

Bünning, Mareike; Pollmann-Schult, Matthias

**Article — Published Version**

## Family policies and fathers' working hours: cross-national differences in the paternal labour supply

Work, Employment and Society

**Provided in Cooperation with:**

WZB Berlin Social Science Center

*Suggested Citation:* Bünning, Mareike; Pollmann-Schult, Matthias (2016) : Family policies and fathers' working hours: cross-national differences in the paternal labour supply, Work, Employment and Society, ISSN 1469-8722, Sage, Thousand Oaks, CA, Vol. 30, Iss. 2, pp. 256-274, <https://doi.org/10.1177/0950017015578999>

This Version is available at:

<https://hdl.handle.net/10419/171934>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

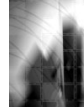
Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



Article: *Gender equality at work*

---

# Family policies and fathers' working hours: cross-national differences in the paternal labour supply

Work, employment and society  
2016, Vol. 30(2) 256–274  
© The Author(s) 2015  
Reprints and permissions:  
sagepub.co.uk/journalsPermissions.nav  
DOI: 10.1177/0950017015578999  
wes.sagepub.com



**Mareike Bünning**

WZB Berlin Social Science Center, Germany

**Matthias Pollmann-Schult**

WZB Berlin Social Science Center, Germany

## Abstract

Despite extensive research on the effect of family policies on the labour supply of mothers, little is known about how these policies affect fathers' labour market outcomes. Using European panel data (EU-SILC) from 2003 to 2009 and multi-level models, this study analyses the effect of family policies on fathers' working hours. The results indicate that fathers work less than childless men if they live in countries that offer well paid, non-transferable parental leave for fathers, short parental leave for mothers and generous family allowances. The effects, however, are strongly contingent on fathers' educational levels. Whereas short maternal leaves are associated with shorter working hours among highly educated fathers, generous family allowances and father friendly parental leave schemes reduce the working hours of less educated fathers.

## Keywords

family policies, fatherhood, working hours

## Introduction

Studies on labour market inequalities between men and women often attribute women's labour market disadvantages to the negative impact of motherhood on women's working hours and earnings (Craig and Mullan, 2010; Stanfors and Neilson, 2014). In this context, a large body of literature has shown that national policies are significant in

---

### Corresponding author:

Mareike Bünning, WZB Berlin Social Science Center, Reichpietschufer 50, 10785 Berlin, Germany.  
Email: mareike.buenning@wzb.eu

determining how parenthood affects mothers' employment (Abendroth et al., 2012; Gangl and Ziefle, 2009; Van der Lippe et al., 2011). Surprisingly, however, the question of how a country's policy context affects fathers' working behaviour has been widely neglected. Country specific studies suggest that social policies affect not only the labour supply of mothers, but also that of fathers. In liberal welfare states such as the USA, fathers work more than childless men (Glauber, 2008; Knoester and Eggebeen, 2006). In contrast, Swedish and Norwegian fathers of small children work less than their childless counterparts (Dommermuth and Kitterød, 2009; Dribe and Stanfors, 2009). Findings for the UK and several continental European welfare states indicate only small effects of fatherhood on men's working hours (Dermott, 2006; Smith Koslowski, 2011).

There are sound reasons for investigating the effect of family policies on fathers' labour supply. A major aim of family policies is to promote an equal division of paid and unpaid work between women and men. There is no doubt that egalitarian gender policies have been significant in enabling women to move out of full-time homemaking and into the labour force. Women's growing labour force participation, however, will not eliminate gender inequality unless men's behaviour changes as well. Consequently, research on the effect of family policies on men's working behaviour is needed to understand the total impact of these policies on gender inequality. Although new generations of fathers are becoming more and more involved in childcare, their long working hours often limit their participation at home (Hobson and Fahlén, 2009; Yeung et al., 2001). In fact, mothers provide significantly more childcare than their partners even when they are employed full-time (Craig and Mullan, 2011). Hence, a more equal division of labour between men and women can only be achieved if fathers are willing to reduce their working hours. By examining the impact of family policies on men's working hours, the present study complements previous research on family policies and women's employment.

This study looks at how family policies affect fathers' working hours and investigates whether the effects differ by fathers' educational levels. Building on previous research that has shown the transition to parenthood to be the crucial phase for changes in the paternal labour supply (Glauber, 2008; Knoester and Eggebeen, 2006; Lundberg and Rose, 2002), this article focuses on first-time fathers with children under the age of four years and examines how the working hours of new fathers differ from the working hours of childless men. The next section explores how family policies affect the labour supply of fathers. The third section describes the data and methodological approach before the fourth and fifth sections present and discuss the results.

## **The impact of family policies on men's working hours**

This article draws on theoretical arguments developed by feminist welfare state scholars who criticized mainstream comparative welfare state research for its failure to address gender inequalities adequately. Feminist welfare state research focuses on whether policies promote or prevent female employment and on the extent to which they support parents in their role as caregivers (Ray et al., 2010). Taking the male-breadwinner female-carer model as a starting point, feminist welfare state research developed a typology of gender regimes that support different work/care arrangements (Crompton, 1999; Lewis, 1992; Ostner and Lewis, 1995). In the male-breadwinner model, the role of fathers is to

provide for the family financially; therefore fathers are expected to increase their working hours after childbirth to enable a better standard of living. At the other end of the spectrum, feminist scholars envision a dual-earner dual-carer model in which mothers and fathers share employment and care work equally. This model assumes an involved father who reduces his working hours after childbirth to spend time with his children.

Feminist welfare state research links cross-national variations in couples' division of labour to differences in family policies across countries (e.g. Abendroth et al., 2012; Kangas and Rostgaard, 2007; Mandel and Semyonov, 2006). Thus, feminist welfare state research also provides a framework for analysing how family policies shape fathers' working hours. Policies can influence how fathers allocate their time via two mechanisms. First, they affect the costs and benefits of paid and unpaid work. Second, they have a normative component and signal what type of employment behaviour is socially desirable for fathers (Gornick and Meyers, 2003; Hook, 2010; O'Brien, 2004; Pfau-Effinger, 1999).

Saraceno and Keck (2010) have developed a classification of family policies that distinguishes two main types of policies: supported familialism and defamilialization. Defamilializing policies reduce parents' family responsibilities and thus facilitate their involvement in paid work. Supported familialism, by contrast, refers to policies that give parents resources that allow them to take time off from work for childcare. This type of policy usually entails financial transfers such as paid parental leave and family allowances. Supported familialism policies can be divided into three subtypes, depending on whether they are gender neutral or target the mother or the father. Supported familialism thus encourages one or both parents to spend more time at home caring for children, whereas defamilialization enables parents to spend more time in paid work.

This study examines the effect of four policies on fathers' working hours: parental leave for fathers (as an example of supported familialism targeted at the father), parental leave for mothers (supported familialism targeted at the mother), family allowances (gender neutral supported familialism) and the provision of public childcare (defamilialization). The policies examined in this study thus cover all the types and subtypes of the family policy classification. The remainder of this section investigates how these four policies can affect the working hours of fathers. It also discusses how fathers' educational levels may moderate the effect of family policies.

### *Parental leave for fathers*

Fathers' uptake of parental leave varies greatly across Europe (see O'Brien, 2004). One factor determining men's use of parental leave is whether a specific portion of that leave is reserved exclusively for fathers, either as part of parental leave or as paternity leave (complementary to maternity leave) to which fathers are entitled directly after the child's birth. Throughout this article, this reserved leave will be termed 'paternal leave'. Another major factor determining whether fathers take leave is the income replacement rate. Overall, men generally use parental leave only when a portion thereof is exclusively reserved for fathers and when the rate of income replacement is high.

Paternal leave enables fathers to stay at home for a given period of time. Perhaps more importantly, by allowing fathers more time to bond with their children, paternal leave can

have a lasting impact on fathers' involvement in their children's lives. After paternal leave, fathers may decide to work fewer hours to stay involved in childcare. Duvander and Jans (2009) provide some evidence of this in Sweden. The first hypothesis of this article, therefore, is that fathers should work fewer hours than childless men in countries that offer non-transferable paid paternal leave, but they should work longer hours than childless men in countries that do not offer paid paternal leave (**H1**).

### *Parental leave for mothers*

If some portion of parental leave is not reserved exclusively for fathers, the leave tends to be used mainly by mothers. Most mothers use the entire leave period available to them, irrespective of the income replacement rate and irrespective of whether the leave is exclusively for mothers or can be divided between parents (Deven and Moss, 2005; Hegewisch and Gornick, 2011). There is a broad consensus that parental leave policies, especially when they include job protection, help to maintain the labour force attachment of mothers while granting them more time to care for their children (Ruhm, 1998). However, extended periods of leave may cause women's labour market skills to deteriorate, damage their future career prospects and earnings and entrench them in a caregiving role (Edin and Gustavsson, 2008). Moreover, policies that provide long periods of maternal leave send the normative message that mothers should stay at home and care for their children. Because more generous parental leave for mothers supports a male-breadwinner/female-homemaker model, fathers may work more hours in countries with generous leave for mothers. Thus, the second hypothesis is that fathers should work more than childless men in countries with long periods of maternal leave and less in countries with short periods of maternal leave (**H2**).

### *Family allowances*

In addition to parental leave, fathers' working hours might be affected by income policies such as family allowances that aim to alleviate the financial burden of having children. Family allowances could potentially have contradictory effects on the division of paid and unpaid work in couples. Some scholars have theorized that by supporting mothers to stay at home as full-time caregivers, family allowances reinforce a traditional division of labour (Del Boca et al., 2009; Gornick et al., 1997). Other scholars have argued that family allowances offer fathers the option of reducing their labour supply as well, which they can only do if the family's financial situation permits (Hobson and Fahlén, 2009; Sayer et al., 2004). Therefore, it can be expected that in countries that provide generous benefits, family allowances may reduce the breadwinning pressure on fathers and allow them to forego some employment-related income in order to spend more time with their children. Hence, the third hypothesis is that fathers should work shorter hours than childless men in countries with generous family allowances (**H3**).

### *Public childcare*

Public childcare services relieve parents of some of their care duties and thus may enable them to spend more time in paid work. Cross-national studies on the maternal labour

supply have identified the availability of public childcare as a central determinant of maternal employment and working hours (Pettit and Hook, 2005; Uunk et al., 2005). If public childcare is unavailable, mothers may also rely more heavily on fathers for childcare, which in turn imposes constraints on fathers' working hours. Therefore, the fourth hypothesis is that fathers in countries with little public childcare should work shorter hours than childless men, whereas no such difference should exist in countries where public childcare is readily available (**H4**).

### *Educational differences in the impact of social policies*

It is important to keep in mind that fathers are a heterogeneous group. Previous research has shown that fathers' involvement in work and caregiving varies considerably according to their level of education. Compared to men with tertiary education, men with lower levels of education have to work more hours to provide for their families (Sayer et al., 2004). It is therefore easier for more highly educated fathers to be involved at home. In line with this reasoning, more highly educated fathers take advantage of parental leave more often (Nepomnyaschy and Waldfogel, 2007) and do more housework (Gershuny and Sullivan, 2003) and childcare (Sayer et al., 2004).<sup>1</sup> Due to these differences, the effect of family policies on fathers' working hours may also be contingent on the fathers' educational levels. In particular, financial incentives for paternal involvement appear to have a stronger effect on men with lower levels of education. Plantin (2007) found evidence that economic hardship often kept Swedish working-class fathers from reducing their involvement in paid work. Rege and Solli (2013) concluded that the introduction of well paid paternal leave in Norway had the strongest impact on fathers with lower education, as more highly educated men were already involved in childcare before the leave was introduced. This indicates that men with lower levels of education are more responsive to paid paternal leave. Likewise, generous family allowances may matter more for less educated men, as family allowances constitute a larger proportion of the total household income in low-income families. Therefore, the fifth hypothesis is that the impact of financial incentives – paid paternal leave and family allowances – on working hours should be more pronounced among less educated fathers (**H5**).

## **Data and methods**

### *Data and sample*

The data for this study were derived from the European Union Statistics on Income and Living Conditions (EU-SILC), the EU reference source for comparative statistics on income distribution and social inclusion at the European level. The EU-SILC is a cross-national panel database that annually interviews all household members aged 16 and older in a sample of households across the EU. Most countries conduct a four-year rotating panel (i.e. each household is interviewed for four consecutive years). The great advantage of the EU-SILC database is that it provides comparable, longitudinal data on 28 countries. EU-SILC is based on the idea of a *common framework* as opposed to that of a *common survey*. The common framework is defined by harmonized lists of target

variables, a recommended design for implementing EU-SILC and common concepts and classifications that aim to maximize the comparability of the information produced. For the data used in the present study, most countries used stratified multi-stage sampling, but other countries used stratified or simple random sampling. Furthermore, the EU-SILC regulation allowed for PAPI, CAPI and CATI interviews as well as self-administered questionnaires (Eurostat, 2013). The individual non-response rates varied from 3 per cent in Romania to 48 per cent in Denmark (Eurostat, 2014). Hence, the sampling design, mode of data collection and response rates differed across countries, but to ensure the representativeness of the data, the countries conducted coherence studies where they compared the EU-SILC data to other representative data sets such as the national labour force survey, household budget study or register data (for detailed information, see Eurostat, 2012, 2013). This article used data from 24 countries (see Table 1). Romania and Germany were excluded because only two waves were available for these countries, Malta because only three men became fathers during the observation period and Iceland due to a lack of information on family policies.

Because this study examines how family policies shape the association between fatherhood and working hours in the initial years after childbirth, only men who were childless at the first time of observation and who were observed at least twice were included in the sample. As a consequence, given the four-year rotational structure of EU-SILC, the children of the fathers in the sample were at maximum three years old. Men who started living with an older child during the observation period (because of either adoption or repartnering with a woman who already had children) were excluded from the analysis to keep the sample homogeneous. EU-SILC does not provide information on adult children who have already moved out. In order to minimize the likelihood of mistaking empty-nest parents for childless persons, the sample was restricted to respondents of normal childbearing age (between 18 and 45 years). Finally, only partnered men were analysed because single-parent fathers are likely to have unique living conditions, but were too few in numbers to be studied separately. The final sample included 13,756 men, of whom 23 per cent became fathers during the observation period. The Appendix (available online) provides an overview of the number of persons and person-years as well as the proportion of men who became fathers during the observation period in each country.

## *Variables*

*Dependent variable.* The dependent variable measured the self-reported number of usual weekly working hours in the individual's main job including overtime.<sup>2</sup> Note that observation years where men were on full-time parental leave were excluded from the sample. The average working hours per country are displayed in the Appendix (available online). As also shown in the Appendix (available online), the average working hours in the EU-SILC sample were quite similar to the average working hours of employed men according to Eurostat.

*Individual-level explanatory variables.* The main explanatory variable was a dummy indicating whether or not a man had a child in a given year. Further control variables

included men's age, marital status (married vs cohabiting), a dummy variable for each year of observation, and the level of education of the men and their partners. A preliminary analysis showed that age had a non-linear relationship with working hours. To capture this non-linear effect, age was added in linear and quadratic form to the model. Education was measured in three categories according to the ISCED<sup>3</sup> classification: lower education (ISCED 0–2), medium education (ISCED 3–4) and higher education (ISCED 5). Furthermore, the partners' working hours were controlled for because the effect of a child on fathers' working hours may depend on the labour market involvement of the mothers. Partners' working hours were also interacted with the child dummy to take into account the possibility that the partner's labour supply might affect the working hours of fathers and childless men differently.

*Macro-level explanatory variables.* To assess the impact of family policies, four country-level indicators were considered in the analysis. The first indicator measured the generosity of paternal leave. As the combination of two elements – high income replacement rates and non-transferable parental leave for fathers – is crucial for fathers' uptake of parental leave, full-time equivalent paternal leave was measured by the length of non-transferable leave in weeks (paternity leave plus parental leave) weighted by the income replacement rate during the leave period (see Saraceno and Keck, 2010: 680). For example, Sweden offered 10 days of paternity leave and 60 days of parental leave for fathers, both with a wage replacement rate of 80 per cent. This led to a score of eight full-time equivalent weeks (10 weeks\*0.8) on the paternal leave indicator. By contrast, Austria, Hungary, the Czech Republic, Cyprus, Slovakia, Poland and Ireland received a score of zero. The first six of these countries did not reserve any parental leave for fathers and Ireland only offered unpaid leave.

The second indicator measured the total length of paid and unpaid leave available to mothers in weeks, which may consist of maternity leave, parental leave reserved for mothers and parental leave that can be split between the two parents.<sup>4</sup> Throughout this article, the sum of this leave is termed 'maternal leave'. As mothers usually use parental leave even when it is unpaid, the length of leave was not weighted by the income replacement rate. The indicator ranged from 28 weeks in Belgium to 172 weeks in Poland.

The third indicator measured the generosity of family allowances for the first child as a share of the average monthly net income. It ranged from 0 per cent in France and Spain to 11 per cent in Lithuania. The provision of public childcare, the fourth indicator, was captured by the proportion of children aged 0–2 years enrolled in formal childcare in a given country. Enrolment rates varied from 2 per cent in Poland to 56 per cent in Denmark.

This study used information on these policies from 2004 (2003 in the case of public childcare) and replicated all analyses with data from 2009. As only a few countries changed their policies between 2004 and 2009,<sup>5</sup> a replication of the models using the data from 2009 yielded basically the same results. Table 1 gives an overview of family policies in the 24 countries as of 2004.



**Table 1.** Family policy indicators for 24 European countries in 2004.

Country	Paternal leave <sup>a</sup>	Maternal leave <sup>a</sup>	Family allowances <sup>b</sup>	Childcare <sup>c</sup>
Norway	4.0	48.0	4.6	29.5
Sweden	8.0	60.0	5.4	44.1
Finland	3.3	43.0	5.5	21.3
Denmark	2.0	50.0	7.1	56.1
France	2.0	162.0	0.0	28.0
Belgium	6.2	28.0	4.3	33.6
Netherlands	0.3	29.0	2.8	29.5
UK	0.5	65.0	4.0	27.1
Ireland	0.0	40.0	5.1	15.0
Austria	0.0	112.0	5.5	5.2
Spain	0.3	166.0	0.0	11.3
Greece	0.3 <sup>b</sup>	45.2 <sup>b</sup>	0.6	7.0
Portugal	2.9	30.1	2.3	12.7
Cyprus	0.0 <sup>b</sup>	29.0 <sup>b</sup>	2.6	31.2 <sup>e</sup>
Italy	6.5	46.0	3.2	28.6 <sup>e</sup>
Czech Republic	0.0 <sup>b</sup>	160.2 <sup>b</sup>	1.7	3.0
Poland	0.0 <sup>b</sup>	172.0 <sup>b</sup>	2.5	2.0
Estonia	2.0 <sup>b</sup>	160.4 <sup>b</sup>	2.6	18.1 <sup>e</sup>
Slovakia	0.0 <sup>b</sup>	161.9 <sup>b</sup>	3.9	4.9 <sup>e</sup>
Latvia	1.1 <sup>b</sup>	94.0 <sup>b</sup>	4.1	16.1 <sup>f</sup>
Hungary	0.0	160.0	5.2	6.7
Slovenia	2.1 <sup>b</sup>	51.8 <sup>b</sup>	6.9	32.5 <sup>e</sup>
Bulgaria	2.0 <sup>b</sup>	136.0 <sup>b</sup>	7.3 <sup>d</sup>	14.6 <sup>f</sup>
Lithuania	4.3 <sup>b</sup>	165.3 <sup>b</sup>	11.3	13.7 <sup>f</sup>

*Notes:*

Paternal leave: Length of leave reserved for fathers (paternity leave and parental leave) in weeks and weighted by income replacement rate.

Maternal leave: Total length of paid and unpaid leave available to mothers (including maternity leave, parental leave reserved to mothers and parental leave that can be shared among parents) in weeks.

Family allowances: As share of the average monthly net income.

Childcare: Proportion of children aged 0–2 enrolled in formal childcare.

*Sources:*

<sup>a</sup>) Deven and Moss (2005) unless otherwise specified, <sup>b</sup>) Multilinks database (2011), <sup>c</sup>) OECD (2012), data referring to 2003 unless otherwise specified, <sup>d</sup>) data referring to 2009, <sup>e</sup>) data referring to 2006, <sup>f</sup>) data referring to 2008.

## Method

The EU-SILC data are panel data, where repeated observations of individuals are nested within countries. Multi-level models for three-level data (Rabe-Hesketh and Skrondal, 2012) account for this data structure. As the data include multiple observations per person, the effects of the micro-level explanatory variables are derived not only from comparing different people (between-variance), but also from comparing the same persons across time (within-variance). Furthermore, the multi-level model allows cross-level interactions

between family policies and the effect of fatherhood on men's working hours to be included. These cross-level interactions show whether the effect of fatherhood on men's working hours varies systematically across countries with different family policies.

In the multi-level models, the significance and direction of the interaction effects between fatherhood and family policies is of particular interest, as these indicate whether family policies are associated with fathers' working hours. However, it cannot be directly inferred from the models whether fathers in countries with generous or minimal policies work more or less than childless men, as this also depends on the main effect of fatherhood and the working hours of their partners (through the interaction effect with parenthood status). The effect of fatherhood on men's working hours is therefore displayed graphically for four different scenarios:

- 1) fathers with non-employed partners in countries with minimal policy support;
- 2) fathers with non-employed partners in countries with maximum policy support;
- 3) fathers with full-time employed partners in countries with minimal policy support; and
- 4) fathers with full-time employed partners in countries with maximum policy support.

The models were estimated using Stata.

Regressing labour market behaviour on parental status usually raises concerns about endogeneity due to selection processes. For instance, men with the propensity to work long hours may tend to select themselves into fatherhood. A method that accounts for potential endogeneity is instrumental variable (IV) estimation (Morgan and Winship, 2007). In this two-stage procedure, the potentially endogenous covariate is replaced with the predicted values obtained from a first-stage model that incorporates an instrumental variable. A suitable instrumental regression method for panel data was proposed by Hausman and Taylor (1981). The Hausman-Taylor estimator uses cluster means and deviations of the cluster means of time-varying covariates as well as the exogenous time-constant covariates as instruments (see Rabe-Hesketh and Skrondal, 2012: 253). An advantage of this method is that it does not require external instruments, which are often not available for parenthood. This model is therefore utilized to test whether the multi-level results are biased due to endogeneity.

## **Results**

In a first step, descriptive statistics give an initial impression of the data. For these initial analyses, the sample was restricted to men who became fathers during the observation period. Figure 1 displays cross-national differences in men's average working hours before and after the transition to parenthood. As can be seen, men increased their working hours when they became fathers in some countries whereas they reduced their working time after the transition to fatherhood in other countries. Decreases in working hours were most pronounced in Sweden, Ireland, Bulgaria and Estonia, where fathers reduced their working time by more than two hours. Substantial increases in working hours by at least one hour were observed in two countries, Latvia and Greece.

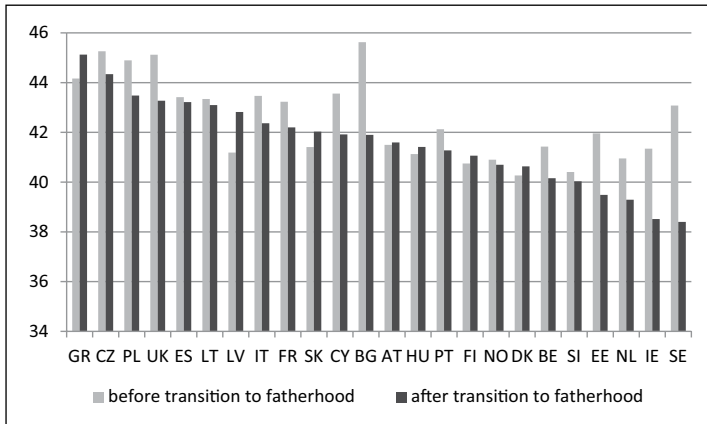


Figure 1. Men's average working hours before and after the transition to fatherhood, by country.

Table 2. The effect of fatherhood on men's working hours: model without policy indicators.

	All men	Highly educated	Medium educated	Lower educated
Father	0.59**	0.21	0.81**	1.04*
Partner's working hours	0.04***	0.04***	0.04***	0.03***
Father*Partner's hours	-0.03***	-0.03***	-0.02*	-0.04+
Age	0.05***	0.09***	0.05*	0.02
Age <sup>2</sup>	-0.01***	-0.00+	-0.01**	-0.00
<i>Education (ref. low)</i>				
Medium	-0.15			
High	-0.31			
<i>Partner's education (ref. low)</i>				
Medium	-0.32	0.57	-0.59+	-0.26
High	-0.42+	0.27	-0.69*	0.10
Married	0.06	-0.00	0.17	0.03
<i>Year (Ref. 2009)</i>				
2008	0.66**	0.50*	0.70*	0.98+
2007	0.99**	0.86*	1.07**	1.26**
2006	1.08**	0.86+	1.19***	1.36*
2005	1.25**	0.90*	1.49***	1.37*
2004	1.20*	0.67	1.60**	1.36*
2003	0.35	0.10	0.54	0.76
Constant	40.95***	39.80***	40.92***	40.67***
<i>Variance components</i>				
Country intercept	2.24	1.90	2.74	4.18
Child slope	0.24	0.43	0.00	0.06
Covariance (Intercept*Slope)	0.06	0.16	0.04	-0.22
Person intercept	39.18	39.86	39.32	39.53
Error term	27.79	24.60	28.01	29.95

\*\*\*p < .001; \*\*p < .01; \*p < .05; +p < .1

Table 2 presents the results of the multi-level models without policy indicators. The first model includes all fathers, whereas the subsequent models show the effects separately for men with different levels of education. The effects of parenthood refer to fathers with non-employed partners (partner's working hours=0). If their partner was not employed, fathers worked significantly more than similar childless men in all samples except among the highly educated. On average, fathers with non-employed partners worked 0.59 hours ( $p<0.01$ ) more than comparable childless men. Medium educated fathers with non-employed partners worked 0.81 hours ( $p<0.01$ ) more than comparable childless men, lower educated fathers worked one hour ( $b=1.04$ ,  $p<0.05$ ) more than their childless counterparts. However, as the interaction effects between fatherhood status and working hours indicate (e.g.  $b=-0.03$ ,  $p<0.001$  in the full sample), the difference between fathers and childless men became smaller the longer their partners worked. If the partner was employed full-time, fathers even worked less than childless men.

As mentioned above, the effect of fatherhood on working hours might be biased due to endogeneity. To test if this was the case, working hours were regressed on fatherhood and a reduced set of covariates (age, men's education, partner's education, marital status and year of observation) using multi-level regression and the Hausman-Taylor estimator. Both regression models produced virtually the same coefficients for fatherhood (multi-level regression:  $b=-0.42$ ,  $p<0.01$ ; Hausman-Taylor estimator:  $-0.40$ ,  $p<0.001$ ).<sup>6</sup> Therefore, one can conclude that the estimates of the multi-level regression models were not substantially biased due to endogeneity.

Table 3 presents the results for the four policy indicators – paternal leave, maternal leave, family allowances and public childcare. Of primary interest are the interaction effects between fatherhood and the four policy measures. A significant interaction effect would indicate that the effect of fatherhood on men's working hours depends on the family policies of the country in which they live. Starting with paternal leave, the results indicate that paternal leave regulations could not explain cross-national differences in the working hours of fathers across the sample as a whole. However, they did affect the working hours of fathers with medium education. As the interaction effect between fatherhood and paternal leave shows, each additional week of paternal leave availability was associated with a decrease of 0.07 hours ( $p<0.1$ ) in fathers' weekly working hours. To ensure that the effect was not driven by fathers who are currently on part-time parental leave, the model was replicated restricting the sample to men in full-time employment (working more than 30 hours). The interaction effect was even stronger in the restricted sample than in the full sample and reached a better significance level ( $b=-0.09$ ,  $p<0.05$ ). Panel A in Figure 2 displays the effect of fatherhood on medium educated men's working hours by employment status of their partner (not working vs full-time) and by the provision of full-time equivalent paternal leave (no leave vs eight weeks of leave). Whereas medium educated fathers with non-employed partners worked about one hour more than similar childless men if they lived in a country that offered no paternal leave (such as Austria), they only worked half an hour more than childless men if they lived in a country that offered eight weeks of paternal leave (as in Sweden). If their partners worked full-time, medium educated fathers even worked somewhat less than childless men in countries that offered eight weeks of paternal leave. The results for medium educated fathers thus support Hypothesis 1. However, as paternal leave was unrelated to the

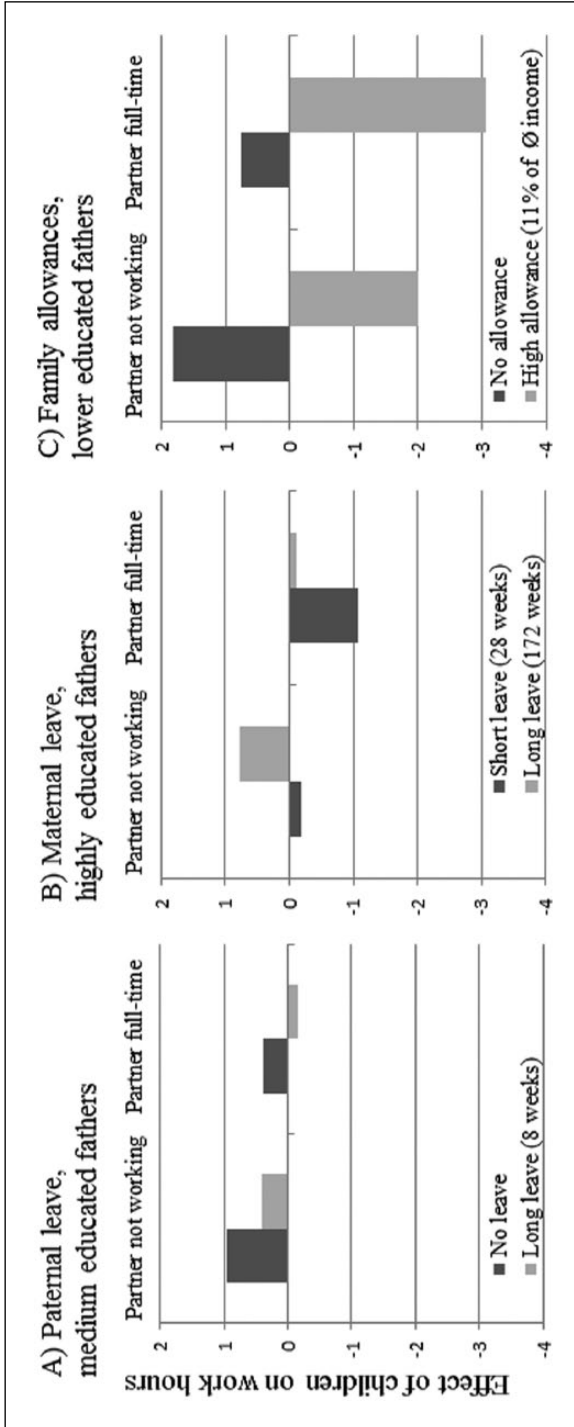
**Table 3.** Cross-level interaction effects between fatherhood and four family policies on men's working hours.

	All men	Highly educated	Medium educated	Lower educated
<b>Paternal leave</b>				
Father	0.79**	0.52	0.96*	1.43*
Partner's working hours	0.04***	0.04***	0.04***	0.03***
Father*Partner's hours	-0.03***	-0.03***	-0.02*	-0.03
Paternal leave	-0.25*	-0.19+	-0.30**	-0.19
Father*Paternal leave	-0.09	-0.15	-0.07+	-0.24
<b>Maternal leave</b>				
Father	0.41	-0.36	0.93**	0.56
Partner's working hours	0.04***	0.04***	0.04***	0.03***
Father*Partner's hours	-0.03***	-0.03***	-0.02*	-0.03
Maternal leave	0.009+	0.004	0.008	0.012
Father*Maternal leave	0.002	0.007*	-0.001	0.003
<b>Family allowances</b>				
Father	0.82**	0.49	0.90*	1.84***
Partner's working hours	0.04***	0.04***	0.04***	0.03***
Father*Partner's hours	-0.03***	0.03***	-0.02*	-0.04+
Family allowances	-0.18	-0.25**	-0.19	-0.12
Father*Family allowances	-0.06	-0.07	-0.03	-0.33*
<b>Public childcare</b>				
Father	0.88*	0.79	0.89*	1.54*
Partner's working hours	0.04***	0.04***	0.04***	0.03***
Father*Partner's hours	-0.02***	-0.03***	-0.02*	-0.03
Childcare	-0.07***	-0.05**	-0.09***	-0.08**
Father*Childcare	-0.01	-0.03	-0.00	-0.03

Note: Controlled for age, age<sup>2</sup>, education, partner's education and year.  
 \*\*\*p < .001; \*\* p < .01; \* p < .05; + p < .1

working hours of lower educated fathers, there is only partial support for Hypothesis 5 that fathers with lower levels of education respond more strongly to paid paternal leave than fathers with higher levels of education.

Turning to maternal leave, the results show a positive effect on the labour supply of highly educated fathers. With each week of maternal leave, fathers' working hours increased by 0.007 hours (p<.05). Even though the effect appears to be small at first, it can be considerable given that several countries offer more than 100 weeks of maternal leave. As Panel B in Figure 2 shows, fathers with non-employed partners worked almost an hour more than their childless counterparts if they lived in a country that offered 172 weeks of maternal leave (as in Poland). However, in a country that offered 28 weeks of maternal leave (as in Belgium), these fathers worked somewhat less than childless men. Among fathers with full-time employed partners, those who lived in a country that offered 28 weeks of maternal leave even worked one hour less than comparable childless men. The results for highly educated fathers thus support Hypothesis 2.



**Figure 2.** Effect of children on men's working hours, differentiated by education and family policies.

As predicted by Hypothesis 5, family allowances only mattered for the working hours of fathers with lower education, but not for fathers with higher education. As the interaction effect shows, fathers worked 20 minutes ( $b=-0.33$ ,  $p<0.05$ ) less if family allowances increased by 1 per cent of an average income. Consequently, lower educated fathers with non-employed partners worked almost two hours more per week than comparable childless men if they lived in a country that offered no family allowances (Panel C in Figure 2). Yet, they worked two hours less than comparable childless men if family allowances in their country amounted to 11 per cent of an average income (as in Lithuania).

Finally, the results for the associations between fatherhood, public childcare and men's working hours indicate that the provision of public childcare did not alter the relationship between fatherhood and working hours, contradicting Hypothesis 4. This indicates that public childcare primarily reallocates time and responsibilities from mothers to the state without changing fathers' involvement in paid work and childcare. As mothers spend more time in childcare than fathers in all countries and irrespective of employment status (Craig and Mullan, 2011), they have much more to gain from defamilializing policies than do fathers.

In sum, the results mostly support the hypotheses. The findings for medium educated fathers support Hypothesis 1 that fathers work less than childless men if countries offer paid paternal leave. The results on highly educated fathers support Hypothesis 2 that fathers work more than childless men in countries that offer long maternal leaves. In line with Hypothesis 3, lower educated fathers work less than childless men if they live in countries with generous family allowances. This also supports Hypothesis 5 that financial incentives are more important for lower educated fathers than for highly educated fathers. There is no evidence supporting Hypothesis 4 that fathers work less than childless men in countries with little public childcare.

## Discussion

There is widespread consensus that family policies greatly impact the employment behaviour of mothers. This article extends this line of research by exploring whether family policies also influence the working hours of fathers. Comparing the results from this study to previous research on maternal employment and the division of housework in couples shows that supported familialism leads to a traditional division of labour when targeted at the mother, but to a more gender egalitarian division of labour when targeted at the father. Previous research showed that long parental leaves for mothers reduce maternal labour force participation and increase the gender specialization of household labour (Hook, 2010; Pettit and Hook, 2005). This study adds another dimension to this picture by showing that long maternal leaves are also associated with longer paternal working hours. Parental leave for fathers, in contrast, leads to greater male participation in housework (Hook, 2010) and, as this study shows, shorter paternal working hours.

Family allowances – as a gender neutral familialistic policy – lead both parents to reduce their working hours. Previous research argued that family allowances incentivize mothers to become full-time carers and thus reinforce a traditional division of labour in couples (Gornick et al., 1997), especially when mothers have lower educational levels (Del Boca et al., 2009). Yet, the present study suggests that family allowances also

encourage lower educated fathers to work fewer hours. Thus, the association between family allowances and a traditional division of labour is not as straightforward as assumed by previous research.

Public childcare as a defamilializing policy only increases the labour supply of mothers but does not alter the working hours of fathers. It seems that public childcare redistributes childcare from mothers to the state, leaving fathers out of the equation.

Furthermore, the results highlight that family policies do not affect all fathers equally. Fathers with different levels of education respond to family policies in different ways. These findings contribute to a recent strand of cross-national research that indicates substantial subgroup-specific variation in the effects of social policies on mothers' employment. As Steiber and Haas (2012) argue, the estimation of 'mean policy effects' for the general population conceals important variations in the effect of policies on specific groups. This study supports this argument by showing that it holds for paternal employment behaviour as well: fathers with lower levels of education are most responsive to family allowances. Non-transferable, well paid parental leave for fathers is associated with shorter working hours among medium educated fathers. Longer periods of leave for mothers, by contrast, discourage highly educated men from working shorter hours.

This study interprets the effect of education as a proxy for fathers' socio-economic position: fathers with lower education can only afford to reduce their working hours if they receive financial support, whereas more highly educated fathers can afford to forgo some employment-related income without financial support. However, higher education is not only associated with higher economic status, but also with more egalitarian gender role attitudes. As the data lack information on fathers' attitudes and beliefs, the authors' interpretation of the educational effect thus warrants caution as it may also be driven by fathers' gender role beliefs (Sayer et al., 2004). Other individual-level correlates that could not be incorporated into this study but would be of interest for future research are work-family strain and schedule control. Recent research by Lyness et al. (2012) suggested the impact of policies on working hours may be mediated by work-family strain and workers' control over their work schedules. Thus, future research should examine the extent to which fathers reduce their working hours because of work-family strain and whether schedule control may help them to be highly involved with their children despite long working hours. An important factor at the country level not dealt with in the present study is gender empowerment. A recent study by Ruppanner and Huffman (2014) suggested that fathers in more gender-empowered countries are more likely to experience family-work conflict and that mothers in these countries feel empowered to demand that fathers take responsibility for household and care demands. Thus, the impact of family policies on fathers' working hours may be mediated or moderated by gender empowerment.

In conclusion, this study extends knowledge of how family policies shape gender inequalities in couples. The same policies that promote men's involvement in domestic work and childcare also encourage fathers to reduce their working hours. By showing that social policies not only have an impact on the employment of mothers, but also on that of fathers, this study broadens the applicability of feminist welfare state theory. Future research on the effect of policies on gender inequalities in the labour market



should take into account the finding that policies affect gender inequality by shaping women's and men's employment outcomes.

## Acknowledgements

We thank the editors and three anonymous reviewers for their valuable comments.

## Funding

This work was supported by the German Research Foundation (DFG) grant number PO 1569/2-1.

## Notes

1. An alternative interpretation uses education as proxy for gender ideology and beliefs about parenting (Sayer et al., 2004). According to this perspective, more highly educated fathers are more involved at home because they hold more egalitarian beliefs about the division of paid work and care work.
2. Unfortunately, the data set does not contain information on whether fathers have a second job. Therefore, this study cannot examine whether fatherhood and family policies are associated with men's working hours on additional jobs.
3. The ISCED classification (International Standard Classification of Education) was developed by UNESCO to facilitate comparisons of educational levels across countries. The classification distinguishes seven levels of education: (0) pre-primary education; (1) primary education; (2) lower secondary education; (3) upper secondary education; (4) post-secondary, non-tertiary education; (5) tertiary education (first stage); (6) tertiary education (second stage). The classification provided by EU-SILC combined categories 5 and 6.
4. Some countries also offer a period of childcare leave that can be taken at the end of the parental leave period. However, childcare leave was excluded from this study's measure of parental leave because childcare leave does not come with job protection and take-up rates are therefore much lower than for parental leave (Hegewisch and Gornick, 2011).
5. Our measure for paternal leave correlated at 0.93 between 2004 and 2009, the measure for maternal leave at 0.98 and the measures for family allowances and public childcare each at 0.8.
6. The results of these models can be obtained from the authors upon request. The coefficients differ from those displayed in Table 2 because the interaction between fatherhood and mothers' working hours was not included in the models for technical reasons. Basically, these coefficients mirror the overall negative association between fatherhood and working hours that is also displayed in Figure 1.

## References

- Abendroth A, Van der Lippe T and Maas I (2012) Social support and the working hours of employed mothers in Europe. *Social Science Research* 41(3): 581–97.
- Craig L and Mullan K (2010) Parenthood, gender and work-family time in the United States, Australia, Italy, France, and Denmark. *Journal of Marriage and Family* 72(5): 1344–61.
- Craig L and Mullan K (2011) How mothers and fathers share childcare: a cross-national time-use comparison. *American Sociological Review* 76(6): 834–61.
- Crompton R (1999) *Restructuring Gender Relations and Employment: The Decline of the Male Breadwinner*. Oxford: Oxford University Press.

- Del Boca D, Pasqua S and Pronzato C (2009) Motherhood and market work decisions in institutional context: a European perspective. *Oxford Economic Papers* 61(Suppl. 1): i147–i171.
- Dermott E (2006) What's parenthood got to do with it? Men's hours of paid work. *British Journal of Sociology* 57(4): 619–34.
- Deven F and Moss P (2005) *Leave Policies and Research: Reviews and Country Notes*. Brussels. Available (consulted 19 March 2015) at: [http://www.leavenetwork.org/fileadmin/Leavenetwork/Annual\\_reviews/2005\\_annual\\_report.pdf](http://www.leavenetwork.org/fileadmin/Leavenetwork/Annual_reviews/2005_annual_report.pdf)
- Dommermuth L and Kitterød RH (2009) Fathers' employment in a father-friendly welfare state: does fatherhood affect men's working hours? *Community, Work and Family* 12(4): 417–36.
- Dribe M and Stanfors M (2009) Does parenthood strengthen a traditional household division of labor? Evidence from Sweden. *Journal of Marriage and Family* 71(1): 33–45.
- Duvander A and Jans A (2009) Consequences of father's parental leave use: evidence from Sweden. *Finnish Yearbook of Population Research* 44: 49–62.
- Edin P and Gustavsson M (2008) Time out of work and skill depreciation. *Industrial and Labor Relations Review* 61(2): 163–80.
- Eurostat (2012) *2010 Comparative EU Intermediate Quality Report*. Brussels: European Commission.
- Eurostat (2013) *2010 EU Comparative Final Quality Report*. Brussels: European Commission.
- Eurostat (2014) *Working Paper with the Description of the 'Income and Living Conditions' Dataset*. Athens: Agilis S.A.
- Gangl M and Ziefle A (2009) Motherhood, labor force behavior, and women's careers: an empirical assessment of the wage penalty for motherhood in Britain, Germany, and the United States. *Demography* 46(2): 341–69.
- Gershuny J and Sullivan O (2003) Time use, gender, and public policy regimes. *Social Politics: International Studies in Gender, State and Society* 10(2): 205–28.
- Glauber R (2008) Race and gender in families and at work: the fatherhood wage premium. *Gender and Society* 22(1): 8–30.
- Gornick JC and Meyers M (2003) *Families That Work: Policies for Reconciling Parenthood and Employment*. New York, NY: Russell Sage Foundation.
- Gornick JC, Meyers MK and Ross KE (1997) Supporting the employment of mothers: policy variation across fourteen welfare states. *Journal of European Social Policy* 7(1): 45–70.
- Hausman JA and Taylor WE (1981) Panel data and unobservable individual effects. *Econometrica* 49(6): 1377–98.
- Hegewisch A and Gornick JC (2011) The impact of work-family policies on women's employment: a review of research from OECD countries. *Community, Work and Family* 14(2): 119–38.
- Hobson B and Fahlén S (2009) Competing scenarios for European fathers: applying Sen's capabilities and agency framework to work-family balance. *Annals of the American Academy of Political and Social Science* 624(1): 214–33.
- Hook JL (2010) Gender inequality in the welfare state: sex segregation in housework, 1965–2003. *American Journal of Sociology* 115(5): 1480–1523.
- Kangas O and Rostgaard T (2007) Preferences or institutions? Work-family life opportunities in seven European countries. *Journal of European Social Policy* 17(3): 240–56.
- Knoester C and Eggebeen DJ (2006) The effects of the transition to parenthood and subsequent children on men's well-being and social participation. *Journal of Family Issues* 27(11): 1532–60.
- Lewis J (1992) Gender and the development of welfare regimes. *Journal of European Social Policy* 2(3): 159–73.

- Lundberg S and Rose E (2002) The effects of sons and daughters on men's labor supply and wages. *Review of Economics and Statistics* 84(2): 251–68.
- Lyness KS, Gornick JC, Stone P and Grotto AR (2012) It's all about control: worker control over schedule and hours in cross-national context. *American Sociological Review* 77(6): 1023–49.
- Mandel H and Semyonov M (2006) A welfare state paradox: state interventions and women's employment opportunities in 22 countries. *American Journal of Sociology* 111(6): 1910–49.
- Morgan SL and Winship C (2007) *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. New York, NY: Cambridge University Press.
- Multilinks (2011) About the Multilinks database on intergenerational policy indicators, version 2.0. Available (consulted 19 March 2015) at: <http://multilinks-database.wzb.eu/info/about>
- Nepomnyaschy L and Waldfogel J (2007) Paternity leave and fathers' involvement with their young children. *Community, Work and Family* 10(4): 427–53.
- O'Brien M (2004) Social science and public policy perspectives on fatherhood in the European Union. In: Lamb ME (ed.) *The Role of the Father in Child Development*. Hoboken, NJ: Wiley, 121–45.
- OECD (2012) OECD family database. Available (consulted 19 March 2015) at: [www.oecd.org/social/family/database](http://www.oecd.org/social/family/database)
- Ostner I and Lewis J (1995) Gender and the evolution of European social policy. In: Leibfried S and Pierson P (eds) *European Social Policy between Fragmentation and Integration*. Washington, DC: Brookings Institution, 159–93.
- Pettit B and Hook JL (2005) The structure of women's employment in comparative perspective. *Social Forces* 84(2): 779–801.
- Pfau-Effinger B (1999) Change of family policies in the socio-cultural context of European societies. In: *Comparative Social Research Volume 18*. Bingley: Emerald Group Publishing, 135–59.
- Plantin L (2007) Different classes, different fathers? *Community, Work and Family* 10(1): 93–110.
- Rabe-Hesketh S and Skrondal A (2012) *Multilevel and Longitudinal Modeling Using Stata, Volume I: Continuous Responses*, 3rd Edition. College Station, TX: Stata Press.
- Ray R, Gornick JC and Schmitt J (2010) Who cares? Assessing generosity and gender equality in parental leave policy designs in 21 countries. *Journal of European Social Policy* 20(3): 196–216.
- Rege M and Solli IF (2013) The impact of paternity leave on fathers' future earnings. *Demography* 50(6): 2255–77.
- Ruhm CJ (1998) The economic consequences of parental leave mandates: lessons from Europe. *Quarterly Journal of Economics* 113(1): 285–317.
- Ruppanner L and Huffman ML (2014) Blurred boundaries: gender and work-family interference in cross-national context. *Work and Occupations* 41(2): 210–36.
- Saraceno C and Keck W (2010) Can we identify intergenerational policy regimes in Europe? *European Societies* 12(5): 675–96.
- Sayer LC, Gauthier AH and Furstenberg FF (2004) Educational differences in parents' time with children: cross-national variations. *Journal of Marriage and Family* 66(5): 1152–69.
- Smith Koslowski A (2011) Working fathers in Europe: earning and caring. *European Sociological Review* 27(2): 230–45.
- Stanfors M and Neilson J (2014) It's about time! Gender, parenthood, and household divisions of labor under different welfare regimes. *Journal of Family Issues* 35(8): 1066–88.
- Steiber N and Haas B (2012) Advances in explaining women's employment patterns. *Socio-Economic Review* 10(2): 343–67.

- Uunk W, Kalmijn M and Muffels R (2005) The impact of young children on women's labour supply: a reassessment of institutional effects in Europe. *Acta Sociologica* 48(1): 41–62.
- Van der Lippe T, De Ruijter J, De Ruijter E and Raub W (2011) Persistent inequalities in time use between men and women: a detailed look at the influence of economic circumstances, policies, and culture. *European Sociological Review* 27(2): 164–79.
- Yeung WJ, Sandberg JF, Davis-Kean PE and Hofferth SL (2001) Children's time with fathers in intact families. *Journal of Marriage and Family* 63(1): 136–54.

**Mareike Bünning** is a researcher at WZB Berlin Social Science Center. Her research focuses on family policies and the division of labour in couples, in particular fathers' involvement in paid work, housework and care.

**Matthias Pollmann-Schult** is a Heisenberg Fellow at WZB Berlin Social Science Center. His research interests include the impact of parenthood on fathers' employment, the association between parenthood and life satisfaction and the effect of non-standard work on family well-being. His recent research has been published in *European Sociological Review*, *Journal of Marriage and Family* and *Journal of Family Issues*.

**Date submitted** May 2014

**Date accepted** March 2015