

Institute for Social Policy

Working Paper No 1/2015

Does parental leave influence the gender division of labour? Recent empirical findings from Europe.

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March 2015



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Vienna, March 2015

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Abstract

There has been increasingly interest in parental leave policies as instruments for the implementation of gender equality in society. This review essay explores the link between parental leave policies and the gender division of labour - referring to both paid employment and unpaid family work. Against this backdrop the essay systematically reviews evidence from quantitative empirical research on the effects of parental leave policies on mothers' employment and fathers' involvement in family work. The article suggests that there are several aspects of parental leave that seem to be especially relevant for the gender division of labour, such as the duration of leave, the provision of payments, and an individual entitlement of non-transferable leave rights. In a concluding section the article summarizes the results, discusses doubts and questions raised by the material and identifies promising areas of future research that are crucial for a better understanding of the effects of parental leave on the gender division of labour.

Keywords: parental leave; gender equality; women's labour force participation; fatherhood; domestic division of labour;

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1 Introduction

This review essay explores the link between parental leave policies and the gender division of labour. In contrast to the common use of “labour” that refers to employment, the term in this paper is understood in a broader sense encompassing two components - paid employment and unpaid family work. Against this backdrop, the article provides a critical review on literature studying the effects of parental leave policies on the gender division of labour based on the method of systematic reviewing (Gough, Oliver & Thomas, 2012). A systematic search was conducted in academic research databases with the keywords parental leave, maternity leave or paternity leave in combination with at least one of the following keywords in title, abstract or keywords list: fathers, fatherhood, take-up, labour market, labour supply, mothers, labour force participation, wages, female employment, female labour supply, employment pattern, working mothers, gender, gender gap, gender equality, division of labour, or childcare. The academic databases included: ECON Lit, SocIndex, Social Sciences Citation Index, IDEAS, SCIENCE DIRECT and the International Bibliography of the Social Sciences. The systematic search was further limited to articles that (i) were published after the millennium - encompassing contributions between January 2000 and January 2013, (ii) focus on the study of European countries, (iii) were published within a peer-review journal and (iv) were written in English or German language. Based on the screening of title and abstract of the remaining articles, those contributions that do not conduct a quantitative empirical study were excluded from the article corpus (also excluded were those studies that provide “only” descriptive results and do not provide information on causal relations or statistical associations). The final article corpus generated by the systematic search as specified above contains twelve contributions on the effect of parental leave on mothers’ employment and eight articles on the effect of parental leave on fathers’ family work.

This essay builds on other review articles that give an overview of the literature on the determinants of mothers’ employment (Hegewisch & Gornick, 2011; Steiber & Haas, 2012) or on the impact of parental leave policies on various outcome variables (Galtry & Callister, 2005). It complements this work by providing recent empirical evidence from Europe on the effect of parental leave policies on mothers’ employment and fathers’ family work as complementary elements.

2 Parental leave policies in European countries

Typically, there are three elements that make up a set of parental leave policies: maternity leave, paternity leave and parental leave. Following Moss (2012) and Deven and Moss (2002), they can be described as follows. The first element, maternity leave denotes employment-protected leave of absence for mothers around the time of childbirth. This type of leave is generally understood as a health and welfare measure, intended to protect the health of mother and child.

Practically all European countries provide maternity leave regulation, mostly covered by earning replacement rates between 60 and 100 per cent of the previous income. The period of maternity leave usually amounts to a total of 14 to 20 weeks before and after birth. The second element, paternity leave, denotes employment-protected leave of absence for fathers after childbirth. This type of leave intends to enable fathers to spend time with their family around the time of child-birth. In contrast to maternity leave, paternity leave is only offered in some countries, such as the Netherlands, Portugal or Spain, amounting to 2 to 15 days after childbirth and is often paid with an income replacement rate similar to the one applied for maternity leave. The third element, parental leave, denotes employment-protected leave of absence for employed parents – either mother or father -, which often follows maternity or paternity leave periods. This type of leave intends to enable parents to care for their young children. Parental leave regulations vary widely across European countries - between four months (per parent) in Belgium and three years in Hungary. Many countries provide payments during parental leave, either in form of a generous income replacement payment or in form of a less generous flat-rate benefit. The general use of the term "parental leave" in literature, however, is ambiguous – sometimes denoting an actual parental leave regulation in a narrow sense, sometimes applied as umbrella term subsuming all of the three types of leave.

There are several options for building the policy objective of gender sharing into parental leave regulation. For instance, whereas parental leave based on a family or individual and transferable entitlement is predominantly used by mothers, parental leave based on an individual and non-transferable entitlement is used as a measure to increase leave take-up of fathers. The latter type of leave is also referred to as “fathers’ quota”, “daddy months” or leave based on a “use-it-or-lose-it” entitlement. Another fathers’ targeted measure is the provision of additional “bonus weeks” of paid parental leave, in the case that parents share leave entitlements. In this article, the term “parental leave”, or simply “leave”, is used as an umbrella term and will refer to the sum of all these types of leave, including maternity, paternity and parental leave (in a narrow sense). Furthermore, this article will distinguish between “total leave” denoting the duration of leave, either paid or unpaid, and “paid leave” denoting only that leave period that is supplemented financially.

3 Literature on the effects of parental leave policies on mothers’ employment

There is a large body of literature analysing the effect of parental leave policies on mothers’ employment from recent years. Eight out of twelve contributions considered in the systematic review have been published to this topic since January 2010. Most contributions focus on a variation in the duration of total parental leave (referring to paid and unpaid leave taken together), whereby some concentrate on the duration of paid leave only. Typically, several different outcome variables are

analysed, such as the return to work after leave, mothers' employment participation, weekly working hours, gross wages, occupational segregation or receiving job-related training. In general, there are three groups of contributions that can be identified. First, studies based on macro data that exploit a variation in leave policies across countries or time, mostly using a Difference-In-Difference approach or Feasible General Leave Squares Models in order to explain employment participation of women. Second, studies based on micro and macro data that exploit a variation in leave policies across countries or time, mostly using Ordinary Least Square Regression, or Hazard Rate Models in order to explain employment participation of women or their return to work. Third, there are studies based on micro data that exploit a variation in the leave policy of a singular country over time, mostly using Hazard Rate Models in order to explain return to work behaviour, or Linear Probability Models comparing labour market outcomes of mothers shortly before and after a parental leave reform.

3.1 Studying a variation in the duration of total parental leave entitlements

There are several contributions that focus on the effects of a variation in the duration of total parental leave entitlements – including paid and unpaid leave – on employment outcomes of women. Akgunduz and Plantenga (2012) study the variation in the duration of total parental leave entitlements on women's employment using aggregated macro-level data of 16 European countries from 1970 – 2010. The variable capturing the duration of leave refers to the number of weeks of leave weighted by the respective replacement level provided by a country. The outcome variables capture women's employment in terms of employment-to-population rates (defined as the proportion of the working-age population of a country that is employed), working hours, wages and occupational segregation. They find that parental leave increases female employment-to-population rates indicating that longer leave durations positively affect women's employment participation. However, this effect diminishes with the duration of leave, indicating an inverted U-shape relation between leave length and female employment participation. Therefore very short and very long durations of leave negatively affect women's employment participation, whereas moderate duration has a positive effect. Their data analysis indicates an optimal leave length, where employment is maximized at 28 weeks of weighted leave. With respect to the effect on working hours, the duration of leave depicts a positive effect. Furthermore, they find a negative effect of the duration of leave on wages, but only for high skilled women. Looking at the effect of the duration of leave on occupational segregation, they find that the share of women working as professionals, legislators, senior officials or managers is slightly negatively influenced by the duration of leave.

Similarly, Genre, Salvador and Lamo (2010) study a variation in the duration of total parental leave entitlements on women's employment participation using macro data for 12 European countries during the 1980s and the 1990s. However, the authors do not explicitly state whether the variable indicating the duration leave refers to paid or unpaid leave, it is most likely that the variable measures the duration of total parental leave entitlements. Like Akgunduz and Plantenga (2012), they find a positive effect of the duration of leave on women's employment participation with diminishing

returns indicating an inverted U-shape relationship between leave length and employment participation. According to their estimates, the positive effect on employment is maximized at about eight to nine months of leave, turning negative afterwards.

Taking a micro-macro perspective, DeHenau, Meulders and O'Dorchai (2010) study the effects of a variation in the duration of total leave entitlements on a "child gap" in women's employment participation using data across 15 European countries between 2000 and 2003. Again, the authors do not explicitly state whether the variable indicating the duration of leave refers to paid or unpaid leave, it is most likely that it measures the duration of total parental leave entitlements. The child gap refers to the employment gap in full-time participation rates between mothers and non-mothers. They find that the duration of leave has a slightly negative effect on the child gap, i.e. the duration of leave increases the gap in full-time employment participation rates between mothers and non-mothers.

Pettit and Hook (2005) take a similar approach, but focus on a slightly different outcome variable. They study a variation in the duration of total parental leave entitlements on a "child penalty" in women's employment participation rates using micro and macro data in the 1990s for 19 predominantly European countries. The two variables capturing the duration of parental leave entitlements refer to the number of weeks of paid maternity leave and of total parental leave available in a country. The outcome variable here is referred to as "child penalty" in employment participation indicating the extent to which the negative effect on mothers' employment participation rates (compared to non-mothers) can be explained by the presence of children. They find that the duration of leave positively affects the child penalty in employment participation, i.e. the child penalty is weaker in countries where total parental leave durations are long. This positive effect seems to diminish with leave duration indicating an inverted U-shaped relation between the duration of total parental leave and the child penalty. According to their estimates, the positive effect on the child penalty is maximized at about three years of leave.

In a similar vein, Misra, Budig and Boeckmann (2011) study a variation in the total duration of leave policies on a "child penalty" in employment hours and wages of mothers using micro and macro data between 1996 and 2001 for 21 predominantly European countries. The two variables capturing the duration of parental leave entitlements refer to the number of weeks of paid maternity leave and of total parental leave available in a country. The "child penalty" refers to the extent to which the negative effect on mothers' employment hours and wages can be explained by the number of children. They find that the duration of paid maternity leave and the duration of total parental leave available in a country are associated with a lower child penalty for both employment hours and wages. Furthermore, just as Pettit and Hook (2005), they find evidence for an inverted U-shaped relation between the duration of total parental leave and the child penalty, where the child penalty on working hours and wages is minimized at around 80 to 100 weeks of leave.

There are two studies approaching the question about the effects of the duration of total parental leave on employment outcomes of mothers on a micro level. Grunow, Aisenbrey and Evertsson (2011) study a variation in leave policies on return to work of mothers born in the 1950s, 1960s or 1970s using panel data on a micro level for Germany, Sweden and the United States. They use several dummy variables to indicate different duration of leave over time in the three countries. These vary from variables indicating shorter leave durations in the 1970s and moderate duration in the 1980s to longer leave durations in the 1990s. Their results indicate that extended leave durations delay return to work in all three countries.

Another micro-level contribution, Puhani and Sonderhof (2011), studies a variation in the duration of total parental leave entitlements on the incidence of job-related trainings using survey data for Germany between 1988 and 2000. Within this time span, the German parental leave scheme was extended at several rates, between twelve months of leave in 1986 and 36 months of leave in 1995. In general, they find an increase in job-related trainings amongst several groups of the population, including those of young women. However, their results indicate that the increase in training incidence between 1988 and 1994 amongst various groups was the smallest for young women. Furthermore, their results show tentative evidence that the extension of leave has not only a steaming effect on the increase of job-related training for all women, but for women without children as well.

3.2 Studying a variation in the duration of paid parental leave entitlements

Another group of contributions focuses explicitly on the effects of the duration of paid parental leave entitlements. Ronsen and Sundström (2002) study return to work of mothers' using survey data between 1972 – 1992 for Sweden, Finland and Norway. The variable capturing the variation in the duration of leave refers to the length of paid leave provided by a country at the time of birth. The outcome variable refers to the likelihood of return to work in full-time or part-time employment. For mothers having their first child, the results suggest that longer durations of paid parental leave delay the return to work. For Norway and Finland, however, this negative effect is only significant for mothers returning to full-time jobs. In addition, they find that a variable that is indicating whether mothers' leave entitlement has just expired has a positive effect on return to work of mothers, whereas this effect is especially pronounced in Norway and only moderate in Sweden.

Similarly, Ondrich, Spiess, Yang and Wagner (2003) study a variation in the duration of paid parental leave entitlements on return to work of mothers using micro and macro data for Germany between 1985 and 1991. Within their study period, leave was extended at several rates between six months in 1985 and 18 months in 1991. These variations in leave are captured by dummy variables indicating the specific duration of leave at each point in time. They use three different outcome variables to capture return to work behaviour, referring to the return to work (i) within the maternity leave period, (ii) within the parental leave period and (iii) within a post-parental leave period (six months

after the end of parental leave). Their results indicate a negative effect of the extension of parental leave on full-time return to work within the maternity leave period.

There are three contributions that are based on a micro level studying the effect of paid parental leave entitlements. Lalive and Zweimüller (2009) study the variation of paid parental leave on several employment outcomes of mothers using administrative data for Austria between 1985 and 2000. In July 1990 the Austrian parental leave scheme was extended from one to two years of parental leave, every time paid at the same low flat rate payment. Three outcome variables refer to mothers' employment outcomes: (i) return to work; (ii) the number of months worked per calendar year (in part-time or full-time employment); and (iii) the average pay earned per calendar day. Their results depict different effects of the reform in the short run (within three years after birth) and in the long run (within ten years after birth). They find that the reform extending leave substantially delays the return to work of mothers, whereas this negative effect is especially pronounced in the short run. Furthermore, they find a small negative effect of the reform on employment and earnings in the short run, but no significant effect in the long run.

Another contribution that is based on a micro level, Bergemann and Riphahn (2011), study a variation of paid leave in Germany on return to work of mothers using panel-data on a micro level between 2005 and 2007. In 2007, a policy reform introduced a new scheme of shorter, but more generous parental leave payments. The new benefit amounts to two-thirds of the pre-birth income and is paid for twelve months for one of the parents, whereas an extra two months are available if both parents share leave. The new transfer replaces a less generous leave payment where a maximum of 300 Euro per month, means-tested at the household level, were paid for 24 months. At the same time, the total parental leave duration of three years remained unchanged. The outcome variables are based on survey question about the intention to (i) return to work (ever) and (ii) a fast return to work (within one year after birth). They find no significant effect from the introduction of the reform in 2007 on the intention to ever return to work. However, they find a clearly positive effect of the reform on fast return to work, indicating that short and well paid leave seems to speed up return to work compared to longer low paid leave, even if the duration of total leave stays the same.

3.3 Studying a variation in the eligibility for parental leave entitlements

Taking a micro-macro approach, Pronzato (2009) studies the variation in the eligibility for parental leave entitlements on return to work of mothers using data of ten European countries between 1994 and 2001. There are two variables that capture the variation in the eligibility for parental leave entitlements across women: (i) a dummy variable indicating whether a woman is eligible for some paid or unpaid leave and (ii) a dummy variable indicating whether a woman is eligible for parental leave payments during leave. She finds a positive effect of variable referring to the eligibility of total leave in the second or the third year after birth on return to work of mothers. Therefore, women who have not returned to the labour market within the first year after birth and are eligible to some paid

or unpaid leave in the following two years are more likely to start working again as compared to those mothers who are not eligible to some leave. Furthermore, she finds a negative effect from the eligibility to leave payments on return to work, however only for the first year after birth. Analysing the results according to different levels of education, she finds that the positive effect from the eligibility for leave is especially pronounced for medium and highly educated women, whereas the negative effect from the eligibility for payments is strongest for low educated women.

Another micro-macro study, Ronsen and Sundström (2002), investigates the variation in the eligibility for paid parental leave on return to work of mothers' using survey data between 1972 – 1992 for Sweden, Finland and Norway (details for the study see above). For mothers having their first child, the results suggest a strong positive effect of the entitlement to leave on the return to work of mothers (compared to those mothers who are not eligible for leave) in all countries, with one exception that are mothers returning to part-time work in Finland.

3.4 Studying a variation in the amount of payments provided during parental leave

Only two papers focus explicitly on a variation in the amount of parental leave payments provided in a country. Lapuerta, Baizán and González (2011) study a variation in the amount of parental leave payments on return to work of mothers using administrative data for Spain of 2006. In Spain, there are big variations in payments across regions. Whereas some regions, such as the Basque country, Navarra or Castilla la Mancha, provide parental leave payments between 200 and 560 Euros per months, others do not provide any payments. Their results indicate that the provision of payments delays return to work of mothers.

Ondrich et al. (2003) study a variation in the amount of parental leave payments provided during leave on return to work of mothers using micro and macro data for Germany between 1985 and 1991 (details of the study see above). The variable capturing the variation of parental leave payments is the ratio between monthly parental leave benefits and monthly net earnings of a mother. They find a negative effect of the benefit-wage ration on the return to full-time and part-time work during the parental leave period, i.e. the higher the earnings-replacement provided by the benefit the longer the return to work is delayed.

4 Literature on the effects of parental leave policies on fathers' family work

Most studies analysing the effect of parental leave policies on fathers' family work are from recent years. Five out of eight contributions have been published since January 2010. Most contributions analyse the effects from an introduction of a father's quota (i.e. leave months that are based on an individual and non-transferable leave entitlement), a variation in the duration of total parental leave, a variation in the amount of leave payments or a change in the fathers' eligibility for leave on their

family work. Typically, outcome variables measure father's leave take-up and their engagement in family work (including child care) or household work (excluding child care). There are two groups of studies. First, there are studies based on micro and macro data that exploit a variation in parental leave policies across countries or time, mostly using multi-level modelling techniques in order to explain fathers' engagement in family- or household work. Second, studies based on micro data that analyse a specific reform implemented in a country that aims to increase fathers' participation in family work, using various estimation techniques.

4.1 Studying the introduction of a father's quota

One of the most prominent instruments analysed within the literature on the determinants of fathers' family work is the father's quota. Duvander and Johansson (2012) study the effects from the introduction of a fathers' quota on male parental leave take-up using administrative data from Sweden between 1995 and 2002. In 1995, a reform introduced a one-month fathers' quota, whereas the overall duration of paid parental leave stayed the same at 15 months. At the same time, the replacement rate of the benefit paid for the first twelve months of leave payments was decreased from 90 to 80 per cent, except for the first month of leave used by each parent. The amount of the flat-rate payment, which was paid for the remaining three months, did not change. In 2002, another reform introduced a second month father's quota, but this time the additional month was added on top of the overall duration of paid leave that - by then - amounted to 16 months. Duvander and Johansson compare the means of parental leave days taken by the fathers and find that both reforms substantially increased fathers' leave days. Furthermore, they test whether the effects of the reforms are statistically significant and find this to be the case for both reforms. The introduction of the one-month fathers' quota significantly raised the likelihood of fathers' leave taking for more than 30 days, but not more than five weeks. Similarly, the introduction of the second month of fathers' quota significantly raised the likelihood of fathers' leave taking for more than 60 days, but not more than nine weeks.

In a similar vein, Ekberg, Eriksson and Friebel (2013) study the effect of the Swedish father's quota on their parental leave take-up using administrative data from Sweden between 1993 and 2003. They focus on the first reform in 1995 that introduced a one-month father's quota (details for the reform see above). Their findings suggest that the reform increased fathers' use of leave by about 15 days. Interestingly, they also find a change in the take-up behaviour of women, suggesting that they use more of the flat-rate paid parental leave days after the reform.

Another study from Norway, Kotsadam and Finseraas (2011) analyse the effect of a fathers' quota on male performance in household work using survey data between 1991 and 1995. In 1993, a father's quota of four weeks of paid leave was introduced, added to the overall duration. Fathers' household work is defined by three household tasks - namely washing clothes, cooking, and cleaning. These categories are based on a survey question about the division of household work ("Who does most

household work in the household?”). The results indicate that respondents share the task of washing clothes more equally after the introduction of fathers’ quota. With respect to the results on the division of cleaning, there seems to be a positive effect on male involvement (“man does most work” answer versus “woman does most work”). They find no significant effects on the division of cooking tasks.

4.2 Studying a variation in the duration of total parental leave entitlements

Within the literature on the determinant of fathers’ family work, there are three micro-macro studies that focus on the effects of a variation in the duration of total parental leave entitlements on fathers’ family work. Hook (2006) studies this variation using time-use surveys and policy data on a national level from 20 predominantly European countries between 1965 and 2003. The variable indicating the duration of leave refers to the weeks of total parental leave available in a country. Fathers’ family work is measured in minutes per day and is defined by (i) core household work, such as cleaning or cooking, (ii) non-routine housework, such as gardening or shopping and (iii) child-care. Her results suggest that longer duration of total parental slightly decrease father’s family work.

Whereas Hook (2006) studies the effects on fathers’ family work including child care tasks, Hook (2010) concentrates on their performance in time-inflexible household tasks, excluding childcare. She studies a variation in the duration of total parental leave on some time-inflexible household tasks performed by parents using time-use surveys and policy data on a national level from 19 predominantly European countries between 1965 and 2003. The variable indicating the duration of parental leave refers to the weeks of total parental leave available in a country. The outcome variable refers to the minutes per day doing housework or cooking. The results suggest that the duration of total parental leave is associated with a small reduction in fathers’ cooking time and with a rise in mothers’ cooking time, suggesting that long leave entitlements reinforce the gendered division of cooking. The results depict no substantial significant effects on sharing housework.

In a similar vein, Fuwa and Cohen (2007) study the effects from a variation in total parental leave entitlements on the division of household work using micro and macro data from 2002 for 33 predominantly European countries. The parental leave variable refers to the duration of total parental leave in months. Their outcome variable measures the division of household work amongst men and women and is based on a related survey question (“Who is doing the housework in the household?”). The variable ranges from -1 (the husband is doing all the housework) to 1 (the wife is doing all the housework), whereas 0 indicates an equal division. Their results suggest that the duration of total parental leave has an equalizing effect on the division of household work. Countries with generous parental policies have a more egalitarian division of housework than countries with less generous leave entitlements. At the same time they find a strong effect of full-time employment of women on an equal gender division of housework. However, this effect seems to be weakened by longer durations of parental leave. As Fuwa and Cohen (2007) suggest, women working full-time might have

a stronger position to bargain themselves out of housework and long parental leave policies seem to undermine this bargaining power.

4.3 Studying a variation in the duration of paid parental leave entitlements

There is one contribution by Pull and Vogt (2010) that studies a variation in paid parental leave entitlements on the take-up of fathers using data from an online survey conducted in Germany between 2001 and 2008. Just as Bergemann and Riphahn (2011) for the effects on mothers' employment, they analyse the impact of a policy reform in 2007 that introduced a new scheme of shorter, but more generous parental leave payments (details of the study see above). Notably, a crucial element of the reform was, not only, that the new benefit was income related, but also that paid parental leave was extended for two months if both parents share some leave. The outcome variables refer to (i) a dummy variable indicating whether a father used some parental leave days, (ii) a dummy variable indicating whether a father used more than two months of leave, and (iii) a variable indicating the duration of leave in months taken by the father. They find that the probability of fathers' leave taking increases with the introduction of the reform. However, the results also indicate that the probability that fathers use more than two months of leave falls after the introduction of the reform, and so does the average duration of leave taken by them.

4.4 Studying a variation in the eligibility for parental leave entitlements

Furthermore, Hook (2006) studies a variation in the entitlement of leave for fathers on their leave take-up using time-use surveys and policy data on a national level from 20 predominantly European countries between 1965 and 2003 (details of the study see above). The variable indicating men's eligibility for leave refers to whether men are eligible to use some leave. This includes not only leave that is based on an individual and non-transferable entitlement, but also leave that is based on an individual and transferable or family entitlement. Her results suggest that in countries where men are eligible for leave they do more family work.

Similarly, Hook (2010) studies a variation in the entitlement of leave for fathers on the gender sharing of time-inflexible household work using time-use surveys and policy data on a national level from 19 predominantly European countries between 1965 and 2003 (details of the study see above). The variable indicating the fathers' eligibility for leave refers to whether men are eligible to use some leave, including not only leave that is based on an individual and non-transferable entitlement, but also leave that is based on an individual and transferable or family entitlement. Her results suggest that in countries where men are eligible to some leave, women do less cooking. However, they find no significant effect on men's cooking time.

4.5 Studying a variation in the amount of payments provided during parental leave

Similarly, Lapuerta et al. (2011) study the effects of a variation in parental leave payments in Spain on fathers' parental leave take-up using administrative data from 2006 (details of the study see above). The outcome variable indicating take-up of fathers refers to (i) whether fathers used some parental leave days and (ii) the duration of leave taken by fathers measured in months. They find a positive effect from the provision of payments on the fathers' leave take-up. However, there are no significant effects from the provision of payments on the duration of leave taken by fathers.

4.6 Studying the introduction of a gender equality bonus

There is one study that provides insights into the effect of another measure aiming to increase fathers' parental leave take-up. Duvander and Johansson (2012) analyse the effect from the introduction of a "gender equality bonus" on fathers' leave take-up using administrative data of Sweden between 1995 and 2008 (details of the study see above). A reform in 2008 introduced a "gender equality bonus", which is a tax credit that is granted to mothers for each day the parents share leave more equally. They find no significant effect from the introduction of the gender equality bonus on fathers' leave take-up.

5 Discussion

Recent empirical literature from Europe that studies the effects of parental leave on the gender division of labour allows several insights. There is convincing evidence that the duration of total leave has a positive effect on the employment participation of mothers, whereas this effect diminishes with the duration of leave indicating an inverted U-shape relation. Very short and very long durations of leave only slightly positively affect women's employment participation, whereas moderate durations have a large positive effect. But how long is a "moderate duration" of leave? With respect to this question evidence is mixed and it is difficult to draw some conclusions about the optimal duration of leave. Whereas some studies find the positive effect to be maximized around 6 to 8 months (Genre et al. 2010; Akgunduz/Plantenga 2012), others suggest an ideal duration of 18 months (Misra et al. 2011) or even around three years (Pettit/Hook 2005).

In addition, these positive effects from the durations of leave on employment participation and working hours seem to come at some costs, as the duration of leave has negative consequences for wages, occupational segregation and job-related training for young women. This further supports the claim that leave should not be too long in order to avoid negative consequences for women in the labour market. With respect to the duration of paid leave, literature suggests that long duration of leave delay return to work of mothers. On the other hand, it has been shown that the provision of parental leave payments positively affects fathers' take-up of leave. Thus, again, it might be some moderate duration of paid parental leave best supports an equal gender division of labour.

The reviewed material certainly raises some concern regarding an overall judgement about the effects

of parental leave on mothers' employment. First, the choice of outcome variable under investigation matters. Whereas the duration of parental leave has a positive effect on the overall attachment of mothers to the labour market (employment participation and working hours), it seems to negatively affect other employment outcomes for those mothers who actually participate in the labour market (occupational segregation, job-related training and wages). Second, they are consistent in finding that leave policies affect women very differently. It seems important to distinguish between women with different levels of education and income. For instance, Akgunduz and Plantenga (2012) find a negative effect of leave duration on wages, but only for high skilled women. Pronzato (2009) shows that the negative effect from the eligibility for leave payments on return to work of mothers is especially pronounced for low educated mothers, whereas the positive effect from the eligibility for total leave is stronger for medium and high educated women. Similarly, the results of Ronsen and Sundström (2002) suggest that Finish part-time mothers are quite resistible to any variation in leave policies compared to their full-time colleagues. Also Puhani and Sonderhof (2011) find a negative effect of the leave duration on job-related training not only for women in general, but also for those without children. This raises questions about the effects of leave on women without children. Fourth, among others, Lalive and Zweimüller (2009) illustrate that the dynamics behind the effects of leave variations on mothers employment might depend on the time horizon that has been studied. Whereas, in the short run, they find substantial negative effects on employment outcomes from an extension of paid leave in Austria, they find no substantial effects in the long run. Similarly, Bergemann and Riphahn (2011) provided evidence on this matter showing that the introduction of a shorter but higher paid parental leave benefit in Germany significantly raises the return to work in the short run, but not in the long run.

Recent empirical literature on the effects of parental leave policies on fathers' family work provides several insights, as well. There is strong evidence from Sweden and Norway that the introduction of a father's quota has positive effects on male leave take-up and their involvement in household work. However, the positive effect from the father's quota on male leave take-up is mainly limited to the months that are explicitly reserved for the fathers. What does this imply? One possible interpretation is that instruments explicitly assigning a certain share of leave to fathers may be perceived as some kind of "default version" suggested by the state and therefore negatively influence the duration of leave taken by the fathers. Furthermore, Ekberg et al. (2013) find that the introduction of a fathers' quota in Sweden and Norway increases mothers' use of the flat-rate paid parental leave days. This raises the question about unintended consequences for mothers' employment from father targeted measures. In addition, does it mean that, although fathers' targeted instruments are successful in raising their take-up, they do not necessarily provoke that mothers hand over one of their leave months to their partner in order to return earlier to the labour market?

There is mixed evidence on the effects of the duration of total leave and the eligibility for leave on fathers' family work engagement. However, these contradictory results might be reconciled when looking at the precise outcome variables under investigation. Whereas Hook (2006) studies the effect

on fathers' family work (including child care), Hook (2010) and Fuwa and Cohen (2007) focus on various household work tasks (excluding child care). Just as within the literature on mothers' employment, these results stress the importance of a careful interpretation of effects according to the outcome variable under investigation. Furthermore, whereas the introduction of gender equality bonus in Sweden seems to have no effect on fathers' leave take-up, the provision of payments in some Spanish regions substantially raises their take-up.

Pull and Vogt (2010) show that the introduction of a shorter and more generous benefit with two bonus months in Germany, increased the number of fathers taking any leave, but had a negative effect on the average duration of leave taken. Moreover, this study is a good illustration for a general concern raised by the literature reviewed that it is often difficult to isolate the effects of a single instrument. Just as within the reform analysed by Pull and Vogt (2010), often several elements of a leave policy change at the same time. This makes it difficult to infer about the effects of a single instrument within a set of parental leave policies. In addition, the variation in leave policies sometimes is not explained as detailed as necessary in order to understand the precise stimulus of a reform. Often it is not clear whether an analysis studies a variation in total leave or in paid leave only. However, as the results from the literature suggests, these details matter in the interpretation of the relation between parental leave and the gender division of labour.

In addition, this critical review suggests that it might be interesting to go beyond the study of classical instruments, such as duration of leave, payments or the father's quota. For instance, the study by Lalive and Zweimüller (2009) sheds light on the possible impact of a renewal period of leave entitlements on mothers' employment. As discussed above, they find a strong negative effect on return to work of mothers from an extension of leave in the short run, while hardly finding any effect on employment outcomes in the long run. They explain this finding with the renewal period of leave. In Austria leave can be renewed within a certain period without, again, fulfilling the eligibility criteria for leave entitlements. Under short parental leave policies this renewal period is difficult to reach for mothers who are planning a subsequent child. Therefore women return to work very early, but only temporarily to be again eligible for another leave entitlement. However, under the long parental leave scheme the renewal period of leave is easier to be reached. Therefore mothers planning a subsequent child do not have to return to employment in the short run. This might be an explanation for the strong short run dynamics, whereas long run employment practically stays the same. But what do we know about the effects of such renewal periods that are implemented in several countries as a measure to raise fertility? At the same time, the analysis of Ronsén and Sundström (2002) draws attention to the flexibility of leave schemes. Their results show that mothers mostly return to work just after their leave entitlement has expired. But whereas this dynamic is pronounced in Norway and Finland, Swedish mothers deviate from these patterns of return to work. The authors explain this finding by a speciality of the Swedish parental leave scheme that is very flexible and encourages mothers to resume part-time work already during leave or to take leave in several portions instead of

one block. It certainly would be interesting to know more about the flexibility within leave schemes and their effects on mothers' employment decisions or fathers' leave take-up.

6 Acknowledgement

This article was developed during a DOC-team-fellowship of the Austrian Academy of Science, where I was affiliated to the Vienna Institute for Advanced Studies. I thank Ulrike Schneider, Nadia Steiber and two anonymous reviewers for their helpful comments.

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