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the fatherhood premium?**

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Does the European country-specific context alter the fatherhood premium

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Abstract

This paper contributes to the discussion on the effects of childbearing on fathers' labour market opportunities in Europe. We use instrumental variable models and data from EU-SILC to examine the cross-country variation in the causal effects of family size on the labour market outcomes of fathers. We provide an overview of the impact of family size on the employment careers of fathers, as measured on a range of dimensions: the probability of work, the number of working hours, the job rank and level of pay, and the degree of job stability based on the type of employment contract.

Our findings indicate that men increase their number of working hours and earnings in response to having more children, but that the stability of men's employment contracts does not change. These effects are prevalent across all European countries, but they are somewhat stronger in more conservative societies in which men are expected to be the main breadwinners, and they are weaker in egalitarian societies in which men are expected to participate in household and family duties.

Keywords: fatherhood, labour market, gender roles

JEL: J13, J21

CONTENTS

- I. INTRODUCTION 4
- II. LITERATURE REVIEW 6
- III. EUROPEAN CONTEXT 8
- IV. DATA AND METHODS 9
 - RESEARCH DESIGN 9
 - DATA 11
 - MODEL SPECIFICATION..... 12
- V. EMPIRICAL RESULTS..... 14
 - GENERAL EFFECTS OF FAMILY SIZE 14
 - DO EFFECTS OF FAMILY SIZE DEPEND ON THE COUNTRY CONTEXT 16
- VI. CONCLUSIONS 19
- ACKNOWLEDGEMENTS 20
- APPENDIX..... 21
- REFERENCES 24

I. INTRODUCTION

The aim of this paper is to demonstrate how an increase in the number of children in a family affects the labour market chances of the father and of his female partner, and how these effects depend on the gender role attitudes prevalent in the country in which the family lives. A large number of empirical studies have examined the effects of having children on women's labour market outcomes. This research has shown that the greater the number of children a mother has, the worse her labour market opportunities tend to be, and that this relationship is more pronounced in countries in which the conditions for combining work and family reconciliation are worse (Matysiak and Vignoli 2008; Nieuwenhuis et al. 2012; Uunk et al. 2005; Stier and Mandel 2009). Much less is known about the effects of family size on fathers' employment (Lundberg 2005; Koslowski 2010; Weinshenker 2013). In societies in which men are expected to be "good providers", and thus to assume responsibility for providing financial support for their families, they may be expected to increase their labour market attachment after the arrival of a child (Maume 2006; Kaufman and Uhlenberg 2000; West and Zimmerman 1987). However, in some countries men have been gradually increasing their participation in care duties (Yeung et al. 2001; Esping-Andersen et al. 2013; Sullivan et al. 2014), and have thus slowly been adopting the "involved father model". As this trend continues, men may start to encounter challenges in combining work with care similar to those already faced by women. Hence, the positive effect of family size on fathers' labour market outcomes should be less pronounced in more egalitarian societies in which the equal division of labour between men and women is promoted. The effect of family size on men's employment careers might therefore be ambiguous and context-dependent, as is the case for women.

The few studies which sought to examine the moderating effect of gender norms on the impact of family size on the labour outcomes of fathers have often done so by comparing the magnitude of the effect of family size across families in which the parents have diverging attitudes regarding the mother's employment (Kaufman and Uhlenberg 2000; Maume 2006; Bulanda 2004). However, this approach has several shortcomings. First, instead of taking into

account the country-specific gender norms, most of these studies have relied on individual reports of preferences and attitudes, which may have been affected by ex post rationalizations of the actual choices of the respondents. Second, the measures of attitudes and preferences that were used in these studies usually referred to women's roles only, whereas an empirical test comparing levels of social acceptance of the "good provider model" and the "involved father model" should involve direct questions about the father's role. Moreover, the existing studies provide evidence mainly for the US (Astone et al. 2010; Knoester and Eggebeen 2006; Lundberg and Rose 2002; Percheski and Wildeman 2008; Sanchez and Thomson 1997; Weinshenker 2013). There has, however, been little research on the effects of family size in a comparative perspective (Weinshenker 2013; Koslowski 2010). Finally, previous empirical studies failed to account for the fact that men's family status is a choice variable that may respond to the same economic forces as those that determine labour market behaviour. Consequently, their estimates of the effect of family size on fathers' employment may have been biased by the selection of fathers with particular unobserved characteristics into a group with particularly good or particularly poor performance on the labour market (Lundberg 2005).

In this paper, we seek to make up for the shortcomings of previous studies, and thus to contribute to our knowledge of the effects of having children on the employment patterns of men. Having access to individual-level data from the European Union Survey on Income and Living Conditions (EU-SILC), which collects information on the family compositions, the labour market outcomes, and the financial situations of EU inhabitants provides us with the opportunity to carry out a cross-country comparative analysis. We link these data with measures of country-specific gender norms derived from the European Value Survey (EVS), which contains information on social attitudes regarding gender roles. We use indicators of social attitudes regarding the family and work responsibilities of both mothers and fathers. Finally, we account for the endogeneity of fathers' employment by applying instrumental variable models based on information about multiple births.

II. LITERATURE REVIEW

The relationship between family size and parental employment is very well grounded in existing theories. According to neo-classical economic models, a division of labour within a household is more efficient than the sharing of duties, as one of the parents is able to specialise in market production, while the other focuses on home production (Becker 1965). For biological reasons and because of the influence of social norms, the role of care provider is usually assumed by the mother (Brewster and Rindfuss 2000; Lehrer and Nerlove 1986). Hence, the effect of the number of children on parents' employment is expected to be positive for men and negative for women.

A similar perspective on the effect of having children on the labour market activity levels of fathers has been proposed in the sociological literature. In addition to having a legal obligation to provide support for each of his children, a father may feel a moral imperative to provide financial support for his family, as he is perceived as being the principal income earner (Steil and Weltman 1991; West and Zimmerman 1987). Hence, the behaviour of many fathers may reflect the “good provider model”; i.e., a father may increase his labour market attachment after having a (or another) child. A man who has family obligations may be motivated to strive for stable employment and to avoid decisions that may carry a risk of becoming unemployed (Ahituv and Lerman 2011). A man with a larger family, and thus with higher living expenses, may also feel the need to work longer hours and to strive for higher pay (Astone et al. 2010; Killewald 2012; Percheski and Wildeman 2008).

According to Kaufman and Uhlenberg (2000), the degree to which men comply with the “good provider model” may be changing in response to the shift in social attitudes regarding gender roles. Especially in certain countries, growing numbers of men are now involved in caring for their children (Sullivan et al. 2014), and are making use of parental leave programmes (Duvander and Johansson 2012). The perception of what it means to be a “good father” might thus be changing: i.e., a good father not only provides income for his family, but is also involved

in taking care of and nurturing his children (involved father model). As this model becomes increasingly prevalent, becoming a father might actually encourage a man to work fewer hours in the labour market and to earn less money so that he can devote more time to childcare.

Given the arguments presented above, we would expect to find that the effect of family size would depend on the country context. In more egalitarian societies in which it is generally accepted that couples will share the responsibility for providing family income, the pressure on a man to increase his work efforts in order to cover the expenses related to the arrival of a new child may be reduced. Moreover, social acceptance of the idea that a mother and a father will share childcare duties may cause a man to become more involved in parenthood responsibilities, and, for example, to take parental leave or reduce the number of hours he works. Overall, we can expect to find that family size has a strong positive effect on the labour market performance of men in conservative societies, and that this effect is non-existent or even negative in egalitarian societies.

Previous research on the effects of family size on fathers' labour market outcomes has usually yielded findings consistent with the good provider model. Studies have shown that, on average, a man who is a father is more likely than other men to increase the number of hours he works, to stay on a career track (Kaufman and Uhlenberg 2000; Cooney and Uhlenberg 1991), and to experience an increase in earnings (Choi et al. 2008; Lundberg and Rose 2002). However, some types of fathers have been found to be less likely to comply with the good provider model: namely, fathers with egalitarian attitudes (Kaufman and Uhlenberg 2000), and those with a spouse who works full-time (Killewald 2012) or is a main income provider (Kanji 2013). This suggests that the effect of family size on fathers' employment may be context-dependent.

Nonetheless, past empirical studies have not accounted for the fact that a man's fertility and labour market choices might be jointly determined by various factors which could be difficult to measure, such as his material conditions and aspirations, his family orientation, and his personality traits. While some of these studies controlled for the time-constant unobserved

characteristics of men, they still did not take the time-varying unobserved factors into account. This failure may have led to an overestimation of the positive effects of having children on men's labour market outcomes. Furthermore, the effects of the gender role attitudes of men and the labour market involvement of women on the studied effects might have been biased, as the potentially intervening variables used were not necessarily independent of men's family and labour market choices. In this study, we attempt to overcome these problems by looking at how country-level gender norms moderate the effect of interest, and by implementing a quasi-experimental research design.

III. EUROPEAN CONTEXT

Because gender norms differ considerably across Europe, the European Union represents an interesting laboratory for conducting research on the moderating effects of the cultural context on the impact of childbearing on parents' involvement in the labour market. Gender norms define how the male and female partners should divide up paid work and household and care responsibilities in a family. These roles are generally based on perceptions of what is most "appropriate" in a given society (Duncan and Pfau-Effinger 2012; Bianchi et al. 2000). Levels of acceptance of the dual-earner model, in which both parents are in paid employment, vary among European countries (see Figure 1 in the Appendix), although levels of support for this model have been steadily increasing in all of the member states (Søndergaard 2012). Similarly, the degree of social acceptance of fathers' involvement in childcare also varies (cp. Figure 2 in the appendix).

According to various data sources, dual earning and the sharing of care responsibilities are most accepted in the Nordic countries (Treas and Widmer 2000), where the egalitarian division of paid work and household duties has been consistently supported by public policies (Neyer 2003; Leira 2002). In fact, women and men in Nordic countries are the leaders in Europe when it comes to dividing paid work and care duties between partners: these countries have the highest female labour force participation rates (Engelhardt and Prskawetz 2004), and

exceptionally high rates of male participation in household duties (Sullivan et al. 2014). However, it should be noted that even among the Nordic countries there is some variation in gender role attitudes, with Finland being the most traditional of these societies (Lammi-Taskula 2008).

Elsewhere in Europe, attitudes towards mothers' employment and fathers' participation in care are more traditional. In western Europe, levels of acceptance of mothers' employment and of fathers' suitability for caring for children are lower (Matysiak 2011; Søndergaard 2012). Social acceptance of sharing both financial responsibilities and childcare duties is lowest in southern Europe, while the German-speaking and Anglo-Saxon countries have levels between those of southern Europe and the Nordic countries (Fortin 2005; Treas and Widmer 2000; Søndergaard 2012).

The post-socialist central and eastern European countries represent a slightly different case: in this part of Europe, women are perceived as being the best care providers, and are expected to withdraw from employment when their children are young (Treas and Widmer 2000). However, there is also a strong social norm that a woman should work and contribute to the household budget after her children reach a certain age (Lück and Hofäcker 2003). The norms regarding the men's involvement in the family are quite traditional (see Figure 2 in the Appendix), with Lithuania and the Czech Republic being the most traditional; and Hungary, Latvia, and Slovenia being the least traditional. Consequently, the so-called "dual-earner-female double-burden model" is typical of this part of Europe, with the exception of couples with the youngest children, who are most likely to temporarily adopt a male breadwinner model.

IV. DATA AND METHODS

RESEARCH DESIGN

In order to investigate the effects of children on parents' employment, we need analytical methods which allow us to control for all of the observed and the unobserved characteristics

that jointly affect fertility and employment. A failure to account for these characteristics usually leads to a bias in the estimated effects. The literature on women's labour supply has stressed that a woman's family orientation may be negatively correlated with her work orientation, leading to a selection of family-oriented women to the group of non-employed women (Hakim 1991; Francesconi 2002).

A different pattern of selection may be prevalent among men: studies of male fertility have suggested that certain personality characteristics, such as sociability, may predict the likelihood of forming a family (Jokela 2009; von der Lippe 2010), and that these characteristics may also be positively correlated with labour market opportunities. Indeed, some studies have found that at least 11% of the difference in the level of wages between married and unmarried men may be related to the selectivity of the married group (Korenman and Neumark 1991). Ignoring selection into fatherhood may thus overstate the positive effects of having children on men's employment. But it is also possible that selectivity to the group of fathers who have a larger family is negative with respect to labour market outcomes. It could be argued that parents with better education and skills may prefer to have fewer children, and will also be more successful on the labour market. If such a mechanism was at work, the effects of family size on the labour market career chances of fathers, estimated via standard regression models, would be biased downwards.

Most of the existing studies on the effects of family size on fathers' labour market outcomes have accounted for the time-constant unobserved characteristics, but not the time-varying ones (Lundberg and Rose 2002; Killewald 2012; Choi et al. 2008; Koslowski 2010). However, a father's family-related and work-related preferences may change based on the birth order of his children and his work experience. While some attempts have been made to control for both time-constant and time-varying unobserved factors when examining the effects of family size on women's employment (Cáceres-Delpiano 2012; Cruces and Galiani 2007; Angrist and Evans 1998); to the best of our knowledge, no such an attempt has been made with respect

to men's employment. Our study is therefore the first to investigate the effects of fathers' involvement in the labour market (and that of their partners) by applying methods which account for both their time-constant and time-variant observed and unobserved characteristics. To examine these effects, we have chosen to implement the approach proposed by Rosenzweig and Wolpin (1980): i.e., we use multiple births as an instrumental variable that imposes an exogenous shift in the family size. The instrumental variable models provide us with unbiased estimates of the impact of the number of children in a family on parental employment. Within the instrumental variable framework, we include interactions between the key variable of interest and country-level indicators. This allows us to determine how family size affects fathers' employment patterns across countries with diverging gender roles.

DATA

In this study we pool cross-sectional samples from the European Survey of Income and Living Conditions (EU-SILC) for all countries participating in the survey and years 2004-2011. This survey provides data on the labour market situations of respondents and on the structures of their families. Based on these data, we can analyse and compare the effect of childbearing on parental employment across European countries (including all of the member states of the European Union and Norway and Iceland).

In our study, we focus on men of reproductive ages (18-50) and their female partners. We restrict the sample to couples whose oldest child was under 12 years old. The overall sample used in the analysis is comprised of 109,248 cases. The number of couples who experienced twin births in our sample amounts to 2,132, and the average number of such fathers per each country in our sample is 76.

We have several dependent variables: (1) the probability of doing work, which captures the extensive margin of parental labour market involvement; (2) the number of hours worked, which captures the intensive margin of parental labour market involvement; (3) the man's share in the total amount of time a couple spent in paid work; (4) type of contract (permanent/non-

permanent), (5) the job position (managerial or non-managerial); and (6) income from work. For comparison, we also analyse the probability of doing work and the number of hours worked of the man's partner. In the model in which we analyse the number of working hours, the type of contract, and the wages, we assume zero hours of work for non-working parents, so that this outcome variable is not conditional on the labour market status. We define the probability of having a permanent, stable job based on the distinction in the EU-SILC data between workers with contracts of limited and of unlimited durations. The probability of having a highly ranked managerial job is defined by the category of "legislators, senior officials and managers", according to the International Standard Classification of Occupations. Finally, we analyse data on salaries and wages available in EU-SILC, which we standardise with use of the index of purchasing power parity, and express in 2005 values to account for inflation in the period 2004-2011.

For cross-country comparative analysis we use data on the gender norms derived from European Value Survey 2008, whose distributions were presented in the previous section. The "family and work" module asked the respondents to rate their level of agreement (on a five-point scale) with the following statements: "Both the husband and wife should contribute to the household income"; and "Men are as suited to taking care of children as women". For each country, we calculated the proportion of respondents who strongly agreed with these statements. These measures serve as indicators of country-specific support for a dual-earner (versus a male breadwinner) family model and the level of acceptance of fathers being involved in household and childcare duties.

MODEL SPECIFICATION

In principle, if the randomisation of men who experienced a multiple birth was perfect, we could simply compare the employment rates of men with singletons and men with twins. However, to address the problems of the relationship between the risk of multiple births and the mother's age at birth, and to improve the precision of our estimates, we use two-stage least

squares (2SLS) instrumental variable models. In the regression framework, we can control for the individual-level characteristics of parents that simultaneously affect the probability of a multiple birth and the parental labour market outcomes, as well as cross-country variation in the institutional setup and cultural conditions.

We regress the labour market outcomes of fathers and their partners against the number of children aged 12 and under. We control for the age of the parent, the mother's age at the first birth, and the parent's education and ethnicity (with a distinction made between people born in and outside of Europe). We also include fixed effects for survey years and for country groups. For the first step, we have chosen the following specification of 2SLS instrumental variable models:

$$nchild = \alpha_0 + \alpha_1 multi_1 + \alpha_2 X + \alpha_3 country + \alpha_4 year + \varepsilon$$

$$work = \beta_0 + \beta_1 \overline{nchild}_1 + \beta_2 X + \beta_3 country + \beta_4 year + \varepsilon$$

where *nchild* is the total number of children aged 12 and under; *multi* is an indicator that a given person has experienced a multiple birth; *X* is a vector of control variables that includes the age of the parent, the mother's age at the first birth, and the parent's education; *country* measures the country-group specific influences; and *year* measures the period effect. We distinguish between the Nordic countries, the southern European countries, and two clusters of countries within continental Europe. The first cluster is made up of Belgium, France, the German-speaking countries, and the Anglo-Saxon countries; while the second cluster is made up of post-socialist central and eastern European countries. The welfare systems and cultural contexts relevant for fertility and employment choices differ between these country groups. We also adjust standard errors for the clustering of individuals within countries.

In the next step, we use a similar specification of the model, but the number of children is interacted with the macro-level indicators measuring the country-specific gender norms in

order to examine whether they moderate the impact of family size on parental employment. The interaction terms are implemented in line with Woolridge's (2000) suggestion¹:

$$nchild = \alpha_0 + \alpha_1 multi_1 + \alpha_2 X + \alpha_3 country + \alpha_4 year + \alpha_5 indicator + \alpha_6 interaction + \varepsilon$$

$$work = \beta_0 + \beta_1 \overline{nchild}_1 + \beta_2 X + \beta_3 country + \beta_4 year + \beta_5 indicator + \beta_6 interaction + \varepsilon$$

V. EMPIRICAL RESULTS

GENERAL EFFECTS OF FAMILY SIZE

We first examine how European fathers in general adjusted their labour market involvement in response to an increase in family size using a quasi-experimental approach. Table 1 presents the results from instrumental variable models that exploit the multiple births as a source of exogenous shift in family size². The results from these models suggest that an increase in family size had a positive impact on fathers' labour supply, as measured by working hours and wages. Combined with a marked reduction in hours of work among mothers, this led to an increase in the fathers' share of the total number of hours of paid work performed by members of the household. An increase in family size also led to an increase in the fathers' wages. However, the hypothesis that having children increased the probability of having a permanent job was not confirmed.

It therefore appears that the men made an effort to cover the increased expenses of the household. Overall, the positive impact of family size on men's employment was found to be smaller in magnitude than the negative effect of the number of children on women's employment. As a result, an increase in family size led to a decline in the total household labour supply, and hence appears to have negatively affected the earned incomes of parents with small children.

¹ (Wooldridge 2010), section 9.5, pp. 236-7.

² We present the results of main interest; i.e., the results from the second stage of instrumental variable models. The results from the first stage are presented in Table A1 in the appendix. In Table A2 we also provide results from the OLS regression for the comparison of estimates.

Table 1 Results from IV models

	<i>Father's work</i>	<i>Father's working hours</i>	<i>Mother's work</i>	<i>Mother's working hours</i>	<i>Father's share of working hours</i>	<i>Father's permanent job</i>	<i>Father's manager position</i>	<i>Logarithm of father's wage</i>
No. of children	0.01 (0.01)	0.99** (0.49)	-0.10*** (0.02)	-3.96*** (0.70)	0.06*** (0.01)	-0.01 (0.01)	0.02 (0.01)	0.06** (0.03)
Father's age	0.00* (0.00)	0.01 (0.03)	0.01*** (0.00)	0.41*** (0.09)	-0.00*** (0.00)	0.00*** (0.00)	0.00** (0.00)	0.01*** (0.00)
Mother's age at 1 st birth	0.01*** (0.00)	0.34*** (0.05)	0.01 (0.00)	0.17 (0.12)	0.00** (0.00)	0.01*** (0.00)	0.00*** (0.00)	0.02*** (0.00)
Mother's origin	-0.11*** (0.03)	-5.25*** (1.20)	-0.16*** (0.02)	-4.35*** (0.95)	-0.04** (0.02)	-0.15*** (0.03)	-0.05*** (0.01)	-0.16*** (0.03)
Constant	0.66*** (0.05)	28.24*** (2.16)	0.08 (0.11)	0.62 (4.96)	0.66*** (0.06)	0.46*** (0.06)	-0.11*** (0.03)	8.98*** (0.13)

Note: Clustered standard errors in parentheses. Fixed effects for survey years, country groups, and missing information on fathers' education are included in the regression; results not displayed.

DO EFFECTS OF FAMILY SIZE DEPEND ON THE COUNTRY CONTEXT

In the next step, we move on to the question of how gender norms moderate the observed impact of family size on fathers' labour market outcomes. We hypothesise that in countries in which the society supports a dual-earner model and fathers' involvement in childcare, the effect of family size on men's involvement in the labour market may be less strong or non-existent. In Table 2 and Table 3 we present the results of instrumental variable models with specifications similar to those of the models estimated in the previous step, but incorporating an interaction of the effect of family size with indicators measuring the influence of social norms.

We test whether the degree of support for the dual-earner model—in which a father shares financial responsibilities with his partner—moderates the impact of the number of children in the family on a father's labour supply, his share of paid work, his probability of having a managerial position, the stability of his job, and his wage level. The results suggest that this moderating influence was rather weak. It seems that in countries in which a dual-earner family model was more accepted, the fatherhood premium was present but a father was slightly less likely to have responded to an increase in the size of his family by raising his number of working hours or pursuing a managerial position than in countries where a dual earner model was less accepted. Otherwise, however, we did not find any significant effects of the interaction between family size and the level of support for mothers contributing to the household income.

Table 2 Results from IV models with an indicator of social acceptance of a dual-earner model

	<i>Father's work</i>	<i>Father's working hours</i>	<i>Mother's work</i>	<i>Mother's working hours</i>	<i>Father's share of working hours</i>	<i>Father's permanent job</i>	<i>Father's manager position</i>	<i>Logarithm of father's wage</i>
Number of children	0.05 (0.03)	3.36** (1.49)	-0.12*** (0.04)	-4.17** (1.84)	0.09** (0.04)	-0.05 (0.04)	0.10* (0.05)	0.05 (0.10)
Interaction: support for dual earner x no. of children	-0.00 (0.00)	-0.06* (0.03)	0.00 (0.00)	0.01 (0.05)	-0.00 (0.00)	0.00 (0.00)	-0.00* (0.00)	0.00 (0.00)
Support for dual earner	0.00 (0.00)	0.10 (0.09)	-0.00 (0.00)	-0.01 (0.10)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)	-0.00 (0.01)
Father's age	0.00* (0.00)	0.01 (0.03)	0.01*** (0.00)	0.41*** (0.09)	-0.00*** (0.00)	0.00*** (0.00)	0.00** (0.00)	0.01*** (0.00)
Mother's age at 1 st birth	0.01*** (0.00)	0.34*** (0.05)	0.01 (0.00)	0.17 (0.12)	0.00** (0.00)	0.01*** (0.00)	0.00*** (0.00)	0.02*** (0.00)
Mother's origin	-0.11*** (0.03)	-5.21*** (1.18)	-0.16*** (0.03)	-4.35*** (0.94)	-0.04** (0.02)	-0.16*** (0.03)	-0.04*** (0.01)	-0.16*** (0.03)
Constant	0.60*** (0.07)	24.36*** (3.67)	0.13 (0.13)	1.07 (5.86)	0.61*** (0.08)	0.48*** (0.06)	-0.21** (0.08)	9.03*** (0.24)

Note: Clustered standard errors in parentheses. Fixed effects for survey years, country groups, and missing information on fathers' education are included in

the regression; results not displayed.

Table 3 Results from IV models with an indicator of social acceptance of a man's involvement in childcare

	<i>Father's work</i>	<i>Father's working hours</i>	<i>Mother's work</i>	<i>Mother's working hours</i>	<i>Father's share of working hours</i>	<i>Father's permanent job</i>	<i>Father's manager position</i>	<i>Logarithm of father's wage</i>
Number of children	0.07** (0.03)	3.59*** (1.37)	-0.12** (0.05)	-4.50*** (1.74)	0.12*** (0.03)	-0.03 (0.04)	0.01 (0.03)	0.17* (0.09)
Interaction: support for men involvement in childcare x no. of children	-0.00** (0.00)	-0.08** (0.03)	0.00 (0.00)	0.02 (0.05)	-0.00** (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)
Support for men involvement in childcare	0.00* (0.00)	0.11* (0.06)	0.00 (0.00)	0.13 (0.14)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	0.00 (0.01)
Father's age	0.00* (0.00)	0.01 (0.03)	0.01*** (0.00)	0.41*** (0.08)	-0.00*** (0.00)	0.00*** (0.00)	0.00** (0.00)	0.01*** (0.00)
Mother's age at 1 st birth	0.01*** (0.00)	0.34*** (0.05)	0.01 (0.00)	0.16 (0.12)	0.01** (0.00)	0.01*** (0.00)	0.00*** (0.00)	0.02*** (0.00)
Mother's origin	-0.11*** (0.03)	-5.18*** (1.18)	-0.16*** (0.02)	-4.48*** (0.91)	-0.04* (0.02)	-0.15*** (0.03)	-0.04*** (0.01)	-0.16*** (0.03)
Constant	0.59*** (0.07)	24.67*** (3.31)	-0.00 (0.14)	-4.69 (6.19)	0.65*** (0.09)	0.55*** (0.07)	-0.05 (0.05)	8.84*** (0.27)

Note: Clustered standard errors in parentheses. Fixed effects for survey years, countries, and missing information on fathers' education are included in the regression; results not displayed.

We examine the moderating impact of the degree of social acceptance of the father's role in taking care of children. Our results suggest that in societies in which it is widely assumed that men are as suited as women to taking care of children, the generally positive effects of family size on the probability of working, the number of hours worked, and the man's share of the total amount of time a couple spent at work were somewhat weaker, but still prevalent.

Interestingly, while the rise in the share of the hours worked on the labour market by fathers evoked by an increase in the number of children tended to be smaller in egalitarian countries, this did not seem to correspond to a weakening of the effect of family size on the number of hours worked by the mother. It seems that even if social norms supported equal sharing of work and family duties within couples, this factor was not sufficient to diminish the negative effects of family size on a woman's labour market career.

VI. CONCLUSIONS

The aim of this article was to provide evidence on the causal effects of family size on fathers' labour market outcomes as measured on a range of dimensions: the probability of work, the number of working hours, the rank and the level of pay, and the level of job stability based on the type of employment contract. We compared the effects of the number of children on men's employment with the effect that family size exerts on the labour market situation of their female partner. Moreover, we investigated whether the impact of family size differed across European countries. Specifically, we tested the moderating role of gender norms.

Our findings indicated that a man typically responded to an increase in family size by increasing his level of involvement in the labour market in terms of the number of hours he worked and the wages he earned. In most cases, however, the stability of his employment contract did not change. Furthermore, we found that an increase in family size typically reduced the labour market involvement of the man's female partner. The latter effect was very strong; much stronger than the

increase in the man's involvement in paid work. We can therefore assume that an increase in family size led to a reduction in the total household labour supply, and thus to a reduction in the family's income. This has important implications for policymakers, who should consider investigating more closely both the conditions for combining work with parenthood, and the conditions for ensuring the material well-being of children in large families.

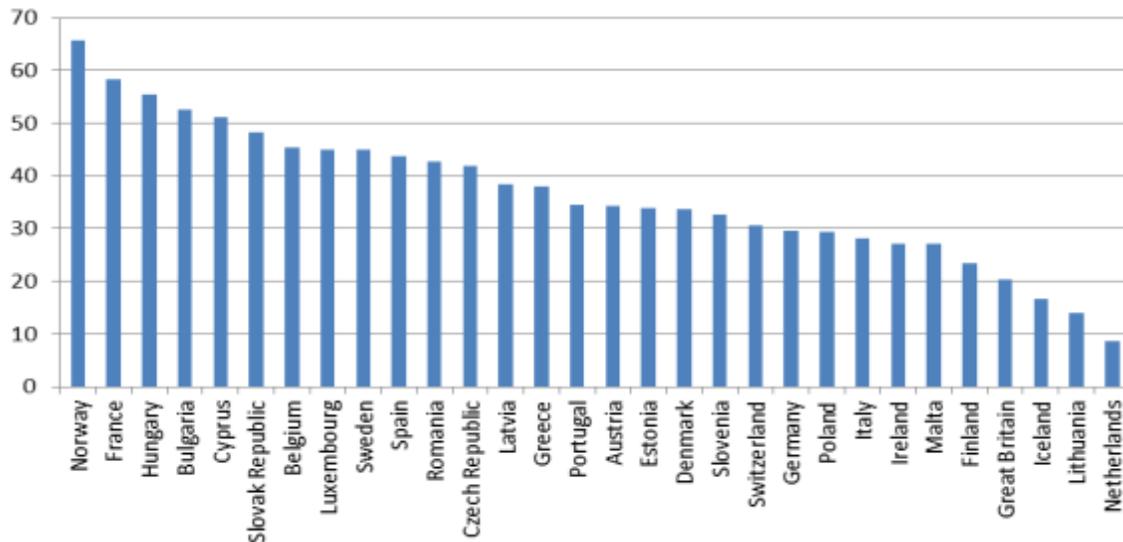
In general, the effect of family size on men's and women's participation in the labour market was shown to depend on the gender norms prevalent in a given country, though this moderating effect of gender role attitudes was rather small. A man who was living in a more egalitarian society was slightly less likely to have increased his number of working hours and to have attained a higher managerial position in response to an increase in family size than a man who was living in a less egalitarian society. Interestingly, while the increase in the share of hours worked by fathers was smaller in more egalitarian countries, this did not seem to correspond to a weakening of the negative effect of family size on the number of hours worked by mothers. It seems that even if the social norms supported fathers being involved in childcare, this factor was not sufficient to diminish the negative effects of family size on a woman's labour market career.

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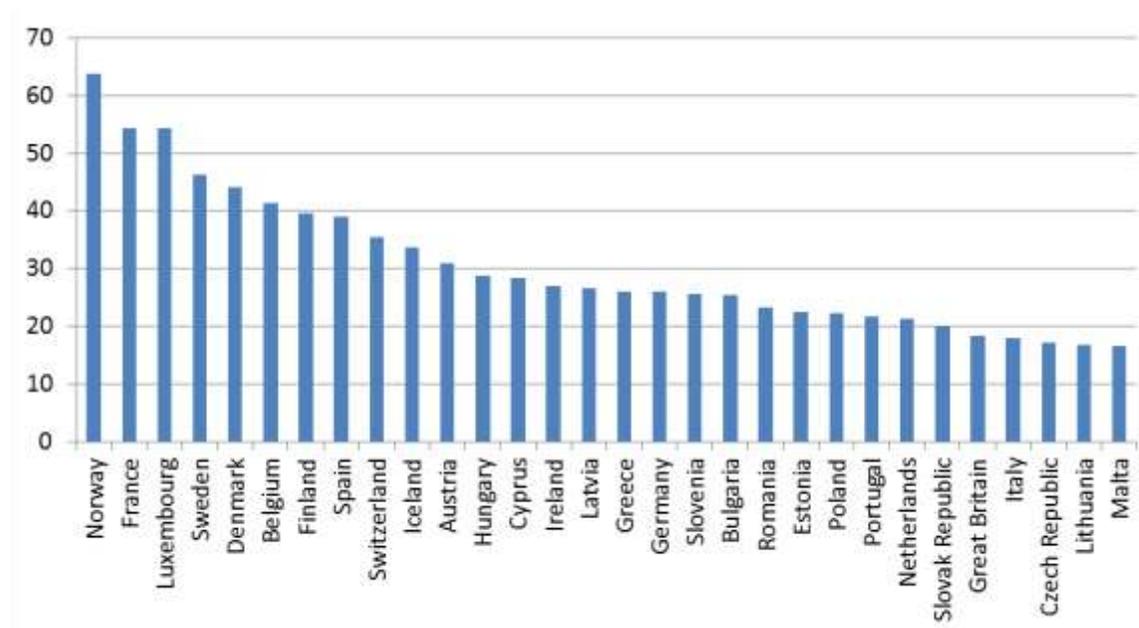
APPENDIX

Figure A1. Proportion strongly agreeing with the statement “Both men and women should contribute to the household income”



Source: Authors' calculations on data from European Value Survey 2008

Figure A2. Proportion strongly agreeing with the statement “In general, fathers are as well suited to look after their children as mothers”



Source: authors' calculations on data from European Value Survey 2008

Table A.1 Results from the first stage of instrumental variable models

	<i>Number of children</i>
Twin birth	0.81*** (0.03)
Father's age	0.04*** (0.00)
Mother's age at 1st birth	-0.06*** (0.00)
Mother's origin	0.01 (0.02)
Constant	1.75*** (0.05)

Note: fixed effects for survey years, country groups and missing information on fathers' education are included in the regression; results not displayed.

Table A.2 Results from OLS regression

	<i>Father's work</i>	<i>Father's working hours</i>	<i>Mother's work</i>	<i>Mother's working hours</i>	<i>Father's share of working hours</i>	<i>Father's permanent job</i>	<i>Father's manager position</i>	<i>Logarithm of father's wage</i>
Number of children	-0.00 (0.00)	0.02 (0.17)	-0.09*** (0.01)	-3.87*** (0.39)	0.04*** (0.00)	-0.01 (0.01)	0.01*** (0.00)	0.04*** (0.01)
Father's age	0.00*** (0.00)	0.05** (0.03)	0.01*** (0.00)	0.40*** (0.10)	-0.00*** (0.00)	0.00*** (0.00)	0.00*** (0.00)	0.01*** (0.00)
Mother's age at 1 st birth	0.01*** (0.00)	0.28*** (0.04)	0.01 (0.00)	0.17 (0.13)	0.00** (0.00)	0.01*** (0.00)	0.00*** (0.00)	0.02*** (0.00)
Mother's origin	-0.11*** (0.03)	-5.24*** (1.22)	-0.16*** (0.03)	-4.35*** (0.96)	-0.04* (0.02)	-0.15*** (0.03)	-0.05*** (0.01)	-0.17*** (0.03)
Constant	0.69*** (0.04)	29.93*** (1.70)	0.07 (0.10)	0.46 (4.87)	0.69*** (0.05)	0.46*** (0.06)	-0.10*** (0.03)	9.01*** (0.13)

Note: fixed effects for survey years, country groups and missing information on fathers' education are included in the regression; results not displayed.

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