WHY DADDY DOESN'T DO IT:
PATERNAL LEAVE EFFECTS ACROSS THE WAGE DISTRIBUTION

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ABSTRACT

A persistent barrier to achieving gender economic equality is that women still do far more care work than fathers. Nordic countries such as Finland have been at the forefront of addressing this issue by introducing well-paid and father-only leave schemes. Nonetheless, Finnish fathers take on average far less parental leave than mothers, and there are further differences in leave take-up among fathers. Why? All fathers claim they fear economic penalties for taking leave, with high-wage fathers in particular worrying about long-term career repercussions. To assess whether these fears are valid, and whether policies that more strongly encourage fathers' leave reduce its economic consequences, we analyze 1995 to 2011 waves of high-quality Finnish register-based data and compare the impact of taking parental leave on fathers' wage distribution before and after the 2003 introduction of a "father's month." Fixed-effects unconditional quantile regression results reveal that taking leave predicts lower wages only among fathers at the bottom of the wage distribution, both before and after the reform. We conclude even more progressive family policies thus far fail to address the greater economic barriers to care among the least-advantaged fathers.

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INTRODUCTION

The dramatic increase in women's employment across the latter half of the 20th Century did not result in the anticipated reciprocal revolution wherein men would equally share family unpaid work (England, 2010). Nordic countries such as Finland were at the vanguard of tackling this issue by introducing policies to promote fathers' unpaid family leave which improve the economic cost-benefit tradeoff of paid and unpaid work and advocate for normative change to reduce cultural barriers (Bünning & Pollmann-Schult, 2016). Finland and Norway were the first to introduce paid paternity leave by the late 1970s (Huttunen & Eerola, 2016), and then encouraging fathers to take more of the extended parental leave that follows. The so-called "father's quota," in which a portion of the parental leave is reserved for fathers or else lost, was implemented in Norway in 1993 (Sullivan, Coltrane, McAnnally, & Altintas, 2009). Sweden followed suit in 1995 (Duvander & Johansson, 2012), and Finland by 2003 (Huttunen & Eerola, 2016). Nonetheless, Finnish fathers like fathers in other Nordic countries take considerably less parental leave than mothers, usually citing immediate economic barriers or long-term consequences (Salmi et al., 2018). The purpose of this study is to develop and test competing theories as to whether these economic concerns are valid, and why they might vary across Finnish fathers' wage distribution .

When assessing participation in care leave, it is important to distinguish between two basic types of leave. The first is either maternity or paternity leave, which are taken around the time of the birth. The second is parental leave, which can be taken for some period of time after the initial maternity and paternity leave entitlements. Countries differ in the length of each type of leave, its financial generosity, as well as the conditions under which parents might take it,

such as whether the parents can take days simultaneously, or only when the other parent has returned to employment (Ray, Gornick, & Schmitt, 2010).

A generous earnings replacement rate is considered an important incentive for fathers' take-up of parental leave, with the European Commission deeming a replacement rate of 66 percent to be "well-paid" (European Commission, 2010: Table 18.M3). In Finland, paternity and parental leaves currently pay about 70 percent of the annual earnings prior to birth (to a cap), or offer a flat rate (€600/month) for low-earning parents (Salmi, Närvi, & Lammi-Taskula, 2018). Nevertheless, Finnish parents' leave use remains gendered. The vast majority of Finnish fathers take their paternity leave entitlement (Huttunen & Eerola, 2016; Salmi et al., 2018), but the subsequent weeks of shared parental leave remain mothers' purview. In all, Finnish fathers' parental leave accounts for less than five percent of all leave days (Huttunen & Eerola, 2016).

There is a further "class" gradient to Finnish fathers' parental leave that contrasts with the near universal take up of mothers' parental leave (Salmi, Närvi, & Lammi-Taskula, 2017). Well-educated men and white collar workers are more likely than less-skilled fathers to take the full leave allocated to them, along with a share of the gender-neutral parental leave (Lammi-Taskula, 2017). Economic reasons for not taking parental leave also vary somewhat among men. All fathers raise concerns about the impact of taking leave on the family's immediate economic situation, with highly-educated white-collar workers further citing work pressures or the nature of their work as additional barriers (Salmi & Närvi, 2017, cited in Salmi et al., 2018).

Are these concerns valid, and do the economic consequences of taking parental leave vary amongst fathers? Research to date provides somewhat mixed results across and within countries. Most studies report a negative effect of parental leave on fathers' earnings (Johansson, 2010 for Sweden; Rege & Solli, 2013 for Norway) or wages (Albrecht, Edin, Sundström, & Vroman, 1999; Albrecht, Skogman Thoursie, & Vroman, 2015; Stafford & Sundström, 1996 all for Sweden; Theunissen, Verbruggen, Forrier, & Sels, 2011 for Belgium). Other studies report no effects (Cools, Fiva, & Kirkebøen, 2015 for Norway; Ekberg, Eriksson,

& Friebel, 2013 for Sweden), or even a potential (albeit not statistically significant) wage gain (Bünning, 2016 for Germany). Wage effects also differ among fathers, with patterns again differing across countries. Whereas one Swedish study found that the wage penalty for taking leave increased as fathers' wages increased (Albrecht et al. 2015), a Norwegian study found the penalty larger amongst less-educated men (Rege & Solli, 2013). Unclear is whether policy specifics shape the differences in wage effects among men.

Consequently, this paper sheds light on fathers' side of the gender equality equation in one of the few countries specifically promoting it with policy, that also has administrative data on the entire adult population for analyzing policy effects. A wage penalty for taking leave, and variation across the wage distribution in this, would help to explain the persistent gender divisions of unpaid care work that vary among women and men (England, 2010). We assess the repercussions across the wage distribution of Finnish fathers taking leave before and after the 2003 introduction of the father's month. To do so, we use high-quality Finnish register data for 1995-2011 and the two-step unconditional quantile regression estimator (UQR) developed by Firpo, Fortin and Lemieux (2009). UQR is preferred over the conditional quantile estimator used by Albrecht et al. (2015) because it retains the pre-regression rank order of the wage distribution regardless of which covariates are added to the model (Firpo et al., 2009; Killewald & Bearak, 2014; Wenz, 2018). A further advantage of UQR when assessing a policy encouraging a change in behavior is that it estimates the wage effect if the probability of taking paternal leave similarly increased for every father (Rothe, 2012).

In the next section, we outline the evolution in Finnish leave policies, followed by evidence of how leave take-up differs not just between mothers and fathers, but among fathers. We then discuss theories that would account for within-father differences, developing associated, and at times competing hypotheses. The fourth section describes the data and analytical technique in greater detail, whereas the fifth presents the results. We find that although the reform increased the percentage of fathers taking leave across the wage

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distribution, a predicted penalty persists across the bottom of the wage distribution pre- and post-policy change. Conversely, taking parental leave predicts no wage penalty for middle- to high-wage fathers before or after the reform, and in fact a significant net premium at the top. We conclude that future policies need to address the socioeconomic gap in Finnish men's barriers to shared caring.

EVOLUTION OF FINNISH FAMILY LEAVE POLICIES

Like the other Nordic countries, Finland was among the first to offer paid maternity, paternity, and parental leave, as well as publicly-funded childcare (Ray et al., 2010; Salmi et al., 2018). Finland first introduced two months of paid maternity leave in 1964 (Huttunen & Eerola, 2016; OECD, 2017), which was extended to 31 weeks in 1978 at approximately 45 percent replacement rate (Rønsen & Sundström, 2002). Fathers were entitled to two weeks leave around the time of the child's birth with the mother's consent (Lammi-Taskula, 2017). In 1980, maternity leave entitlement changed to include 24 days of parental leave (Huttunen & Eerola, 2016; OECD, 2017). Days of maternity leave continued to decrease in subsequent years as parental leave days increased, with the replacement rate raised to 80 percent in 1982 (Rønsen & Sundström, 2002).

Three important changes occurred in 1985. The first was that fathers became entitled to share up to 158 days of parental leave with mothers (Lammi-Taskula, 2017; OECD, 2017). The second was the introduction of a family entitlement to an unpaid, job-protected leave until the child reached three years of age (OECD, 2017). This coincided with the third important policy change: the introduction of a (low-paid) home care allowance paid to parents who care for their children at home in lieu of using public care (OECD, 2017; Salmi et al., 2017; Sipilä & Korpinen, 1998).

Parental leave earnings replacement rates began to drop during the economic crisis of the early 1990s, falling to 66 percent in 1993 (Rønsen & Sundström, 2002). During this period,

Finnish fathers' take-up of the shared leave was just two to three percent, leading to the 2003 introduction of the so-called "father's month" (Lammi-Taskula, 2017). If a father took the last two weeks of the transferable parental leave, he received two bonus weeks (Haataja, 2009). A further two bonus weeks were added in 2010, providing Finnish fathers with six weeks of reserved parental leave in total (Lammi-Taskula, 2017). These are not considered "daddy quotas," but more an incentive for fathers to take family leave (Haas & Rostgaard, 2011). Replacement rates also rebounded somewhat, to about 69 to 73 percent between 1995 and 2010 (SPIN, 2018). This is the last policy change that we can capture in our data window. Despite increasingly progressive Finnish leave policies, there are both between- and within-gender differences in parental leave take-up.

BETWEEN- AND WITHIN-GENDER DIFFERENCES IN LEAVE TAKE-UP

Finnish mothers almost universally take all of the available maternity and parental leave, whereas fathers use their leave entitlements more rarely, although fathers' use of paternity leave doubled between 1990 and 2012, to 84 percent (Salmi et al., 2018; Salmi & Lammi-Taskula, 2015). Fathers' take up of subsequent parental leave, however, is much lower. Before the introduction of the father's month in 2003, only two to three percent of fathers used parental leave (Lammi-Taskula, 2008); by 2012, one-third of all fathers took their leave (Salmi & Lammi-Taskula, 2015). Like parental leave, the home care allowance is gender neutral, but it is still almost solely used by mothers (Salmi et al., 2018). In all, father's total share of maternity, paternity, and parental leave benefit per year increased from 2.4 percent in 1990 to 8.7 percent in 2012 (Eydal et al., 2015; Haataja, 2009).

In addition to gender differences in leave take-up, there is also an socio-economic status gradient in Finnish fathers' leave use that contrasts with mothers' near universal take-up of both maternity and parental leave (Salmi et al., 2018). Initially, paternity leave was used by well-educated fathers, but in the past decades has been taken irrespective of socio-economic

background (Salmi & Lammi-Taskula, 2015; Salmi et al., 2017). Parental leave, though, still seems to be a class privilege, with well-educated and white-collar workers being more likely to take the leave (Lammi-Taskula, 2008; Lammi-Taskula, 2017; Salmi & Lammi-Taskula, 2015). Hence, lower educated fathers divide parental leave in more traditional ways, especially in times of economic hardship (Plantin, 2007). In general, Finnish fathers more often take parental leave when the partner occupies an upper white-collar position or has good income (Närvi, 2018, cited in Salmi et al., 2018; Huttunen & Eerola, 2016; Lammi-Taskula, 2008). This is supported by fathers mentioning the home-care allowance as an obstacle to their leave taking. The home-care allowance is used longer by less advantaged women, and going straight from parental leave to the home-care allowance does not leave space for the father to take leave (Salmi et al., 2018). In line with this, and central to our argument, Finnish fathers with good income are more likely to use the reserved leave and parental leave (Salmi & Närvi, 2017, cited in Salmi et al., 2018). But Swedish evidence suggests the income effects are not linear. Bygren & Duvander (2006) found Swedish fathers' take-up of leave was greater in the middle than the bottom or top of men's earnings' distribution.

In all, the evidence indicates that fathers who take parental leave may incur a wage penalty compared to fathers who do not, and that this wage penalty may vary by socio-economic status more generally and income specifically. Possible causes of the wage effects are proposed by human capital theory, work devotion/signaling theory, and gender conformity theory. As detailed next, however, these theories lead to competing hypotheses as to whether and how effects might vary among fathers.

WAGE EFFECTS OF PARENTAL LEAVE ACROSS THE DISTRIBUTION

How might wage effects of parental leave take-up vary across the distribution, and can family policy affect this association? Human capital theory suggests an equal penalty across the distribution, whereas the work devotion and gender normative perspectives highlight varying

class norms of the "ideal worker" and the "ideal father" that would affect wages across the distribution differently. The potential impact of family policy also differs somewhat under the three perspectives.

Wages, per human capital theory, reflect an individual's accumulated education, on-the-job training, and work experience (Mincer, 1979). Taking time out for family care work reduces the accumulated work experience, and accounts for most of the wage penalty associated with motherhood (Gangl & Ziefle, 2009). The theory is gender-blind, though, indicating that men taking time out for family care work should also suffer a wage penalty (Becker, 1985). Skill deterioration should, therefore, occur consistently across individuals and types of employment breaks (Becker, 1964). Hence, all fathers should face similar wage repercussions across the distribution when taking parental leave. Social policy would not ameliorate these dynamics, but may increase total wage penalties if they encourage fathers to take more time away from employment for family care work.

A number of studies have questioned the human capital assumptions of universality, however. Different types of employment breaks extract different penalties, and lost human capital or experience may be more detrimental in some occupations than others. For example, time out of work due to family leave and unemployment leads to varying effects on occupational mobility (Evertsson, Grunow, & Aisenbrey, 2016) and wages (Albrecht et al., 1999). In a US study, Weisshaar (2018) shows that fathers and mothers who took family leave were significantly less likely to be called back for a job interview than unemployed applicants. In addition, Albrecht et al. (2015) found that Swedish men faced a larger wage penalty for time out on family leave than women, and that these penalties differed across both gender's wage distributions. Thus, although the human capital approach should predict similar penalties for

lost experience, empirical research casts doubt on this. Instead, wage effects depend on the type of work interruption, vary between genders, and differ within each gender.

An alternative explanation for wage penalties associated with work interruptions is that employers expect work devotion from their employees. Under a work devotion perspective, employment breaks signal low work commitment and consequently lower productivity (Albrecht et al., 1999; Evertsson et al., 2016). Such signals are often used to explain the motherhood wage penalty, but employers may equally perceive fathers' take-up of family leave as a signal of lower work commitment and penalize such behavior (Albrecht et al., 1999; Blair-Loy, 2003; Williams, Blair-Loy, & Berdahl, 2013). Fathers may in fact face greater expectations of work devotion than mothers given the cultural persistence of fathers as the main family breadwinner (Rudman & Mescher, 2013; Weisshaar, 2018). Consistent with this is US research showing that men who ask for family leave face greater "backlash" than women in the form of lower performance ratings and wage recommendations (Coltrane, Miller, DeHaan, & Stewart, 2013; Rudman & Mescher, 2013; Vandello, Hettinger, Bosson, & Siddiqi, 2013; Williams et al., 2013). In all, the work devotion perspective suggests, similar to the human capital model, that Finnish fathers likely face wage penalties when taking time out for family, as has been found in other countries (Albrecht et al., 2015; Weisshaar, 2018).

Nonetheless, longer hours and undivided job attention are especially expected from higher-earning professionals and executives (Williams et al., 2013). The work devotion perspective, therefore, implies that men at the upper end of the wage distribution would face greater penalties for time off work than men at the lower end. For example, high-status US men are less likely to be granted leave for family reasons than low-status men (Brescoll, Glass, & Sedlovskaya, 2013), and higher-wage men incur larger wage penalties for spending more time in either housework or childcare (Cooke & Hook, 2018).

Thus, the work devotion perspective supports higher socio-economic status fathers' career concerns as a barrier to taking parental leave. In addition, policies are unlikely to affect

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employers' expectations of work devotion from their high-wage workers. Hence, according to the work devotion theory, taking family leave will affect fathers at the top of the wage distribution more negatively than fathers at the lower end. One positive outcome of this is that increasing parental leave take-up among fathers would narrow wage inequalities across the distribution. The equality-enhancing outcomes predicted by the work devotion perspective, though, contrast with those from a normative perspective that suggests taking parental leave would increase wage inequality among fathers.

WAGE EFFECTS FROM A NORMATIVE PERSPECTIVE

A normative perspective also predicts wage penalties for fathers when taking parental leave. In general, individuals behave in line with gender-normative expectations (Butler & Skattebo, 2004; West & Zimmerman, 1987). Deviation from these norms and violations of gender expectations can lead to employment penalties (Berdahl & Moon, 2013; Butler & Skattebo, 2004; Coltrane et al., 2013). Under a normative perspective, fathers are still expected to engage with family primarily as breadwinners.

Where the normative perspective predictions differ from those of the work devotion perspective is in effects by socio-economic status. A sizeable amount of research finds a positive association between education and gender egalitarian attitudes (Bolzendahl & Myers, 2004; Bryant, 2003; Coltrane, 2000; Davis & Greenstein, 2009; Sayer, Gauthier, & Furstenberg, 2004). More highly-educated fathers generally espouse more egalitarian views on shared breadwinning (Coltrane & Ishii-Kuntz, 1992; Sayer et al., 2004), more often follow an involved fatherhood ideal (Coltrane, 1996; Daly, 2001), and contribute more time to childcare than less-educated fathers (Craig, 2006; Craig & Mullan, 2011; Deding & Lausten, 2006; F. M. Deutsch, Lussier, & Servis, 1993). Professional and managerial occupations also have more autonomy over their work to combine with family, and have more workplace access to policies supporting it (Adler & Lenz, 2017; Bygren & Duvander, 2006; Marks & Palkovitz, 2004; Marsiglio &

Roy, 2012; Ranson, 2012). Given the strong correlation between education, occupation, and wages, in all the gender normative perspective implies that higher-income fathers have more cultural and workplace support for being the involved "good" father. Therefore, under the normative argument the penalty for taking family leave may be lower for high-wage fathers.

In addition, less-advantaged fathers generally report more traditional gender views (Davis & Greenstein, 2009; F. Deutsch, 1999; Plantin, 2007). This is evident in lower socio-economic status mothers' greater use of the extended Finnish home care allowance, which reduces fathers' opportunities to use parental leave (Salmi et al., 2018). For these men, though, providing fathers are viewed as good fathers and will not be questioned about their commitment to their families (Braun, Vincent, & Ball, 2011; Kaufman & Uhlenberg, 2000). Given their lower level of absolute resources, lower-wage provider fathers cannot afford to lose any further income (Christiansen & Palkovitz, 2001).

In addition, lower-income fathers may incur larger wage penalties for taking parental leave, as the take-up contradicts gender-normative expectations in their socio-economic status. These larger penalties at the bottom of the wage distribution would confirm the greater economic barriers to taking parental leave reported by less-educated or fathers in blue-collar occupations (Salmi et al., 2018). Overall, support for the normative perspective predicts that increasing the take-up of parental leave would increase wage inequalities amongst men due to larger penalties at the bottom than at the top of the wage distribution. In contrast to the work devotion perspective, however, there is probably greater room for policy effects on gender norms.

IMPACT OF POLICY ON NORMS

Policy shifts can have an impact on societal and workplace norms (Bünning & Pollmann-Schult, 2016; Gornick & Meyers, 2003; O'Brien, 2004; Pfau-Effinger, 2005; Pfau-Effinger, 1999). This is because policies influence as well as reflect the cultural context and norms in a society

(Hook, 2010; Ostner, Reif, Turba, & Schmitt, 2003; Padamsee, 2009; Pfau-Effinger, 1998). In this, feminist welfare state research acknowledged the influence gender ideologies have on policies (Budig, Misra, & Boeckmann, 2012; Kremer, 2006). Simultaneously, family policies are charged with meaning on how men and women should organize employment and family (Budig et al., 2012; Kremer, 2007). Decisions on the division of labor or parental leave, therefore, are made dependent on social support and acceptability. Hence, the introduction of the father's month mirrored the gender egalitarian context of Finland and the other Nordic countries, but in light of low take-up rates also sought to increase acceptability and social desirability for fathers' care work.

Through cultural expectations and norms, family policies may not only influence the division of parental leave, but also earnings consequences (Pfau-Effinger, 2004; Van der Lippe, De Ruijter, De Ruijter, & Raub, 2010). For example, Budig et al. (2012) found that parental leave and public childcare lead to higher earnings for mothers in a context that supports maternal employment, whereas these policy provisions can decrease maternal earnings in contexts with stronger cultural support for the male breadwinner ideal. We extrapolate from these insights to speculate that fathers' parental leave take-up might be associated with larger wage penalties in contexts that view fathers as mainly breadwinners. Conversely, wage penalties may be smaller in contexts that support dual-earning and caregiving, such as Finland.

These effects are reiterative, as policy promotion of fathers' leave take-up helps to embed a dual-caring norm, in turn increasing the social acceptance of fathers' leave taking. In other words, the more fathers take family leave, the more accepted leave-taking becomes (Bygren & Duvander, 2006), and perhaps the smaller any associated penalties. Thus, if the 2003 Finnish policy reform increased acceptability of fathers' parental leave use, the reform may have also lowered predicted wage penalties for all fathers as compared with before the reform.

METHOD

We use Finnish administrative population data for 1995 to 2011 to explore wage effects among fathers who take parental leave before and after the 2003 introduction of the father's month. The main sources are the Finnish Longitudinal Employer-Employee Data (FLEED) and the Structure of Earnings Statistic (SES), which include wage, annual earnings, and contractual information. SES covers the wage structure of individuals working in enterprises with five or more employees in the public and private sectors. These data are created by Statistics Finland and comprise a one-third random sample of persons aged 15 to 70 who lived in Finland between 1988 (1995 in the SES) and 2014.

Linking FLEED and SES to various administrative registers, our data include full information on birth and partnership histories, education, and numerous background characteristics. We focus on Finnish-born men, who were aged 20 to 45, and had their first child between 1996 and 2010. The full sample, therefore, comprises 202,988 fathers and almost 900,000 person years. We then divide this sample into two fertility cohorts to compare wage effects before and after the 2003 reform. The first cohort includes fathers who had children between 1996 and 2002, who are followed through 2003 or before then if they are censored due to out-migration or the birth of twins (as the entitled leave length differs) (n= 97,171). The second cohort includes fathers who had children between 2004 and 2010, followed to 2011 or if they are censored before this time (n=105,817). We stop following the second cohort in 2011 to ensure similar observation periods for the two cohorts analyzed. In both cohorts, we follow fathers from up to two years prior to their first child in order to run fixed effects models, which means the first cohort includes income information for 1995 and the second cohort for 2003.

The dependent variable is the log of total gross hourly wages paid to the employee provided in the SES data. Wages were deflated to 2011 prices using the consumer price index.

The key independent variable is a time-varying measure of parental leave use, measured with a binary variable based on whether the father previously received parental leave benefits.

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We derived this based on the annual earnings prior to a birth and the amount received from the leave benefit payments. The amount a father would receive for a week on leave was calculated by using the father's income prior to each birth, deriving a weekly income from that and estimating the 70 percent replacement level for this weekly income (45 and 25 percent, respectively, for higher-waged fathers). The replacement rate across those periods was quite consistent (SPIN, 2018). We then summed up the benefits a father received overall for each child, and compared the amount to the weekly replacement rate. This estimate, however, includes receipts from both paternity (almost universally taken by fathers around the birth) and parental leave (more rarely taken by fathers later in the first two years after the birth and with greater socio-economic differences in take up). We therefore assumed a father took parental leave if the amount received equaled more than one month of leave (i.e., more than the four weeks of paternity entitlement). This approximation seems to slightly overestimate parental leave use, but is close to available statistics (Salmi et al., 2018).

Control variables include demographics, period, education, and sector that also predict wages. Demographics include time-varying measures of age and age squared as a proxy for experience; marital status (single, married, divorced, widowed); number of children and age of youngest child (0 years, 1-2 years (eligible for parental leave), and 3 years and older); and the region of residence (urban, semi-urban and rural). Lastly, we include education categorized into low, medium and high based on the ISCED level, as well as whether the respondent worked in the private or public sector.

ANALYTICAL STRATEGY

Answering the research question requires a technique that allows predicted effects to differ at different quantiles of the wage distribution, such as the quantile regression Albrecht et al. (2015) used to estimate the cross-distribution wage effects of Swedish parents taking parental leave. A problem with Albrecht et al.'s selected quantile estimator, however, is that the pre-regression

rank order of wages is not necessarily retained after adding in the covariates (Firpo et al., 2009). Consequently, it is a conditional quantile estimator, the interpretation of which depends on which covariates are included in the model.

Instead, we use the two-step unconditional estimator developed by Firpo et al. (2009). The technicalities of this approach have been discussed at some length elsewhere (Borgen, 2016; Cooke, 2014; Cooke & Hook, 2018; Firpo et al., 2009; Killewald & Bearak, 2014) and shall not be repeated here. Unlike in the studies noted above, however, we have a binary independent variable. Results are therefore interpreted as the impact of a constant-size increase in the conditional probability of taking parental leave at different points of fathers' unconditional wage distribution (Rothe, 2012). In other words, what is the predicted impact on fathers' wage distribution if the proportion of fathers taking parental leave similarly increased?

We estimate two models on the wage effects of taking parental leave at the 10th through to the 90th wage quantiles for each fertility cohort, to assess any changes in the relationship between taking leave and wages before and after the reform. The first model is cross-sectional, comparing the wages of fathers who take parental leave with those fathers who do not. For the second model, we take advantage of the panel nature of the data to include individual fixed-effects (Borgen, 2016). This provides a within-person comparison of leave effects, revealing whether there are longer-term wage repercussions for the fathers who take leave, as high-wage fathers in particular fear. Comparing the estimates from the first and second models gives insight into the selection of fathers into using parental leave. The second model provides the test of the competing cross-distribution hypotheses derived from the human capital (no difference), work devotion (larger wage penalty at top), and normative (larger wage penalty at bottom) theories.

RESULTS

Table 1 presents descriptive statistics for the selected control variables across quartiles of the wage distribution for the earlier and later fertility cohorts. Average (mean) wages increased across the two cohorts, from about €17 per hour in the older cohort to €20 in the younger. Comparing the two extremes, fathers' wages in the top quartile are almost three times as much as fathers' wages in the bottom quartile in the older cohort, although this ratio decreased slightly in the younger cohort. Education increased across cohorts while the number of children decreased, but the patterns across the wage distributions are similar.

[Table 1 about here]

To highlight changes in parental leave take up across the two cohorts, Figure 1 displays the predicted probability of taking leave by wage deciles. The cross-distribution variation in take up is evident in both cohorts, but the reform increased all fathers' participation. Nonetheless, the *difference* in take up among fathers also increased after the reform. Leave take-up among the lowest-wage fathers increased by about 6 percentage points after the reform, while take up at the top decile increased by 12 percentage points.

[Figure 1 about here]

WAGES OF FATHERS WHO TAKE LEAVE VERSUS FATHERS WHO DO NOT

Comparison of predicted cross-sectional wage effects pre- and post-reform is shown in Figure 2; full results are in the appendix (Table A1 (pre-reform) and A2 (post-reform)). Cross-sectional results do not allow us to test the causal relationship between taking leave and wages, but do reveal the wage differences between fathers taking leave compared to those who do not. Prior to the reform, taking parental leave predicts an increase in wages vis-à-vis fathers who did not. At the bottom decile, an increase in the proportion of fathers taking leave predicts 3.1% greater

wages as compared with fathers who did not take leave. In fact, at no point in the wage distribution does an increase in the proportion of fathers taking parental leave predict a wage penalty. The predicted leave wage premium is greatest at the 90th quantile. High-wage fathers taking leave are predicted to earn 18.5% more than fathers who do not. The cross-sectional results seem to discredit fathers' economic concerns about taking leave. However, they may instead simply support fathers' statements about the economic barriers to taking leave, highlighting that fathers who take leave earn significantly more than fathers who do not.

[Figure 2 about here]

Did the 2003 reform alter these wage patterns? Yes, slightly. Not only did the reform increase leave take-up among especially high earning fathers (Figure 1), the predicted wage gap between high earning fathers who take leave and those who do not also increased after the reform. Per Figure 2, the leave premium at the 60th to 80th quantiles increased by one to three percentage points. At the bottom quantile, however, the leave premium decreased by one percentage point. T-tests confirm that these differences between the two cohorts are statistically significant; the remaining quantiles do not differ significantly. The policy reforms encouraging greater take-up of leave therefore seem to have intensified the financial requirements for doing so at the top of fathers' wage distribution. In other words, the policy predicts greater inequality among high- than low-wage fathers who take leave as compared with those who did not.

These cross-sectional results, nevertheless, could be biased by omitted variables. The next section reports results from the panel analysis following fathers over several years, so that they serve as their own comparison for the wage effects of taking leave.

FATHERS' WAGE EFFECTS OF TAKING LEAVE PRE- AND POST-REFORM

Panel results of the within-individual wage effects for taking parental leave before and after the reform are diagrammed in Figure 3; full fixed-effects UQR models are in the appendix (Table

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A3 and A4). Comparing fathers to themselves reveals the predicted personal "cost" or "benefit" of taking leave among the fathers who did so. Relative to the cross-sectional results these estimates show positive selection into taking parental leave, as the wage effects are significantly smaller in the panel models. Prior to the reform (blue dots), taking parental leave predicts a significant wage penalty at the 50th quantile and below that ranged from about 2 to 4.7 percent relative to fathers' pre-leave earnings. Across the top three deciles, however, taking parental leave predicts a statistically significant increase in wages. At the 90th percentile, the increase is 8.5%. These results indicate that, prior to the reform, not only were high-wage fathers more likely than low-wage fathers to take the leave, it did not negatively affect over-time wages as they feared.

Results lead us to reject both the human capital and work devotion perspectives. Wage penalties associated with taking parental leave were neither equal across the wage distribution, nor larger for high-wage men. Instead, effects support the normative perspective, in that taking parental leave predicts a penalty only for the lowest-wage men. This also means that similarly increasing the percentage of fathers taking leave would increase wage inequality among fathers.

[*Figure 3 about here*]

This interpretation holds in the post-reform period as well, diagrammed in Figure 3 (red dots). The predicted wage penalties at the 10th and 20th quantiles are 0.3 percent smaller compared to the pre-reform penalty and about one percent smaller at the 50th quantile, but the differences are not statistically significant. Still, post-reform results lead us to again reject the human capital and work devotion perspectives in favor of the normative one: lower-waged fathers face greater economic consequences to greater involvement in family care work. One bright spot to be gleaned from the results is that the premium at the top of the distribution did not increase despite the sizeable increase in high-wage fathers' take up of leave (confirmed by

t-tests). Still, fathers at the lower end of the wage distribution are predicted to lose most from taking parental leave.

Overall, given the widening wage differences in fathers' parental leave take-up pre- and post-reform indicated in Figure 1, coupled with the wage inequality predicted by leave take-up evident in Figure 3, we conclude the reform did not narrow the care gap among fathers and perhaps its stratifying effects. These results indicate that the normative acceptability and economic benefits of leave take-up are greater for higher-earning fathers, whereas policies encouraging fathers' greater involvement in care are not lowering the economic barriers for lower-earning fathers yet.

ROBUSTNESS CHECKS

A number of robustness checks have been conducted, the most important one shown here. As we calculate parental leave use from income prior to births, we estimated the effects using only fathers that have been employed for 12 months prior to birth. This is because any period of unemployment in the prior year would lower annual earnings, and therefore potentially lead to an under-estimation of the percentage of fathers who took leave. This analysis shows similar results for the post-reform period (Appendix Figures A1 and A2). Predicted OLS wage effects in the pre-reform period are slightly smaller than reported in the main analysis, but the direction of effects is the same. In the FE model, however, the pre-reform wage penalty predicted by an increase in fathers' taking leave extends to the 70th quantile, whereas it ends at the 60th quantile in the main analysis. Overall conclusions, however, do not change.

DISCUSSION & CONCLUSIONS

In recent decades, more family policies in Europe encourage fathers' use of care leave, not least to promote gender equality (Bünning & Pollmann-Schult, 2016). Less attention has been paid

to how these policies may also affect both care and economic inequalities among fathers. This study addresses the latter gap by analyzing Finnish register data from 1995-2011 to investigate the validity of fathers' perceived economic barriers to taking parental leave, in a country with progressive policies encouraging it. Of particular interest is how wage effects differ across fathers' wage distribution, and how these differ before and after the 2003 introduction of the Finnish "father's month."

One would hope that a presumably progressive gender policy would reduce fathers' economic barriers to taking parental leave. This may have been the case in Sweden (Duvander & Johansson, 2014), but it does not seem to be the case for Finland. This serves to highlight the importance of estimating effects across what are often considered similar socio-political contexts, in order to understand the impact of policy on behavior in context. Although the Finnish reform was followed by an increase in fathers' take-up of leave across the wage distribution, *differences* in take-up among fathers increased as well.

Comparing effects from the cross-sectional and panel analyses confirms that all fathers are positively selected into taking leave as the magnitude of wage effects was significantly smaller in FE models. The fixed-effect UQR models further allowed us to assess competing explanations for the wage effects of fathers' parental leave and possible variation in these among fathers. Whereas a human capital model predicts a penalty of equal size for any time out of the labor market, the work devotion perspective suggests the penalty would increase as wages increase. Alternatively, the normative perspective predicts that penalties should be greater for lower-earning fathers, given their more traditional gender attitudes and lower accessibility and acceptability. Pre- and post-reform results from the fixed-effects models offered support for the normative perspective. Taking parental leave predicted a significant wage penalty among fathers at the bottom of the wage distribution (relative to their pre-leave earnings). The predicted penalty did not change significantly post-reform. At the top quantiles, in contrast, taking parental leave predicted significantly greater wages as compared with wage levels prior

to the leave. This advantage at the 80th and 90th quantiles was of similar magnitude post reform, at 4 and 8%, respectively. This increase in high-earning Finnish fathers' wages associated with taking parental leave contrasts with results from Sweden (Albrecht et al., 2015). As noted earlier, the Swedish study's use of conditional quantile regression raises issues with interpretation of effects relating to the unconditional wage distribution. Despite research stating that higher-educated fathers contribute more to childcare, one reason for effects reported here on the unconditional wage distribution could be that more advantaged fathers spend more time doing "public" fathering such as attending school functions, whereas less-advantaged fathers do more of the routine daily care work (Gillies, 2009; Shows & Gerstel, 2009). It is daily routine domestic tasks, often deemed "feminine" tasks, that predict larger wage penalties (Cooke & Hook, 2018). High-wage fathers therefore benefit more and more from their public displays of increasingly normative involved fathering without doing the hard graft of care work (Gillies, 2009). Another possible explanation could be that high-wage fathers with particularly good future career and income prospects are more likely to take the leave, but would have had greater wage growth regardless (Ludwig & Brüderl, 2018). In contrast, job ladders are generally more limited among less-skilled fathers at the bottom of the wage distributions (Rosenfeld, 1992).

Nonetheless, results also highlight the importance of the policy context in shaping the extent to which ideal-worker versus ideal-father effects are evident, but puzzles remain. Both Finland and Norway have leave policies encouraging fathers' caregiving, but elite fathers are more likely to take the leave while penalties occur mainly among groups of less-advantaged fathers for whom norms have not yet fully adapted (Rege & Solli, 2013). In the US, in contrast, there are almost no supportive family policies and ideal-worker effects also dominate, more strongly penalizing more advantaged fathers from diverging from the expectation of work devotion (Brescoll et al., 2013). Still missing from this evidence base is what specific constellation of policies and cultural norms allows all fathers to participate and benefit equally from greater caregiving.

A larger wage penalty for parental leave among lower earning fathers confirms they face more struggles when contributing more to family care work, perhaps because they receive less support from their workplace to take parental leave (Haas & Hwang, 2009). This may include supervisors judging working-class fathers' productivity more harshly after they return because of normative expectations about how a working-class family man should behave (Plantin, 2007). Alternatively, more involved fathering may change these men to stay more involved in caregiving, including making subsequent employment choices that negatively affect their wages after the leave but allow them greater flexibility. That high-wage fathers do not face this same problem suggests the more restricted access lower-wage men have to family-friendly employment policies beyond leave. The specific sources of these differing wage effects across the wage distribution, however, deserve further exploration in future research.

As with all studies, this one has some limitations. We had to derive whether fathers took parental leave based on wage and benefit payments. Although the length and parental leave use is approximated, at the very least we capture longer leaves taken by fathers compared to fathers that do not. Future research should, however, conduct a more nuanced analysis of how wage effects accrue over more accurately measured periods of leave, similar to Albrecht et al. (2015) but using the more appropriate unconditional rather than conditional quantile regression. Of particular interest is if policy reforms can change the threshold of length of leave after which wage penalties emerge.

 In all, this study highlights that current Finnish policies have thus far failed to relieve the economic gradient not only in fathers' take-up of leave, but also in the economic consequences contributing to this. Given that the new "involved father" ideal suggests that fathers increasingly face work-family conflicts (Aumann, Galinsky, & Matos, 2011; Williams et al., 2013), creating opportunities for fathers to take up family leave is important and can benefit the whole family. One reason policy makers have overlooked the barriers to caring faced by less-advantaged fathers could be that the involved father has invariably been conceived as

middle-class (Adler & Lenz, 2017; Gillies, 2009; Marks & Palkovitz, 2004; Marsiglio & Roy, 2012; Ranson, 2012). This is another dimension of the "unequal" revolution, in that most equality in and outside of the home has been gained among more advantaged individuals (England, 2010). Ignoring these socio-economic status disparities defies the notion of solidarity that distinguishes Nordic welfare states from others.

There are practical benefits as well. Providing universal support for father caregiving encourages greater gender equality, as well as improving father, family, and child outcomes. A range of studies concluded that the fathers' quota has led to increased gender equality in two ways (Saraceno & Keck, 2010). First, when fathers take parental leave mothers return to work faster after the birth of a child (Pylkkänen & Smith, 2003), and their partner's earnings increase which decreases the within-household gender wage gap (Hook, 2010; Johansson, 2010). Secondly, fathers additionally enter the household sphere more when taking leave, as their understanding of tasks in the house increase when staying home full time (Evertsson, Boye, & Erman, 2018; Haas & Hwang, 2008). Further, Evertsson et al. (2018) argue that father's leave take-up increases the understanding between partners and may lead to stronger relationships. Father's leave take-up also benefits the whole family as it has been found to increase the total household income (Hook, 2010).

In addition, increased father involvement can be advantageous for children's cognitive and socioemotional skills (O'Brien, 2004), and children are subsequently more comfortable with fathers (Evertsson et al., 2018). The father-child relationship grows stronger during the leave and children turn to both parents more equally (Almqvist & Duvander, 2014; Evertsson et al., 2018). Longer leaves increase fathers' engagement in childcare not just during the leave, but also in the long term (Almqvist & Duvander, 2014; Duvander & Jans, 2009; Nepomnyaschy & Waldfogel, 2007), and even increase involvement with their children after a separation (Duvander & Jans, 2009). Given the greater risk of couple dissolution among lower-wage

Finnish men (Jalovaara, 2003), eliminating the economic gradient in fathers' cost of caring could narrow class inequalities in child outcomes.

These multiple advantages, however, will not be realized if parental leave is not equally accessible to all fathers. Family policy that instead supports the least-advantaged fathers as joint carers will not only encourage further progress in the gender revolution that stalled along class lines (England, 2010), but reduce intergenerational inequalities. It would seem even progressive Western policy contexts need to strive for more universal support of father caregiving, to the benefit of their immediate families and the wider society.

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Table 1: Descriptive statistics by quartiles for 20-45 year old fathers pre- versus post-2003 fertility cohorts, in person years, weighted.

	Pre Reform Fertility Cohort				Post Reform Fertility Cohort			
	Wage Quartiles				Wage Quartiles			
Variable	0-25th	>25th to 50th	>50th to 75th	>75th	0-25th	>25th to 50th	>50th to 75th	>75th
Hourly wages in € (mean)	10.54	13.60	16.92	30.15	12.46	16.33	20.28	32.19
Annual earnings in € (mean)	19650.38	27230.52	34025.89	50753.64	25270.52	33683.55	42050.00	62989.44
Parental Leave use	4.14	5.41	6.83	11.20	17.06	24.44	38.45	48.55
Education								
low	21.46	13.70	8.32	4.27	20.07	11.01	6.20	4.93
medium	61.05	58.87	45.25	20.36	62.60	57.80	39.37	19.73
high	17.49	27.43	46.43	75.37	17.33	31.19	54.44	75.35
Private sector	81.32	84.33	84.11	80.05	82.60	84.31	83.86	86.15
Nr of Children								
1	22.43	23.69	21.96	20.17	27.30	25.51	23.23	22.01
2	43.41	46.94	49.05	51.47	50.64	53.63	56.62	59.37
3	22.35	21.01	21.31	22.55	17.44	17.12	16.99	16.36
4+	11.81	8.35	7.68	5.82	4.62	3.74	3.16	2.27
Person years	106,844	106,836	106,834	106,837	116,808	116,808	116,810	116,806
Fathers (Average quartile)	24,028	23,808	24,482	24,853	25,681	26,275	26,838	27,023

Source: Finnish Register Data, own calculation

Figure 1: Predictive Margins for the use of parental leave by wage deciles for 20-45 year old fathers, pre- versus post-2003 fertility cohorts.
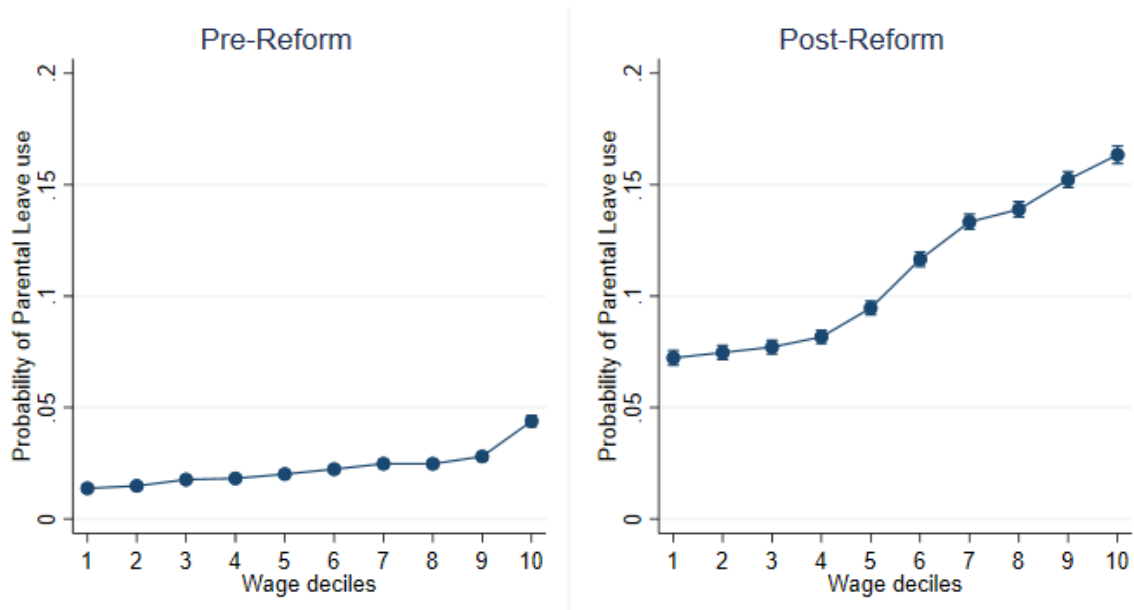
Source: Finnish Register Data, own calculations

Controlled for age, age squared, number of children, age of the youngest child, period, education, marital status, region and sector.

Figure 2: Hourly wage effects of parental leave across the wage distribution of 20-45 year old fathers, 1995-2011, Pre-reform (children born between 1996 and 2002) and post-reform (children born between 2004 and 2010); cross-sectional unconditional quantile regression.
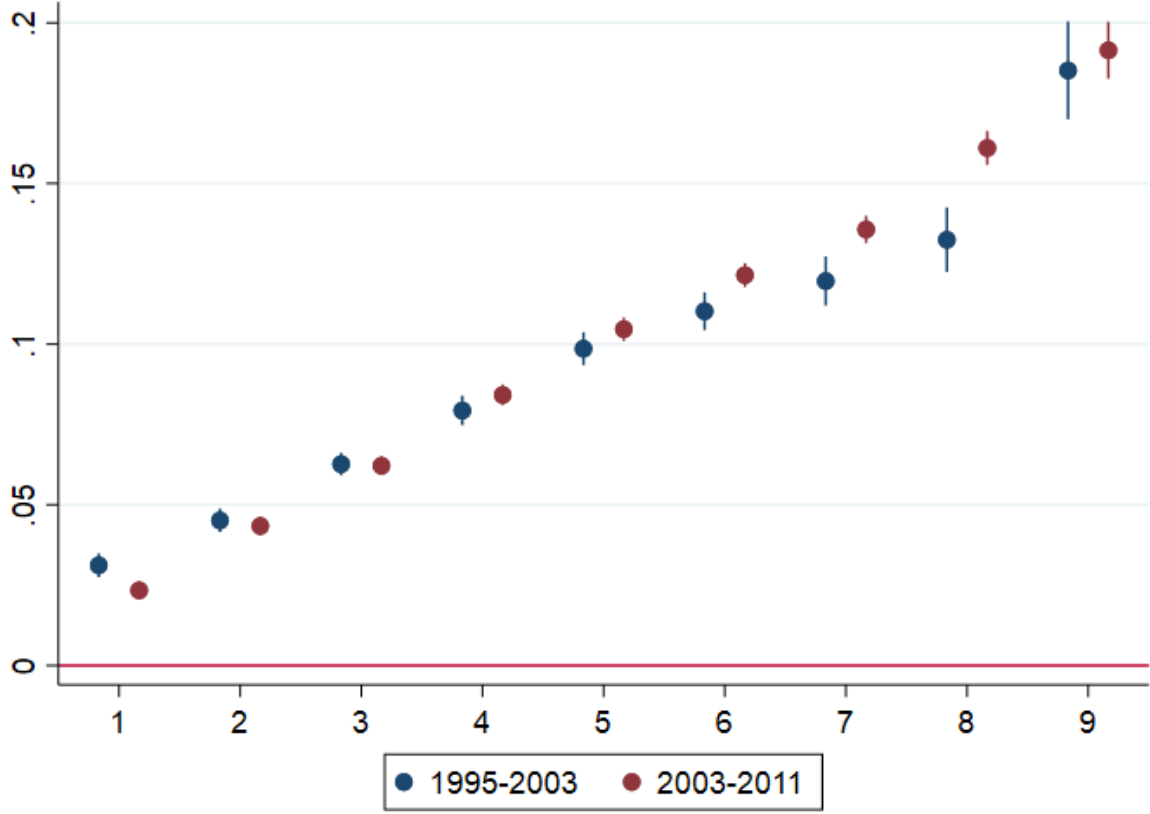
Source: Estimates from Appendix Table A1 & A2, controlling for age, age squared, number of children, age of the youngest child, period, education, marital status, region and sector.

Figure 3: Hourly wage effects of parental leave across the wage distribution of 20-45 year old fathers, 1995-2011, Pre-reform (children born between 1996 and 2002) and post-reform (children born between 2004 and 2010); fixed-effects unconditional quantile regression.
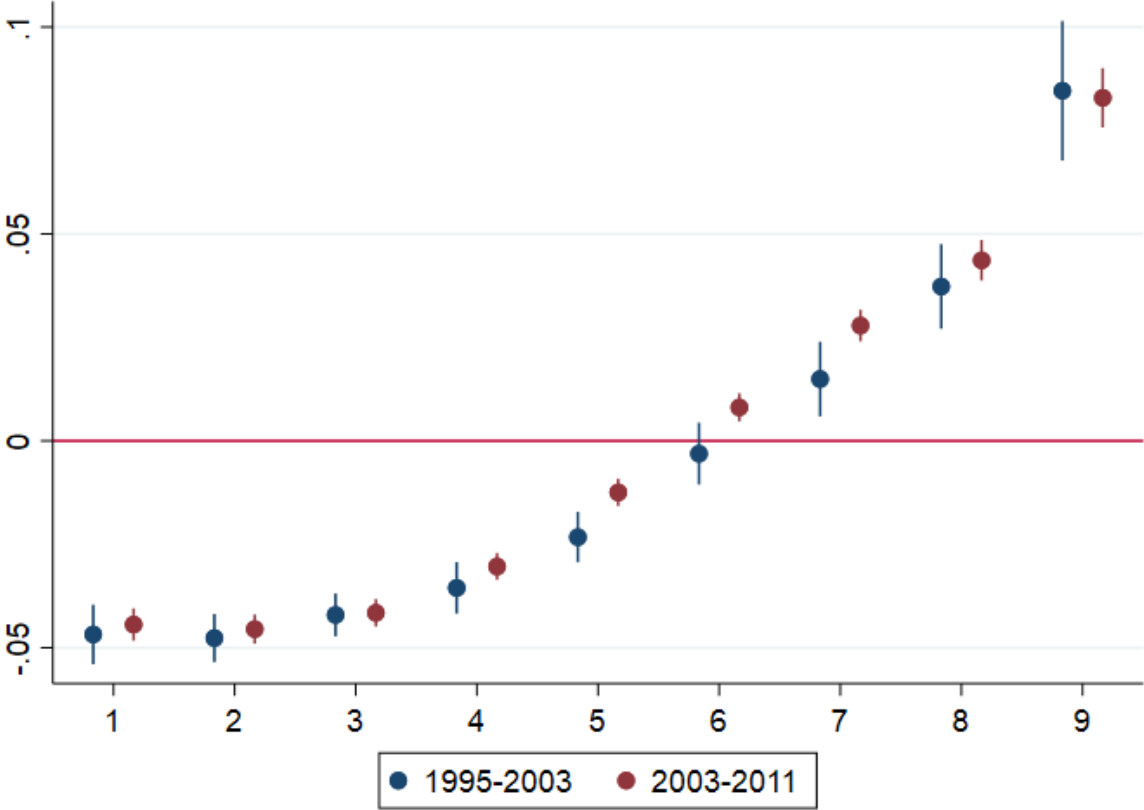
Source: Estimates from Appendix Table A3 & A4, controlling for age, age squared, number of children, age of the youngest child, period, education, marital status, region and sector.

Table A1: Hourly wage effects of parental leave across the wage distribution of 20-45 year old fathers, 1995-2003, with children born between 1996 and 2002; cross-sectional unconditional quantile regression, bootstrapped standard errors.

|	1		2		3		4		5		6		7		8		9	
	b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se	
Leave use, previous	0.031	***	0.045	***	0.063	***	0.079	***	0.099	***	0.110	***	0.120	***	0.132	***	0.185	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.003)		(0.004)		(0.005)		(0.008)	
age	0.134	***	0.102	***	0.091	***	0.077	***	0.065	***	0.053	***	0.037	***	0.014	***	-0.022	***
	(0.002)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)	
age squared	-0.002	***	-0.001	***	-0.001	***	-0.001	***	-0.001	***	-0.001	***	-0.000	***	0.000	**	0.001	***
	(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)	
Nr of children	-0.006	***	-0.001		0.000		0.003	***	0.004	***	0.008	***	0.010	***	0.013	***	0.024	***
	(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.002)	
period: 1998-2000	0.063	***	0.056	***	0.056	***	0.056	***	0.053	***	0.053	***	0.055	***	0.050	***	0.043	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
period: 2001-2003	0.113	***	0.115	***	0.121	***	0.125	***	0.124	***	0.124	***	0.127	***	0.122	***	0.102	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.003)		(0.003)	
education: Low	-0.114	***	-0.108	***	-0.103	***	-0.089	***	-0.072	***	-0.052	***	-0.031	***	-0.006	***	0.008	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)	
education: High	0.097	***	0.128	***	0.173	***	0.217	***	0.268	***	0.313	***	0.353	***	0.371	***	0.362	***
	(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.002)		(0.003)		(0.003)		(0.004)	
marital status: married	0.022	***	0.025	***	0.031	***	0.038	***	0.047	***	0.055	***	0.066	***	0.071	***	0.081	***
	(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.002)	
marital status: divorced	-0.004		0.002		0.006	*	0.006	**	0.011	***	0.019	***	0.022	***	0.019	***	0.031	***
	(0.004)		(0.003)		(0.003)		(0.003)		(0.004)		(0.004)		(0.004)		(0.005)		(0.007)	
marital status: widowed	-0.023		-0.035		0.009		0.028		0.055	*	0.044		0.048		0.049		-0.015	
	(0.034)		(0.027)		(0.023)		(0.028)		(0.031)		(0.033)		(0.037)		(0.049)		(0.065)	
region: semi-urban municipalities	-0.007	***	-0.011	***	-0.015	***	-0.022	***	-0.032	***	-0.042	***	-0.053	***	-0.060	***	-0.068	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
region: rural municipalities	-0.058	***	-0.061	***	-0.069	***	-0.078	***	-0.092	***	-0.101	***	-0.108	***	-0.108	***	-0.108	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
Private Sector	0.135	***	0.110	***	0.108	***	0.106	***	0.105	***	0.102	***	0.091	***	0.075	***	0.075	***
	(0.002)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.003)	

	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
youngest child 1-2	0.012	***	0.008	***	0.007	***	0.006	***	0.005	***	0.004	**	0.003		0.003		0.003	
	(0.002)		(0.001)		(0.002)		(0.001)		(0.001)		(0.002)		(0.002)		(0.002)		(0.003)	
youngest child 2. 3+	0.009	***	0.008	***	0.007	***	0.004	**	-0.000		-0.002		-0.008	**	-0.011	***	-0.012	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.003)		(0.004)	
No child yet	-0.000		0.004	*	0.005	**	0.011	***	0.015	***	0.021	***	0.027	***	0.030	***	0.043	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.003)		(0.003)		(0.004)	
Constant	-0.212	***	0.420	***	0.666	***	0.924	***	1.160	***	1.412	***	1.720	***	2.185	***	2.896	***
	(0.030)		(0.021)		(0.020)		(0.018)		(0.018)		(0.018)		(0.020)		(0.024)		(0.032)	
R-Squared	0.126		0.166		0.196		0.218		0.230		0.233		0.222		0.188		0.116	
Sample Size	427351		427351		427351		427351		427351		427351		427351		427351		427351	

Source: Finnish Register Data, own calculations

Table A2: Hourly wage effects of parental leave use across the wage distribution of 20-45 year old fathers, 2003-2011, with children born between 2004 and 2010; cross-sectional unconditional quantile regression, bootstrapped standard errors.

	1		2		3		4		5		6		7		8		9	
	b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se	
Leave use, previous	0.023	***	0.043	***	0.062	***	0.084	***	0.105	***	0.121	***	0.136	***	0.161	***	0.191	***
	(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.005)	
age	0.142	***	0.129	***	0.112	***	0.098	***	0.083	***	0.065	***	0.043	***	0.015	***	-0.027	***
	(0.002)		(0.002)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)	
age squared	-0.002	***	-0.002	***	-0.001	***	-0.001	***	-0.001	***	-0.001	***	-0.000	***	0.000	***	0.001	***
	(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)	
Nr of children	-0.003	**	-0.003	***	-0.004	***	-0.004	***	-0.005	***	-0.005	***	-0.002		0.001		0.009	***
	(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.002)	
period: 2006-2008	0.058	***	0.044	***	0.039	***	0.036	***	0.030	***	0.023	***	0.016	***	0.010	***	0.010	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.001)		(0.002)		(0.002)		(0.003)	
period: 2009-2011	0.069	***	0.063	***	0.060	***	0.052	***	0.041	***	0.030	***	0.018	***	0.007	***	0.001	
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
education: Low	-0.148	***	-0.126	***	-0.103	***	-0.077	***	-0.051	***	-0.027	***	-0.003	*	0.018	***	0.025	***
	(0.004)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)	
education: High	0.104	***	0.151	***	0.188	***	0.224	***	0.249	***	0.264	***	0.264	***	0.280	***	0.268	***
	(0.002)		(0.002)		(0.001)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
marital status: married	0.014	***	0.023	***	0.031	***	0.037	***	0.044	***	0.051	***	0.056	***	0.066	***	0.071	***
	(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)		(0.002)	
marital status: divorced	-0.016	***	-0.007	**	-0.007	**	-0.002		0.001		0.007	*	0.011	***	0.021	***	0.019	***
	(0.005)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.004)		(0.005)		(0.007)	
marital status: widowed	-0.049		-0.016		0.012		0.038		0.039		0.046		0.014		-0.013		0.006	
	(0.039)		(0.036)		(0.031)		(0.029)		(0.034)		(0.033)		(0.039)		(0.049)		(0.069)	
region: semi-urban municipalities	0.012	***	-0.002		-0.017	***	-0.030	***	-0.042	***	-0.054	***	-0.065	***	-0.088	***	-0.108	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
region: rural municipalities	-0.021	***	-0.033	***	-0.049	***	-0.066	***	-0.082	***	-0.093	***	-0.101	***	-0.115	***	-0.129	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
Private Sector	0.116	***	0.117	***	0.121	***	0.124	***	0.130	***	0.137	***	0.139	***	0.139	***	0.127	***
	(0.002)		(0.002)		(0.002)		(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.003)	
youngest child 1-2	0.001		0.001		-0.003	*	-0.006	***	-0.007	***	-0.009	***	-0.010	***	-0.013	***	-0.013	***

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	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)
youngest child 2. 3+	0.001	-0.003	-0.009 ***	-0.012 ***	-0.013 ***	-0.016 ***	-0.021 ***	-0.022 ***	-0.020 ***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.004)
No child yet	-0.005 *	-0.002	-0.002	-0.001	-0.000	-0.001	0.000	0.001	0.013 ***
	(0.003)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.004)
Constant	-0.171 ***	0.140 ***	0.471 ***	0.759 ***	1.052 ***	1.400 ***	1.821 ***	2.354 ***	3.156 ***
	(0.032)	(0.027)	(0.022)	(0.021)	(0.018)	(0.019)	(0.020)	(0.022)	(0.028)
Sample Size	466839	466839	466839	466839	466839	466839	466839	466839	466839

Source: Finnish Register Data, own calculations

Table A3: Hourly wage effects of parental leave across the wage distribution of 20-45 year old fathers, 1995-2003, with children born between

1996 and 2002; fixed-effects unconditional quantile regression, bootstrapped standard errors.

	1		2		3		4		5		6		7		8		9	
	b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se	
Leave use, previous	-0.047	***	-0.048	***	-0.042	***	-0.036	***	-0.023	***	-0.003		0.015	***	0.037	***	0.085	***
	(0.004)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.005)		(0.005)		(0.009)	
age	0.200	***	0.161	***	0.152	***	0.135	***	0.119	***	0.100	***	0.074	***	0.035	***	-0.026	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.004)	
age squared	-0.003	***	-0.002	***	-0.002	***	-0.001	***	-0.001	***	-0.001	***	-0.000	***	0.000	***	0.001	***
	(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)	
Nr of children	-0.014	***	-0.011	***	-0.009	***	-0.004	*	-0.000		0.003		0.014	***	0.021	***	0.040	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.004)	
period: 1998-2000	0.019	***	0.006	***	0.002		0.001		-0.006	***	-0.006	***	-0.001		-0.002		0.003	
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.004)	
period: 2001-2003	0.022	***	0.015	***	0.013	***	0.013	***	0.006	**	0.004		0.013	***	0.015	***	0.014	**
	(0.004)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.005)		(0.006)	
education: Low	-0.105	***	-0.052	***	-0.016	*	0.029	***	0.055	***	0.071	***	0.101	***	0.107	***	0.113	***
	(0.014)		(0.012)		(0.009)		(0.009)		(0.009)		(0.010)		(0.009)		(0.011)		(0.012)	
education: High	0.100	***	0.126	***	0.158	***	0.188	***	0.213	***	0.228	***	0.197	***	0.125	***	0.064	***
	(0.008)		(0.005)		(0.006)		(0.006)		(0.006)		(0.006)		(0.007)		(0.008)		(0.010)	
marital status: married	0.005	**	0.011	***	0.012	***	0.011	***	0.010	***	0.004	*	-0.000		-0.011	***	-0.027	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.004)	
marital status: divorced	0.005		0.010	**	0.011	**	0.003		-0.001		-0.011	**	-0.024	***	-0.029	***	-0.052	***
	(0.006)		(0.005)		(0.005)		(0.005)		(0.005)		(0.005)		(0.006)		(0.006)		(0.009)	
marital status: widowed	-0.000		-0.034		0.010		-0.025		-0.022		-0.080	*	-0.086	*	0.054		-0.089	
	(0.058)		(0.045)		(0.043)		(0.045)		(0.042)		(0.043)		(0.049)		(0.062)		(0.072)	
region: semi-urban municipalities	-0.010	***	-0.007	***	-0.003		0.005		0.006	**	0.010	***	0.007	**	0.013	***	0.009	
	(0.004)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.006)	
region: rural municipalities	-0.004		0.001		0.010	***	0.005		0.005		0.010	***	0.001		0.003		0.000	
	(0.005)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.004)		(0.004)		(0.006)	
Private Sector	0.145	***	0.079	***	0.060	***	0.057	***	0.055	***	0.061	***	0.064	***	0.059	***	0.059	***
	(0.007)		(0.005)		(0.004)		(0.004)		(0.004)		(0.005)		(0.005)		(0.006)		(0.008)	
youngest child 1-2	0.012	***	0.009	***	0.008	***	0.009	***	0.009	***	0.009	***	0.012	***	0.012	***	0.015	***

	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
	(0.001)		(0.001)		(0.001)		(0.001)		(0.002)		(0.001)		(0.002)		(0.002)		(0.003)	
youngest child 2. 3+	0.010	***	0.008	***	0.007	***	0.007	***	0.007	**	0.006	**	0.010	***	0.004		0.011	**
	(0.003)		(0.003)		(0.002)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.005)	
No child yet	-0.000		0.001		0.001		0.007	***	0.010	***	0.013	***	0.019	***	0.019	***	0.034	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.002)		(0.003)		(0.004)	
Constant	-1.485	***	-0.763	***	-0.575	***	-0.277	***	0.007		0.363	***	0.885	***	1.629	***	2.799	***
	(0.060)		(0.046)		(0.037)		(0.041)		(0.038)		(0.035)		(0.047)		(0.048)		(0.066)	
R-Squared	0.091		0.128		0.148		0.157		0.151		0.141		0.125		0.101		0.060	
Sample Size	427351		427351		427351		427351		427351		427351		427351		427351		427351	

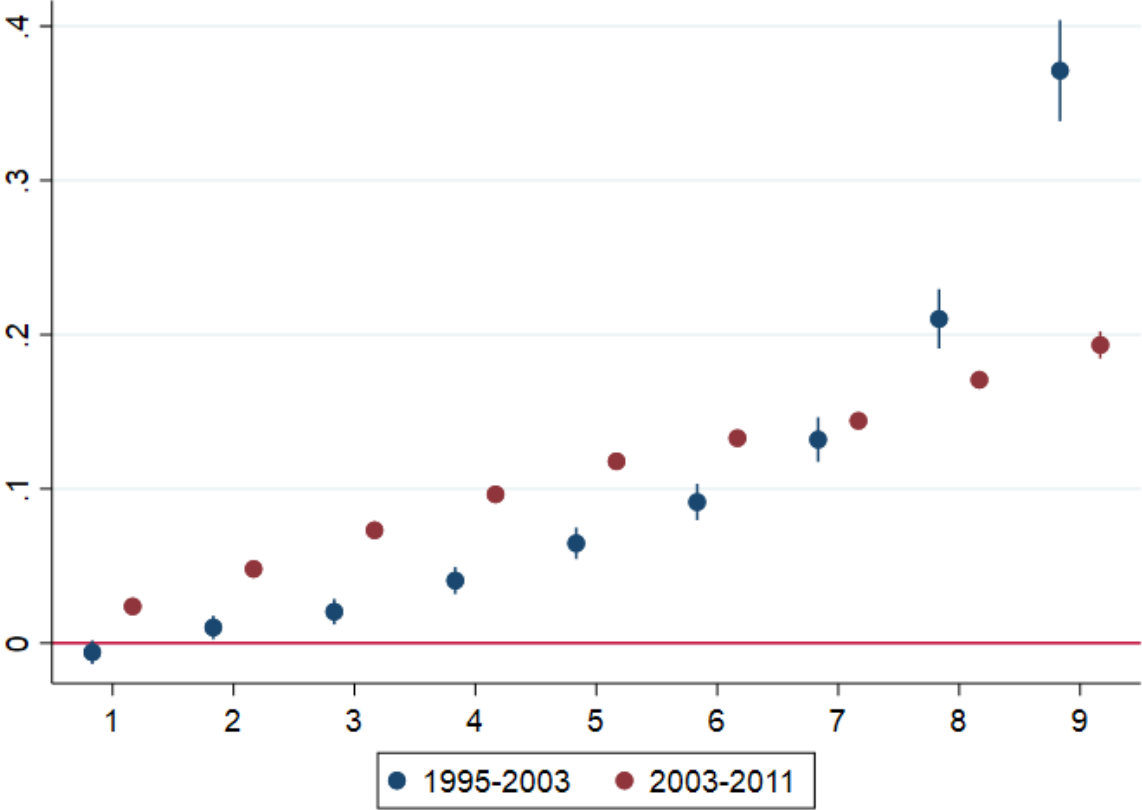Source: Finnish Register Data, own calculations

Table A4: Hourly wage effects of parental leave use across the wage distribution of 20-45 year old fathers, 2003-2011, with children born between 2004 and 2010; fixed-effects unconditional quantile regression, bootstrapped standard errors.

	1		2		3		4		5		6		7		8		9	
	b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se		b/se	
Leave use, previous	-0.044	***	-0.045	***	-0.042	***	-0.030	***	-0.012	***	0.008	***	0.028	***	0.044	***	0.083	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.004)	
age	0.172	***	0.154	***	0.129	***	0.106	***	0.087	***	0.067	***	0.043	***	0.013	***	-0.028	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
age squared	-0.002	***	-0.002	***	-0.002	***	-0.001	***	-0.001	***	-0.001	***	-0.000	***	0.000	***	0.001	***
	(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)		(0.000)	
Nr of children	-0.010	***	-0.008	***	-0.001		0.005	***	0.007	***	0.009	***	0.012	***	0.020	***	0.015	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)		(0.003)	
period: 2006-2008	0.036	***	0.028	***	0.022	***	0.024	***	0.021	***	0.015	***	0.010	***	0.005	**	0.009	***
	(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
period: 2009-2011	0.039	***	0.040	***	0.035	***	0.037	***	0.031	***	0.022	***	0.014	***	0.005		0.002	
	(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.004)		(0.005)	
education: Low	-0.152	***	-0.079	***	-0.021	**	0.008		0.028	***	0.047	***	0.053	***	0.066	***	0.057	***
	(0.013)		(0.011)		(0.009)		(0.008)		(0.007)		(0.007)		(0.008)		(0.007)		(0.010)	
education: High	0.160	***	0.158	***	0.153	***	0.143	***	0.136	***	0.109	***	0.072	***	0.046	***	0.010	
	(0.008)		(0.007)		(0.005)		(0.005)		(0.005)		(0.005)		(0.006)		(0.006)		(0.007)	
marital status: married	0.009	***	0.013	***	0.014	***	0.012	***	0.010	***	0.007	***	0.000		-0.005	***	-0.023	***
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
marital status: divorced	0.024	***	0.024	***	0.013	***	0.015	***	0.011	**	0.002		-0.003		-0.003		-0.051	***
	(0.007)		(0.005)		(0.005)		(0.005)		(0.005)		(0.005)		(0.005)		(0.006)		(0.007)	
marital status: widowed	-0.005		0.021		-0.013		0.032		0.081	**	0.146	***	0.108	**	0.050		0.066	
	(0.029)		(0.034)		(0.038)		(0.035)		(0.033)		(0.047)		(0.049)		(0.058)		(0.090)	
region: semi-urban municipalities	0.002		-0.000		0.005	*	0.004		0.006	**	0.001		-0.002		-0.011	***	-0.023	***
	(0.004)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.004)		(0.005)	
region: rural municipalities	-0.006		-0.002		-0.003		0.004		0.013	***	0.011	***	0.013	***	0.005		-0.002	
	(0.005)		(0.004)		(0.004)		(0.004)		(0.004)		(0.003)		(0.004)		(0.004)		(0.005)	

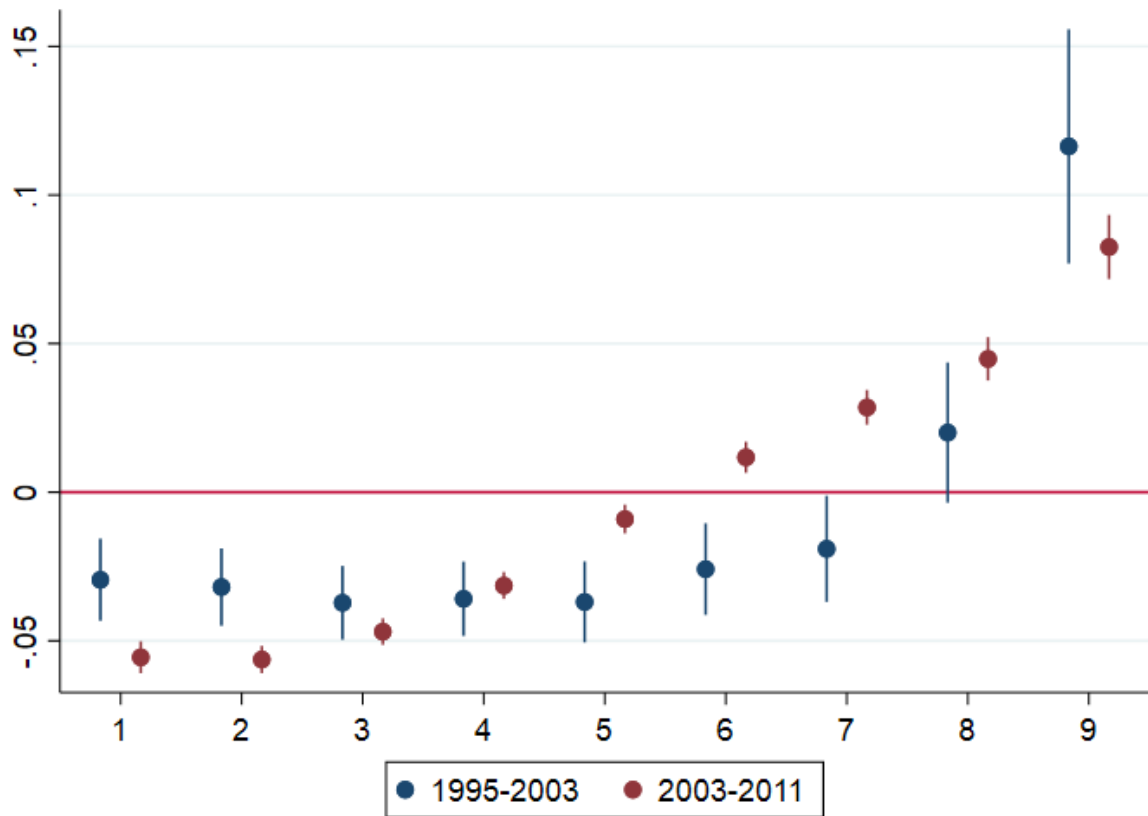|	(1)		(2)		(3)		(4)		(5)		(6)		(7)		(8)		(9)	
Private Sector	0.085	***	0.106	***	0.108	***	0.102	***	0.104	***	0.116	***	0.124	***	0.129	***	0.106	***
	(0.006)		(0.004)		(0.004)		(0.003)		(0.003)		(0.004)		(0.004)		(0.005)		(0.007)	
youngest child 1-2	0.006	***	0.007	***	0.008	***	0.009	***	0.009	***	0.008	***	0.006	***	0.005	***	-0.000	
	(0.002)		(0.002)		(0.001)		(0.001)		(0.001)		(0.001)		(0.002)		(0.002)		(0.002)	
youngest child 2. 3+	0.011	***	0.008	***	0.009	***	0.011	***	0.010	***	0.007	**	0.002		0.003		-0.005	
	(0.004)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.003)		(0.005)	
No child yet	-0.010	***	-0.007	***	-0.003		-0.000		0.000		-0.001		-0.000		0.003		0.007	**
	(0.003)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.002)		(0.003)	
Constant	-0.749	***	-0.383	***	0.094	**	0.563	***	0.938	***	1.325	***	1.800	***	2.367	***	3.155	***
	(0.062)		(0.044)		(0.040)		(0.038)		(0.037)		(0.036)		(0.040)		(0.041)		(0.053)	
R-Squared	0.062		0.087		0.097		0.098		0.095		0.091		0.082		0.069		0.048	
Sample Size	466839		466839		466839		466839		466839		466839		466839		466839		466839	

Source: Finnish Register Data, own calculations

Figure A1: Hourly wage effects of parental leave across the wage distribution of 20-45 year old fathers who were 12 months employed prior to birth, 1995-2011, Pre-reform (children born between 1996 and 2002) and post-reform (children born between 2004 and 2010); cross-sectional unconditional quantile regression.

Source: Finnish Register Data, own calculations

Controlled for age, age squared, number of children, age of the youngest child, period, education, marital status, region and sector.

Figure A2: Hourly wage effects of parental leave across the wage distribution of 20-45 year old fathers who were 12 months employed prior to birth, 1995-2011, Pre-reform (children born between 1996 and 2002) and post-reform (children born between 2004 and 2010); fixed-effects unconditional quantile regression.

Source: Finnish Register Data, own calculations

Controlled for age, age squared, number of children, age of the youngest child, period, education, marital status, region and sector.