	b	SE	b	SE	b	SE	b	SE	b	SE
Intercept	0.683***	0.06	4.566 ***	0.13	4.539 ***	0.13	5.324 ***	0.23	4.210***	0.35	4.423 ***	0.32	4.430 ***	0.32
Fixed effects														
Age			0.036 ***	0.00	0.035 ***	0.00	0.036 ***	0.00	0,036***	0.00	0.036***	0.00	0.036 ***	0.00
Age squared			-0.005 ***	0.00	-0.005 ***	0.00	-0.005 ***	0.00	-0,005***	0.00	-0.005***	0.00	-0.005 ***	0.00
Number of children (0 = ref)														
1 child			-1.100***	0.03	-1.111 ***	0.03	-1.100 ***	0.03	-1,099***	0.03	-1.099***	0.03	-1.100 ***	0.03
2 children			-1.207***	0.03	-1.219 ***	0.03	-1.207 ***	0.03	-1,207***	0.03	-1.207***	0.03	-1.208 ***	0.03
3+ children			-1.607***	0.03	-1.616 ***	0.04	-1.607 ***	0.03	-1,607***	0.03	-1.606***	0.03	-1.608 ***	0.03
Age of the youngest child			0.079 ***	0.00	0.080 ***	0.00	0.079 ***	0.00	0,079***	0.00	0.079***	0.00	0.079 ***	0.00
Having a partner (ref=no partner)			-0.198***	0.04	-0.184 ***	0.04	-0.198 ***	0.04	-0,199***	0.04	-0.199***	0.04	-0.199 ***	0.01
Partner is working (ref=not working)			0.832***	0.03	0.808 ***	0.04	0.832 ***	0.03	0,832***	0.03	0.832***	0.03	0.832 ***	0.03
Educ. homogamy (ref=no)			0.012	0.02	0.126 ***	0.03	0.012	0.02	0,013	0.02	0.013	0.02	0.013	0.02
Educ. level (medium = ref)														
Low			-0.735 ***	0.02	-0.557 ***	0.03	-0.735 ***	0.02	-0,734***	0.02	-0.736 ***	0.02		
High			0.679 ***	0.02	0.684 ***	0.03	0.679 ***	0.02	0,679***	0.02	0.678 ***	0.02		
Low educ. x homogamy					-0.467 ***	0.04								
High educ. x homogamy					-0.001	0.04								
Other household income			-0.358 ***	0.01	-0.359 ***	0.01	-0.358 ***	0.01	-0,359***	0.01	-0.359 ***	0.01	-0.359 ***	0.01
Urbanization (1 = urban)			-0.097 ***	0.02	-0.099 ***	0.02	-0.097 ***	0.02	-0,097***	0.02	-0.097 ***	0.02		
Unemployment rate							-0.057 **	0.02	-0,047**	0.02	-0.039 **	0.01	-0.039 **	0.01
Family culture							-0.018 *	0.01	-0,012	0.01	-0.009	0.01	-0.009	0.01
Public employment									0,037 ***	0.01	0.018	0.01	0.018	0.01
Childcare availability											0.027 **	0.01	0.027 **	0.01
Reference groups														
Low educ. – non-urban													-0.760 ***	0.03
Med. educ. – non-urban													Ref	
High educ. – non-urban													0.684 ***	0.03
Low educ. – urban													-0.800 ***	0.03
Med. educ. – urban													-0.109 ***	0.02
High educ. – urban													0.566 ***	0.03
Random part														
σ^2	0.085		0.153		0.154		0.089		0.054		0.041		0.040	
ICC	0.03		0.04		0.05		0.03		0.03		0.01		0.01	
Deviance (-2LL)	110271		96067		95929		96055		96044		96038		96035	

Source: EU-SILC 2007; *** p<0.001, ** p<0.01, * p<0.05; Deviance is a goodness-of-fit measure which decreases with the quality of the model fit.

Figure 3: Predicted probabilities for the interaction between childcare and reference groups.

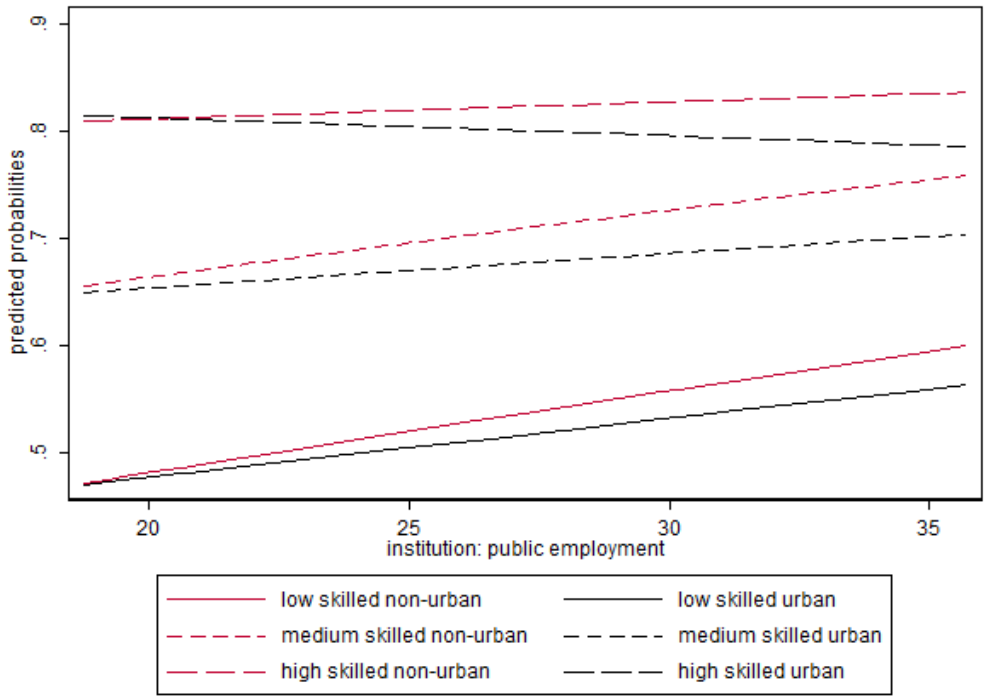


Source: EU-SILC 2007. Authors' calculations.

We find significant differences ($p < 0.01$) between reference groups regarding the effect of childcare (except for the interaction with the 'low educated urban' reference group). Two interesting observations can be made. First, the gap between different reference groups is reduced as public childcare increases. We notice that sufficient childcare supply[12] is particularly helpful to increase the odds to be employed for lower and medium educated women, while highly educated women always have higher odds of employment irrespective of childcare availability. Second, we also notice differences in effectiveness between urban and non-urban areas. Childcare seems to be more effective for women living in non-urban areas than for women living in urban areas. Or, in other words and contrary to expectations, the effect of childcare availability on women's employment decisions is stronger for women allocated to a 'non-urban reference group' than for women allocated to an 'urban' reference group'. The overall effect of childcare is stronger for low educated (and to a lesser extent for medium educated) women than for with high educational levels.

[12] Bear in mind that we modelled the interplay between norms ("it is socially accepted to externalise maternal care") and availability ("there are enough childcare slots for preschool children").

Figure 4: Predicted probabilities for the interaction between public employment and reference groups.



We also find significant results ($p < 0.05$) for the effect of public employment on the odds to work for individual women allocated to different reference groups with the exception of the low educated reference groups. This means that while the odds for these groups are low in itself, public employment does not seem to make a difference (unlike public childcare), while it does have an effect on the medium and higher educated reference groups. Again we observe the differences between urban and non-urban areas, whereby public employment seems to be more effective in non-urban areas. Finally, while the employment chances of high educated women are not affected very much (although the effect is rather ambiguous, because the odds are even somewhat lower for the highly educated living in an urban area), women living in a medium educated non-urban environment seem to benefit most from a large public sector.

We hypothesized that the effect of institutions would be mediated by the norms and opportunities stemming from reference groups and we indeed find significant differences in the effectiveness of public childcare and public sector employment on female employment probabilities. From a policy point a view, the results can be summarized as follows: both institutions are 1) significantly related with higher employment probabilities; and 2) more effective in rural than in urban areas; whereby 3) childcare seems to be particularly helpful to increase the employment chances for lower and medium educated women; and 4) public

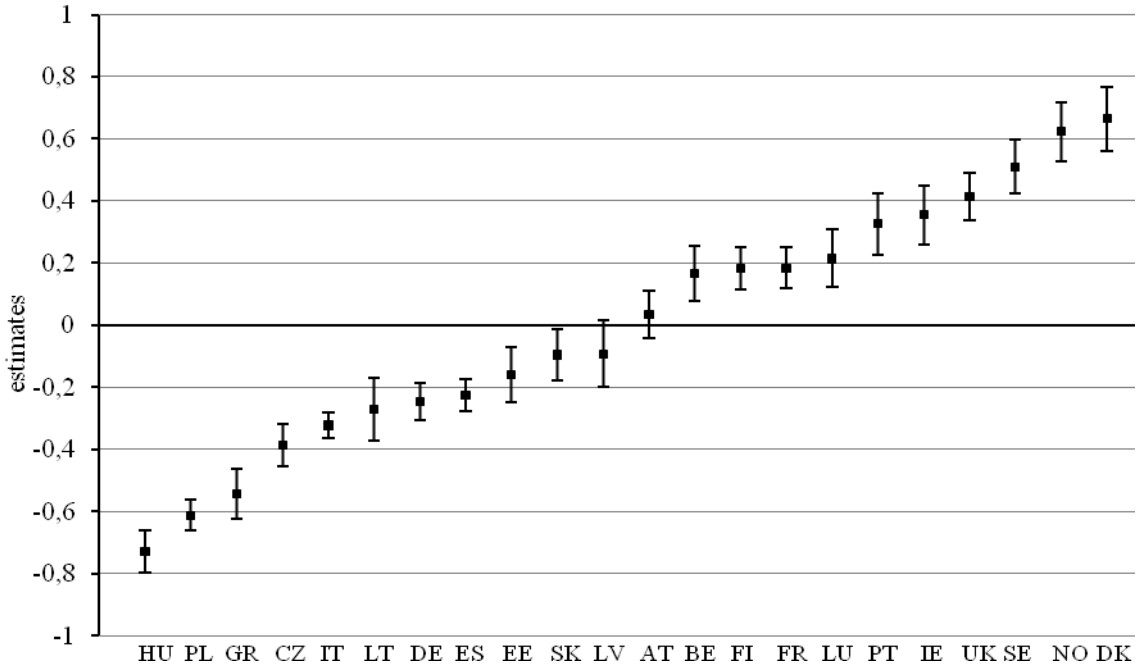
employment does not increase the odds for lower educated women to be employed but is in particular effective for medium educated women.

7. Policy analysis

An overarching research aim of this paper was to look into country differences and identify so-called 'good practices' (and while we are at it: 'worst cases'). One way to do this, is to look at the unexplained cross-country variation after controlling for compositional effects. In other words, if we assume that all European countries would be populated by identical people (as far as our individual control variables are concerned), the remaining between-country differences can (at least partly) be ascribed to the institutional configuration of individual states. For that purpose, the country-level variation estimated from *Model 1a* is displayed in figure 5.

Given the remaining differences between countries, we have to confirm hypothesis 3a. We observe that, *ceteris paribus*, the Nordic countries (with the notable exception of Finland) perform best in shaping circumstances most conducive to women's employment. They are closely followed by two liberal countries (United Kingdom and Ireland) and Portugal. This is fully in accordance with previous comparative work based on the welfare regimes typology (Esping-Andersen, 1990) and a confirmation of hypothesis 3b. At the bottom of our "league table", we observe Hungary, Poland and Greece and – with only slightly better odds – Czech Republic, Italy, Spain, Lithuania and Germany. In other words, the Mediterranean countries and most of the Central and Eastern European countries. Best performing former socialist economies are Latvia (with a result not significantly different from the sample-average), Slovak Republic and Estonia. Belgium, Finland, France and Luxemburg resemble each other and take a position in the middle of the ranking. In comparison with the country variation estimated from the empty model (Figure 2), we notice that Finland falls back to a more average position while Portugal becomes a forerunner. In other words, the *prima facie* good performance of Finland was mainly due to the composition of its population. It is indeed the case that Finland has a highly educated population (40% of the Finnish women in our sample are highly educated versus only 9% low educated) while Portugal has a low educated population (60% of the Portuguese women have a low educational level versus only 16% being highly educated). Thus, controlling for the composition of the population and purely looking at the odds of being employed, Portugal does a better job than Finland.

Figure 5: Empirical Bayes estimates of country-level random effects controlled for compositional effects (Model 1a).



Note: the graph displays country-level residuals of intercepts with their 95% confidence intervals, estimated from model 1a. In countries that show no overlap with the zero line, women are significantly more/less likely to be employed than on country-average, controlling for individual and household characteristics ($p < 0.05$).

Source: EU-SILC 2007. Authors' calculations.

The latter remark is an important nuance throughout this article. We only estimate the odds for being employed which means that we do not say anything about the nature, the quality or the wages of the jobs concerned. The good result of the liberal countries is a case in point to elaborate on this somewhat further. It has been shown that the state only plays a minimal role in UK and Ireland (in comparison with the Nordic countries) whereby care is assumed a private responsibility (Lewis et al., 2008). How does a minimal state result in high female employment rates? Although some authors argue that it is in the liberal countries that women enjoy the greatest freedom of choice on the labor market (e.g. Hakim, 2000), we believe that high female employment rates in these countries arise due to *necessity* rather than choice. Steiber and Haas note that "in the context of minimal state efforts (..) parents are 'forced' to find private solutions, which often involve mothers taking up low quality part-time work" (2009: 21). Countries where high odds for women to be employed are a result of necessity rather than choice can hardly be categorized as good practices, both from a gender equity and an emancipation point of view. In general, we can say that in United Kingdom and Ireland, market-driven rather than state-driven explanations of female employment patterns prevail.

However, we lack full information about policy measures in our model to make decisive statements at this point.

8. Discussion

Our analyses yielded several results worth looking at in a more thorough manner.

First of all, when looking at compositional effects on female employment decisions we found that having a partner has a positive impact on female labor supply, but only insofar the partner is employed as well. This finding contradicts some earlier studies indicating that the labor market status of the partner does not have a clear influence on women's employment decisions (Lundberg, 1985) but reinforces more recent findings that women with a non-working spouse are more likely to be out of employment (Davies et al., 1992; Matysiak and Steinmetz, 2008). One of the causes of this finding could be the phenomenon of educational homophily (i.e. assortative mating). Our results (partially) confirm this explanation: we find that educational homogamy among the low educated reinforces labor market disadvantages at the household level while the effect of assortative mating was not significant for the high educated. This also indicates that highly educated women will have higher employment chances anyway, irrespective of their partnership status.

Second, we assessed the role of the welfare state in shaping women's individual employment decisions by focusing on its role as legislator and on its role as employer. Regarding the first role, this study provides further evidence for the conducive role of public childcare availability on women's employment decisions. Furthermore, we observe that the significance of our family culture variable (reflecting societal care ideals) disappears when including childcare as an explanatory variable, confirming our expectation that the effect of childcare availability is in fact an interplay between norms and opportunities. Regarding the role of the welfare state as employer, we find a significant relationship between public employment and female employment which is in accordance with our second hypothesis. However, the effect disappears when including public childcare in the model. One of the reasons for this could be the strong correlation with the public childcare variable, suggesting that countries follow a double strategy: a large public sector cannot be seen apart from extensive childcare provisions. Both are a reflection of a state's commitment to create a women-friendly environment on the labor market.

Third, one of the main contributions of this article to the literature is the inclusion of a explanatory dimension neglected thus far: the norms and opportunities stemming from the reference groups of individual women. We allocated all women in our sample to one out of six reference groups

per country, based on degree of urbanization and level of education and rooted in a theoretical discourse on embeddedness and social homophily. Our results suggest that individual women's employment decisions are related with the context in which they are embedded. We observe differences in the log odds of being employed for women allocated to different reference groups, with higher odds for high skilled *versus* low skilled women and for rural *versus* urban structures. Although we cannot distinguish between opportunity structures and normative structures (*desire factors*) in our model, we strongly belief that they both play an important role in shaping employment decisions. As a consequence, we also formulated the expectation that the effect of institutions would be mediated by the constructed reference groups. Accordingly, we find significant differences in effectiveness of our institutions between reference groups.

It turns out that childcare availability does not affect women allocated to the 'high skilled' reference groups very much. In line with our previous finding on the effect of educational homogamy, we witness that high skilled women have higher employment chances, even when there are barely childcare services available. It could very well be that high skilled women can more easily turn to the private market or informal networks for their care demands. Further research should separate different forms of childcare (public, private and informal) to shed some more light on this. The same holds for public sector employment, although the results are somewhat more ambiguous (we strangely observe that the odds to work even decline slightly for women living in high skilled urban environment with a large public sector). Yet our findings confirm the observations, made earlier by Cantillon et al. (2001), that institutions do not profoundly affect the labor market participation of highly skilled women. Looking at the 'low skilled' reference groups, however, we notice clear and strong effects of childcare availability while there is no significant effect to be observed of public sector employment. Thus, when childcare availability increases, the odds for low skilled women to engage in paid employment increase correspondingly. A large public sector, then, seems to be most conducive for medium skilled women. Most strikingly, however, is the observation that childcare and public employment are *prima facie* more effective in rural than in urban areas.

Indeed, contrary to popular belief, we do not find evidence that urban environments shape better circumstances for women to participate in the labor market. We presumed that urban areas would be conducive for women's employment because of the concentration of services (with their role as employer and provider of, for instance, care services), lower commuting times and the interplay with a certain 'urban lifestyle'. However, we do not witness this effect in our data. Some explanations can be formulated for this unexpected result. First of all, our dummy variable may not fully catch the effect of living in an urban environment. A more detailed classification of 'degree of urbanization' may lead to different

results. Second, urban areas know greater diversity within short distances than rural areas (Marsden, 1988), which could lead to weaker ties within social networks and could whittle down the influence of social homophily. This would imply that the influence of reference groups is weaker in urban areas than in rural areas. Third, the weaker effect of childcare in urban areas could be due to a childcare supply problem. It is exactly in urban areas that demand for childcare is greater than the availability with long waiting lists as a consequence. There is some evidence that especially low income families (which often coincides with being low skilled) have trouble gaining access to the available childcare slots. Our results on the differences between urban and rural areas could have serious implications for policy-makers and should definitely be studied more in-depth.

9. Conclusion

In this article, we evaluate the effect of two institutions, public sector employment and childcare availability, on individual employment outcomes for women. We add a new explanatory dimension to our model and assume that the effect of the institutions on employment behaviour is mediated by opportunity- and normative structures stemming from the reference groups surrounding individual women.

Our empirical findings can be summarized as follows: we find evidence that public childcare and public sector employment are associated with higher female employment chances in European countries. We also present modest evidence that individual women surrounded by different reference groups behave differently on the labor market and we observe that public childcare availability is particularly helpful to raise the odds of employment for lower skilled women while there is no such effect of public employment. High skilled women find employment irrespective of the institutions discussed in this article. Next to this, it seems that, contrary to popular belief, urban environments do not necessarily shape better circumstances for women to participate in the labor market.

A more general research aim is to explore cross-country differences in female labor supply and identify countries whose institutional configurations succeed in shaping an women-friendly labor market. We find that the Nordic countries (with the exception of Finland), Portugal, United Kingdom and Ireland present the highest odds for women to become employed. However, the good performance of the liberal countries seems to be caused by market-driven phenomena.

Our results indicate that a more complex relationship between individual behaviour and institutional configurations exists than tested for in previous research. Further explorations of the role of reference groups in shaping employment behavior should concentrate on disentangling the

normative structures and opportunity structures surrounding women, for instance by using data with more detailed information on social networks and neighbourhoods. The findings presented here suggest, however, that policies designed to enhance female employment rates have a diverse impact on women's labor market emancipation. We hope to inspire more multilevel research that explores the relation between the labor market decisions of social actors and the influence of their surroundings. Such efforts will lead to a better understanding of how institutions shape women's emancipation on the labor market.

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Annex

Table A.1. Correlation table of the macro variables.

	Unemployment	Family culture	Public sector employment	Public childcare
Unemployment	1,0000			
Family culture	0,2654	1,0000		
Public sector employment	-0,2274	-0,2245	1,0000	
Public childcare	-0,2756	-0,2754	0,7109	1,0000

Source: EU-SILC 2007.

Table A.2. Multilevel logistic regression analysis of women's employment status (N = 85.794).

	model5a		model5b	
	b	se	b	se
Intercept	4.368 ***	0.32	4.185 ***	0.33
Fixed part				
Age	0.036***	0.00	0.036 ***	0.00
Age squared	-0.005***	0.00	-0.005 ***	0.00
One child (ref=0)	-1.097***	0.03	-1.096 ***	0.03
Two children (ref=0)	-1.202***	0.03	-1.202 ***	0.03
Three or more children (ref=0)	-1.601***	0.04	-1.601 ***	0.03
Age of the youngest child	0.078***	0.00	0.078 ***	0.00
Having a partner (ref=no partner)	-0.195***	0.04	-0.199 ***	0.04
Partner is working (ref=not working)	0.830***	0.03	0.833 ***	0.03
Education homogamy (ref=no)	0.020	0.02	0.022	0.02
Other household income	-0.363***	0.01	-0.363 ***	0.01
Unemployment	-0.040**	0.01	-0.041 **	0.01
Family culture	-0.009	0.01	-0.009	0.01
Reference groups				
Low skilled – non-urban	-0.844***	0.03	-0.775***	0.14
Med. skilled – non-urban	Ref.		Ref.	
High skilled – non-urban	0.767***	0.04	1.158 ***	0.14
Low skilled – urban	-0.859***	0.05	-0.617***	0.17
Med. skilled – urban	-0.007	0.03	0.255 *	0.11
High skilled – urban	0.740***	0.04	1.595 ***	0.15
Childcare	0.033**	0.01	0.026*	0.01
Low skilled – non-urban x childcare	0.016***	0.00		
Med. skilled – non-urban x childcare	Ref.			
High skilled – non-urban x childcare	-0.016**	0.01		
Low skilled – urban x childcare	0.009	0.01		
Med. skilled – urban x childcare	-0.024***	0.00		
High skilled – urban x childcare	-0.034***	0.01		
Public employment	0.021	0.01	0.030*	0.01
Low skilled – non-urban x public employment			0.001	0.01
Med. skilled – non-urban x public employment			Ref.	
High skilled – non-urban x public employment			-0.019 ***	0.01
Low skilled – urban x public employment			-0.008	0.01
Med. skilled – urban x public employment			-0.015 ***	0.00
High skilled – urban x public employment			-0.040 ***	0.01
Random part				
Intercept variance	0.039		0.041	
ICC	0.01		0.01	
Deviance	95926		95971	

Source: EU-SILC 2007; * p<0.05, ** p<0.01, *** p<0.001.