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Fathers' uptake of parental leave, 1993-2010

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Abstract: Sweden is often considered a forerunner in family change and developments towards less gendered patterns of family production. In this study, we focus on recent developments towards more gender equal sharing of parental leave in Sweden. This country was the first in the world to introduce a gender-neutral parental leave scheme. The aim was to promote the combination of work and family, mainly by enabling women's participation in the labor force. With time, the focus of policy makers has shifted towards men and their participation in childcare. In our study, we explore how men's use of parental leave has changed over time before and after the turn of the century. We examine how men's individual and socio-demographic characteristics are associated with their parental leave uptake over time in order to find out whether there are forerunners and laggards in recent family change. Multinomial logistic regression models were applied to data from national registers. Our study demonstrates a bifurcation in trends over the last few decades. This was associated with the extension of reforms that reserved part of the leave for fathers, the so-called daddy months, but stretches beyond the impact of any such reforms. Taking long leaves of over two months was pioneered by better-educated residents in metropolitan areas and surrounding suburbs, as well as the Swedish-born. Fathers below age 25, low-income earners and foreign-born men were lagging behind in these developments. We regard the unstable labor market situation of the latter a contributing factor to the widening social inequalities in family related behavior.

Keywords: Forerunners, laggards, fathers' uptake of parental leave, Sweden

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Introduction

The Scandinavian countries stand out in terms of their many initiatives to promote gender equality; Sweden tends to be ranked by the United Nations among the most gender equal countries in the world. In demographic research, Sweden and the other Nordic countries have often been considered forerunners in family change (Ohlsson-Wijk, Turunen and Andersson 2017), this holds in particular for factors in relation to gender. It holds for developments related to the so called Second Demographic Transition of family change (van de Kaa 1987, Lesthaeghe 2010) as well as developments depicted by a more recent stream of literature that explicitly focuses on changing gender dynamics as a decisive factor in family-demographic change (see Goldscheider, Bernhardt and Lappegård 2015, Esping-Andersen and Billari 2015, Anderson and Kohler 2015; for a critical discussion see Cherlin 2016).

The present study focusses on one specific dimension of gender change in the family, that of fathers' involvement in family life as childrearsers. It takes its departure by focusing on fathers' uptake of parental leave and the changing dynamics over time in such behavior. Clearly, this is a factor where Sweden stands out as a forerunner in family change. Goldscheider and colleagues refer to Swedish fathers' increasing involvement in parental leave and childrearing as the second step of an ongoing gender revolution: the first step involves women's entry into the labor market, the second step that of men's entry as full actors in matters related to family life. Together they produce an entirely new setting for family life, which the authors ascribe to a number of desired outcomes, such as higher family stability and less un-met demand for childbearing.

In Sweden, efforts have been made since the 1970s to encourage men to become more active and caring fathers. This is done both by promoting fathers' parental leave and supporting women's positions in the labor market (Ruxton and van der Gaag 2013). Sweden was the first country in the world to introduce a gender-neutral parental leave scheme where both the mother and the father can use the leave. In particular, increased paternal involvement in the care of children has been emphasized as a means to promote gender equality at the couple level, to support women's labor force participation, and increase fathers' involvement with their children (Rostgaard 2002, Andersson 2008, Haas and Hwang 2008).

Fathers' uptake of parental leave may be considered one of several indicators of gender equality. As such, it has relevance for gender relations in the home as well as in the labor

market. Inequalities in unpaid care work decrease when fathers take more parental leave (Evertsson, Boye and Erman 2015), it also strengthens mothers' opportunities in the labor market (Johansson 2010). As differences in women's and men's parental leave diminish, employers have fewer reasons to discriminate on the basis of sex and parenthood in hiring, promotion and wage setting. At the turn of the century, the gender wage gap in Sweden stood at some 7-8 percent, when controlling for age, education, work hours, sector and occupational category (Statistics Sweden, 2014; see also Angelov, Johansson and Lindahl 2016).

Still, the developments towards decreasing gender inequalities in the family and in care work may not be shared equally by all sectors in society (Verloo 2006, Ryan and Kossek 2008). For example, Esping-Andersen and Billari (2015) highlights that recent family-demographic developments also contribute to new socio-economic inequalities in behavior and outcomes. Much social-science research reports on increasing general social inequalities in Western societies since the turn of the century; these developments may also be reflected in new inequalities in family-demographic behavior. For example, Jalovaara et al. (2017) report on increasing social inequalities in the completed fertility by cohorts of women and men in the Nordic countries. Another factor to consider is the changing population composition that follows in the wake of international migration. Some of the many new residents of Sweden may not share the developments towards increasing gender equality to the same extent as the native-born.

Earlier studies on parental leave patterns in Sweden show close association between men's individual characteristics and their parental leave use. For example, some studies report on the positive role of men's higher education and earnings for their parental leave use (Sundström and Duvander 2002, Duvander and Johansson 2014). However, no study explicitly follows changes in those associations over time. With the increasing levels of men's parental leave use during a period of social and demographic change, it is imperative to also study how the associations between individual characteristics and fathers leave use may have changed over time. In our study, we focus on the period 1993-2010 and examine changes in those associations over calendar time. The purpose is to detect the existence of any forerunners or laggards in recent family-demographic change.

The present study contributes to the literature and society in several ways. First, it has the capacity to enrich our understanding of how different subgroups of fathers adjust their parental leave use in relation to recent family-policy reforms. Second, it will help us provide

insight into factors that may enhance or restrain fathers' parental leave use. The identification of these factors might bring enlightenment on how to better adjust the policies so that more fathers can take parental leave, with more children having access to their father at home and more women being able to get on with their career after childbirth. Finally, our study provides insight into recent social change in terms of new inequalities (or equalities) in the aspects of family behavior that we cover.

In what follows, we first provide an overview of the context and contents of the parental-leave program of Sweden and of fathers' involvement in this program. This is the social-policy system that makes the basis for our empirical study. We then proceed in usual order to present our research questions, data and methods, and the empirical results of our study before concluding with a general discussion.

The parental leave program of Sweden

To a very large extent, social policies in Sweden are individualized. The aim of family policy is to facilitate the combination of paid work and family life for both women and men. Parental-leave benefits are based on the principle of replacement of lost individual earnings in connection with a parent's leave. This is combined with job security during the absence from work. The system makes it beneficial to commence childbearing once a stable position is reached in the labor market, a pattern that most women and men in Sweden tend to follow (Andersson 2000, Andersson and Scott 2005, Ferrarini and Duvander 2010).

When the parental leave program was introduced in 1974, it gave parents the right to six months of paid leave from work after the birth of a child. Parents could share the leave as they saw fit and employed mothers and fathers were granted an income replacement of 90 percent of their previous earnings up to a relatively high ceiling. All parents permanently residing in Sweden are entitled to parental leave benefits and practically all mothers use the leave. To be eligible for the income-related benefit, parents should accumulate at least eight months of employment prior to the birth of a child (Försäkringskassan 2018). Parents with no earnings prior to the use of the leave received only a low flat rate. Leave can be used in various ways: full-time or down to 1/8 of a day until the child turns eight. Benefits are paid out of the general tax and social insurance system with no direct cost to employers. The entitlement period was stepwise prolonged during the 1970s and 1980s. In 1989, it was

extended to 15 months, and in 2002 to the present length of 16 months (Duvander and Johansson 2012).

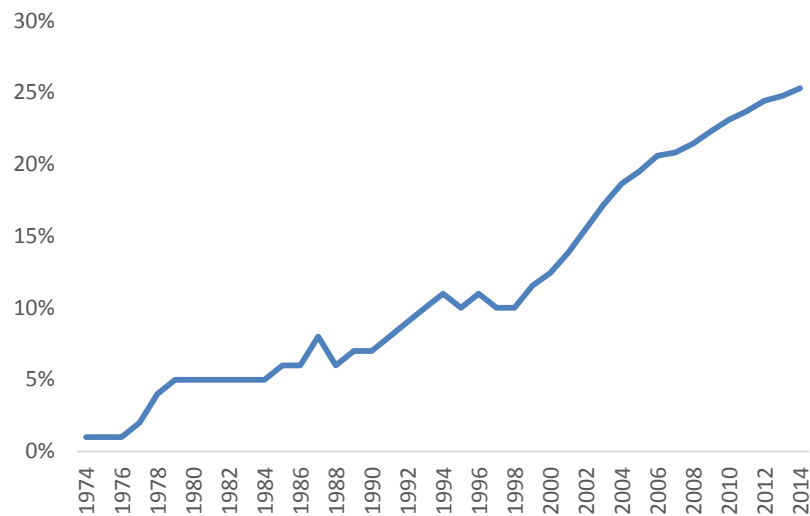
To encourage fathers to use parental leave, the system was reformed in 1995. One month was specifically reserved for each parent, which has popularly been labeled as the introduction of a “daddy month.” At the same time, half of the benefit days were formally assigned to the mother and the other half to the father. The leave was thus individualized, meaning that one parent needs the consent of the other to use more than half of the entitlements. In 2002 a second month was reserved for each parent. From January of 2016 a third month has been reserved for each parent.

During the 1990s the income-replacement level was stepwise reduced to 75 percent, as public finances were strained, but was raised again to the present level of 80 percent in 1998. The income compensation ceiling did not follow the increase in income during the 1990s but was increased considerably in 2005. As parents often claim that economical restrictions determine the division of leave, the income ceiling may matter in decisions on the sharing of parental leave between parents (Eriksson 2011). In 2010, 21 percent of fathers and 8 percent of mothers had an income above the ceiling (Försäkringskassan 2012). To dampen economic restrictions to a more gender equal leave use, a gender equality bonus for parents sharing the leave more equally was introduced in 2008 (Duvander and Johansson 2012). However, this bonus system was later abolished.

Fathers’ involvement in parental leave and the Swedish family model

Overall, men’s share of the leave use in Sweden has increased gradually from around one percent in the 1970s to 25 percent today (Figure 1). At present more than eight of every ten fathers use some leave before the child’s fourth birthday (Försäkringskassan 2011). Especially, the first reserved month in 1995 increased the proportion of fathers who took leave as less than half used any leave before that reform (Duvander and Johansson 2012).

Figure 1: Men's share of annual net days of parental leave in Sweden (in percent), 1974-2014



Data source: Swedish Social Insurance Agency (Försäkringskassan)

The Swedish parental leave system is rather generous in terms of income replacement, length, and flexibility (Duvander and Andersson 2006). As the eligibility for the parental leave benefit is based on individual employment and earnings prior to the birth of a child, women and men often postpone childbearing to later ages until they are well-established in the labor market (Andersson 2000, Duvander and Andersson 2006, Duvander et al. 2010, Lundström and Andersson 2012). Once having a child, highly educated fathers on average take longer parental leave than low educated fathers (Duvander and Johansson 2014, Duvander and Viklund 2014). Furthermore, men's earnings are positively associated with their uptake of parental leave (Sundström and Duvander 2002, Evertsson 2016).

Further, fathers' parental leave uptake was affected by the policy reforms in 1995 and 2002. Duvander and Johansson (2012) found that the introduction of the first reserved month in 1995 had a strong positive effect on men's parental leave use, whereas the effect of the second reserved month was more modest but still clear. No visible effect of the gender equality bonus was observed. The authors argued that the first time a new type of reform is introduced, it matters the most.

In general, the welfare policies to which the parental-leave system belongs support a dual-earner family model, where women and men are encouraged to share paid as well as care work (Esping-Andersen 2002, Ferrarini and Duvander 2010, Korpi 2000). Norms that value

non-gender-specific parenting and intimate fathering may engender more involved fathers (Sanchez and Thomson 1997, Atkinson and Blackwelder 1993, Coltrane 1989, Evertsson 2006, 2014). Evertsson (2014) shows that men with more liberal attitudes in relation to gender roles share domestic and care work more equally with women. Meanwhile, they use the longest parental leave (Duvander 2014). Sullivan (2004) claims that highly educated men are more likely than others to be egalitarian and therefore spend more time in caring for their children.

It deserves note that men's uptake of parental leave is not necessarily driven by a desire for gender equality even if this may turn out to be a consequence of such behavior (Duvander et al. 2010). Men who take parental leave, especially those who take extensive leave might be more child- and family-oriented than those who do not (Björnberg 1998). It has also been shown that many men face restrictions to take leave, including restrictions related to the characteristics of their their work place (Haas et al. 2002, Bygren and Duvander 2006; Evertsson, Boye and Erman 2015).

Other factors also matter for fathers' involvement in domestic work and child care. For example, the relative contribution to the household finances may determine decisions on who to spend more time at home. When the woman in a household earns less than the man, or has fewer opportunities to advance in her job, it may be perceived as financially rational for the family to let her take the main part of the parental leave, and vice versa (cf. Becker 1985). Empirical research for Sweden does not always conform to such economic logics. A study on parents' use of leave days to care for sick children by Eriksson (2011) shows that in couples where the woman earns as much or more than the man, parenting ideals contributes to a division of leave where the mother still uses the largest share of the days. Previous research on the association between partners' education and their share of housework shows similar results: although Swedish women are educated to the same extent or more than men and gender equality is highly valued, these equal opportunities do not translate into an equal division of housework within the family. Even though women's share of housework has decreased and that of men increased, men do less housework than women (Evertsson and Neramo 2007). Nonetheless, Gershuny (2000) remarks that men in the Scandinavian countries have formed a stronger habit of sharing household and care work than men in many other countries.

Data and methods

Earlier studies have focused on the associations between fathers' leave use and factors such as educational attainment, earnings, and other socio-demographic characteristics. However, these were mainly based on cross-sectional data and did not aim at examining how patterns of association have changed over time. Our study addresses this knowledge gap by focusing on differences in relative changes in fathers' use of parental leave over the period 1993-2010. It is based on Swedish register data and focuses on the role of socio-economic and demographic characteristics that can be measured in those registers.

The data for our analyses come from the "Sweden in Time – Activities and Relations" (STAR) collection of data that is available to researchers at the Stockholm University Demography Unit and stored at Statistics Sweden. Originally, the data on parental leave stem from the Social Insurance Agency of Sweden, other data are merged from administrative registers at Statistics Sweden. The data contain essential individual-level and longitudinal information on socio-economic and demographic features of all residents in Sweden. The most recent data that we have access to are from 2010-2012.

Data on the individual use of parental leave days are available from 1993 onwards. The data are available on an annual basis. As parental leave is accumulated annually we select only those couples who had a child in January in a given year so that we can measure the leave use of parents during the two subsequent years. We also select first time parents only to not confuse our measures with the leave use for any older siblings. We observe men's parental leave use within the first two years after the childbirth because most parents take the main part of their parental leave within this period. Couples who have a second child within the two-year period are excluded from our observation. In this way, we do not mix up fathers' leave use for the studied child with their leave use for any next child. Couples who had twins are also excluded. After these exclusions, 51,287 couples remained in our study, all with their first child born in January from 1993 to 2010 in Sweden (see Table 1).

Our dependent variable is the length of parental leave in days used by men. Based on the parental leave reforms in Sweden and our data distribution, we categorize the length of men's leave use into "no use", "up to two months", and "more than two months". Fathers who took two or more months in 2002 onwards took advantage of the nontransferable months to which they were entitled, and perhaps some of the other days the family is entitled to.

In our empirical analyses, we run multinomial logistic regressions with calendar year as our key independent variable in order to estimate trends over time in fathers' uptake and the factors that may drive them taking extensive leave (more than two months) or no leave at all (0 day). Any positive uptake of less than two months is defined as the baseline category for our comparisons.

Table 1 presents descriptive statistics for the entire set of variables used for our analysis. Men's age, educational attainment, annual disposal income, residence at first birth and couple's country of origin serve as the main explanatory variables in relation to that of calendar year. Men's age is evenly distributed into four levels: 15-25, 26-30, 31-35, and above 36. Educational attainment is grouped into below secondary, secondary, tertiary of up to two years, and tertiary education of more than two years. Annual disposable income refers to individuals' total after-tax annual income in the year prior to the birth of the child. It is categorized into quintiles within each year: very low, low, middle, high, and very high, with each income level containing an equal number of fathers within a specific year. Place of residence at childbirth is included to represent any regional differences in men's use of parental leave. Sweden's nearly 300 municipalities are divided into five categories (see The Swedish Association of Local Authorities; Sveriges kommuner och landsting 2010). These are metropolitan areas (Stockholm, Gothenburg, and Malmö); suburbs to metropolitan areas; big/middle-sized cities or other large municipalities; industrial municipalities; and rural/small/sparsely populated municipalities. Couple's country of origin is classified into both Swedish-born, only father foreign-born, only mother foreign-born, and both foreign-born.

Further, "calendar year" is a variable of prime interest for our study. Our observation ranges from episodes starting in 1993 to 2010, covering periods from before to those after the parental leave reforms in 1995 and 2002, respectively. The interaction terms of calendar year and the other explanatory variables of interest help us discern changes in patterns of parental leave use by fathers of different characteristics.

Finally, mother's demographic and socio-economic factors are controlled for. These include mother's age at childbirth, her educational attainment, and annual disposable income prior to childbirth. These variables are grouped into categories in the same manner as those of fathers.

Table 1: Descriptive statistics – Leave amount by independent variables used in multivariate analysis

	0 day		<2 months		2+ months		Total
Woman's age							
15-25	6,474	38%	6,834	40%	3,835	22%	17,143
26-30	4,687	24%	8,048	41%	6,854	35%	19,589
31-35	2,665	24%	3,902	36%	4,330	40%	10,897
36+	1,132	31%	1,276	35%	1,250	34%	3,658
Man's age							
15-25	3,726	40%	3,672	40%	1,859	20%	9,257
26-30	4,546	25%	7,655	43%	5,734	32%	17,935
31-35	3,524	24%	5,392	37%	5,582	39%	14,498
36+	3,162	33%	3,341	35%	3,094	32%	9,597
Woman's education							
Below secondary	3,291	51%	2,015	31%	1,113	17%	6,419
Secondary	3,432	35%	4,630	47%	1,824	18%	9,886
Tertiary _2 years	3,870	28%	6,378	46%	3,611	26%	13,859
Tertiary 2+ years	4,365	21%	7,037	33%	9,721	46%	21,123
Man's education							
Below secondary	3,623	48%	2,560	34%	1,387	18%	7,570
Secondary	4,412	31%	6,613	46%	3,255	23%	14,280
Tertiary _2 years	2,996	25%	5,253	44%	3,734	31%	11,983
Tertiary 2+ years	3,927	22%	5,634	32%	7,893	45%	17,454
Woman's income							
Very low	5,079	49%	2,745	27%	2,521	24%	10,345
Low	3,318	32%	4,159	40%	2,806	27%	10,283
Middle	2,554	25%	5,060	49%	2,645	26%	10,259
High	2,066	20%	4,532	44%	3,615	35%	10,213
Very high	1,941	19%	3,564	35%	4,682	46%	10,187
Man's income							
Very low	6,288	61%	2,378	23%	1,670	16%	10,336
Low	3,217	31%	4,146	40%	2,928	28%	10,291
Middle	1,834	18%	4,821	47%	3,610	35%	10,265
High	1,598	16%	4,726	46%	3,921	38%	10,245
Very high	2,021	20%	3,989	39%	4,140	41%	10,150

Table 1: Descriptive statistics – Leave amount by independent variables used in multivariate analysis (continued)

	0 day		<2 months		2+ months		Total
Place of residence							
Metropolitan areas	3,617	33%	3,312	30%	4,078	37%	11,007
Suburb to metropolitan areas	2,346	28%	3,147	38%	2,866	34%	8,359
Big/middle-sized cities or large municipalities	6,705	28%	9,842	41%	7,250	30%	23,797
Industrial municipalities	927	26%	1,743	49%	911	25%	3,581
Rural/small/sparsely populated municipalities	1,363	30%	2,016	44%	1,164	26%	4,543
Couple's country of origin							
Both Swedish-born	9,443	24%	16,672	42%	13,403	34%	39,518
Man foreign-born	1,510	46%	1,034	31%	762	23%	3,306
Man Swedish-born	1,014	31%	1,058	32%	1,188	36%	3,260
Both foreign-born	2,991	57%	1,296	25%	916	18%	5,203
Calendar year							
1993	1,474	48%	843	28%	746	24%	3,063
1994	1,409	49%	806	28%	665	23%	2,880
1995	757	28%	1,429	53%	490	18%	2,676
1996	825	32%	1,357	52%	423	16%	2,605
1997	785	31%	1,320	52%	455	18%	2,560
1998	723	30%	1,201	50%	466	19%	2,390
1999	827	34%	1,103	45%	509	21%	2,439
2000	783	31%	1,214	48%	532	21%	2,529
2001	789	29%	1,214	45%	705	26%	2,708
2002	679	24%	1,206	43%	926	33%	2,811
2003	648	23%	1,085	38%	1,089	39%	2,822
2004	692	23%	1,142	38%	1,168	39%	3,002
2005	704	25%	1,041	36%	1,121	39%	2,866
2006	691	23%	1,035	35%	1,272	42%	2,998
2007	726	23%	1,070	34%	1,388	44%	3,184
2008	799	25%	995	31%	1,384	44%	3,178
2009	795	25%	966	31%	1,377	44%	3,138
2010	852	25%	1,033	30%	1,553	45%	3,438
Total	14,958	29%	20,060	39%	16,269	32%	51,287

Results

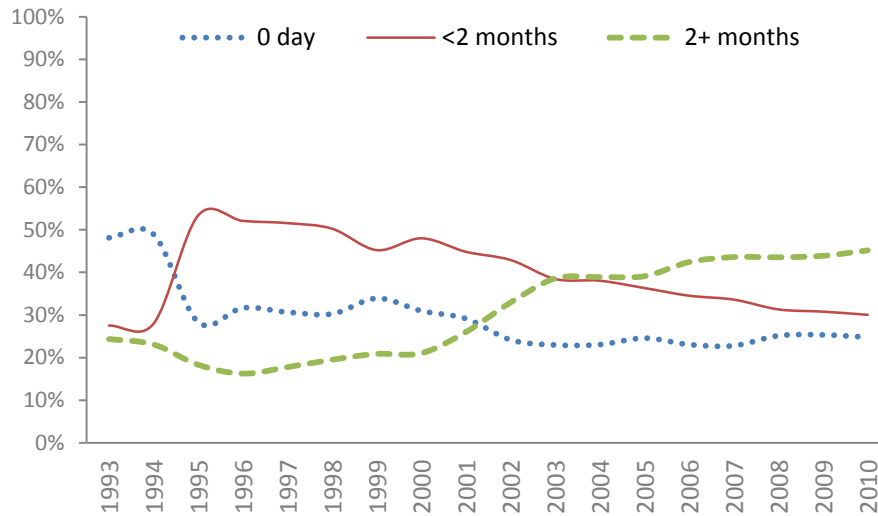
Descriptive results for main explanatory variables

Crude statistics in Table 1 for the main explanatory variables show that 40 percent of fathers aged below 25 took no parental leave, 40 percent took leave of less than two months, and the rest 20 percent took a leave of more than two months. It seems that younger fathers are less likely than others to take long leaves. In addition, taking no parental leave disproportionately occurs among lower educated men, whereas higher educated fathers more often took an extensive leave longer than two months. The proportion who took no leave at all is also heavily skewed towards men with the lowest income. In contrast, the proportion of men taking more than two months leave increases with the income level.

Furthermore, the proportion of men who took no parental leave, a short leave, or a long leave was fairly evenly distributed among men living in metropolitan areas and their suburbs. 57 percent of foreign-born men with a foreign-born partner and 46 percent of foreign-born men with a Swedish-born partner took no leave at all. In clear contrast, 76 percent of Swedish-born men with a Swedish-born partner and 69 percent of Swedish-born men with a foreign-born partner took either a short or a long parental leave, showing that a majority of Swedish-born men share the parental leave with their partner.

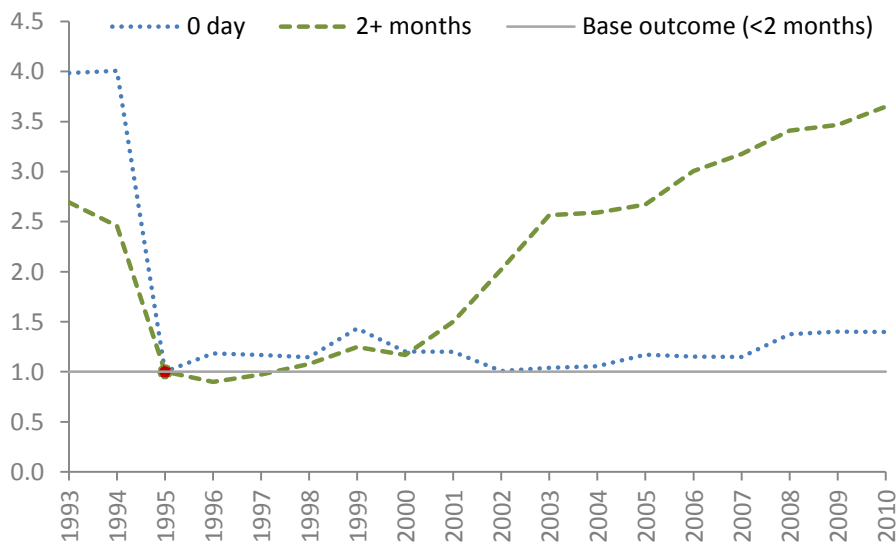
The distribution of fathers' use of parental leave within two years after child birth during each calendar-year period starting in 1993 to 2010 shows two outstanding changes (see also Figure 2). The first change emerged in 1995 when taking a leave of less than two months suddenly came to dominate, whereas a corresponding drop occurred for the tendency to take no leave at all. The second change entered the picture in 2002 when the prevalence of taking a leave shorter than two months noticeably shrank, whereas the tendency to take a leave longer than two months substantially expanded. By the end of our observation period, 45 percent of fathers used more than two months of leave, 30 percent used less than two months' leave, and the remaining 25 percent did not use a single day during the first two years after becoming a father.

Figure 2: Distribution of father's uptake of parental leave by calendar year and leave length



Source: Authors' own calculations based on Swedish register data

Figure 3: Odds ratios of father's uptake of parental leave by child birth year in Sweden, 1993-2010 (Base outcome: less than two months use of parental leave; reference year: 1995)



Source: Authors' own calculations based on Swedish register data

Results: Correlates of fathers' uptake of no and long parental leave

Table 2 presents estimated odds ratios for father's uptake of no parental leave (0 day) and long parental leave (more than two months) from the multinomial logistic regression model. The base outcome is father's uptake of less than two months' parental leave after childbirth.

First of all, our estimates for calendar year demonstrate that the parental leave reforms triggered behavioral changes in men's uptake of parental leave (see also Figure 3). The analysis shows that in 1995 when the first reserved month was introduced, two dramatic drops occurred: a distinct drop in taking no leave, and a distinct drop in taking a leave of more than two months. Instead, taking a moderately long parental leave of less than two months became the dominant pattern. In 2002 when the second reserved month was introduced, there was an increase in father's taking a leave of more than two months. Thereafter, this trend continued upwards until the end of our study period. The results clearly show that after the introduction of the second reserved month, taking a leave of more than two months during the child's first two years gained increasing prevalence among Swedish first-time fathers. We remind ourselves that as leaves can be used until the child is eight years old, and as we measure the uptake only during the first two years, it is likely that many more fathers will end up with a leave that is longer than two months in total. The trend for taking no leave at all remained relatively stable until the end of our observation time.

Estimates for the role of father's age, educational attainment and annual income also show interesting results. Relative to fathers aged 26-30, those aged above 30, and particularly those who became a father after age 35 are more likely to take no leave, *ceteris paribus*, and men who have a child before age 25 have significantly lower odds of taking a long leave. The very young fathers might not have established themselves well in the labor market yet, which may have constrained their odds of taking long parental leave. In contrast, a minority of fathers at the advanced ages may have become less willing to change their orientation towards family and working life so that they refrain from taking any parental leave at all.

Table 2: Odds ratios for father's uptake of parental leave in Sweden, 1993-2010 (Base outcome: less than two months of parental leave)

	0 day		2+ months	
Woman's age				
15-25	1.04		1.05	
26-30	1		1	
31-35	1.09	***	1.00	
36+	1.24	***	0.89	**
Man's age				
15-25	1.07	*	0.89	***
26-30	1		1	
31-35	1.16	***	1.12	***
36+	1.40	***	0.98	
Woman's education				
Below secondary	1.28	***	1.11	**
Secondary	1		1	
Tertiary _2 years	0.97		1.08	**
Tertiary 2+ years	0.93	**	1.99	***
Man's education				
Below secondary	1.28	***	1.04	
Secondary	1		1	
Tertiary _2 years	0.97		1.04	
Tertiary 2+ years	1.08	**	1.67	***
Woman's income				
Very low	1.57	***	2.02	***
Low	1.24	***	1.37	***
Middle	1		1	
High	0.94		1.23	***
Very high	1.03		1.71	***
Man's income				
Very low	4.76	***	0.80	***
Low	1.83	***	0.92	**
Middle	1		1	
High	0.90	***	0.95	
Very high	1.22	***	0.79	***

Table 2: Odds ratios for father's uptake of parental leave in Sweden, continued

	0 day		2+ months	
Residence				
Metropolitan area	1.35	***	1.35	***
Suburb to metropolitan area	1.15	***	1.16	***
Big/middle-sized city or large municipality	1		1	
Industrial municipality	0.79	***	0.83	***
Rural/small/sparsely populated municipality	1.03		0.89	***
Couple's country of origin				
Both Swedish-born	1		1	
Man foreign-born	1.56	***	0.82	*
Man Swedish-born	1.25	***	1.08	***
Both foreign-born	1.76	***	0.61	***
Calendar year				
1993	3.98	***	2.69	***
1994	4.01	***	2.45	***
1995	1		1	
1996	1.18	***	0.90	
1997	1.17	**	0.97	
1998	1.14	*	1.08	
1999	1.43	***	1.25	***
2000	1.20	***	1.17	**
2001	1.20	***	1.50	***
2002	1.01		2.02	***
2003	1.04		2.56	***
2004	1.05		2.59	***
2005	1.17	**	2.67	***
2006	1.15	**	3.01	***
2007	1.15	*	3.18	***
2008	1.38	***	3.41	***
2009	1.40	***	3.47	***
2010	1.40	***	3.65	***
_cons	0.18	***	0.17	***
Number of obs	51,287			
LR chi2(90)	15491			
Prob > chi2	0.00			
Pseudo R2	0.14			
Log likelihood	-48195.60			

Source: Authors' own calculations based on Swedish register data

A man's educational attainment plays a significant role in determining his parental leave length. In line with our descriptive findings, the main effects model shows that men with the lowest educational attainment (below secondary education) have 28 percent higher risk of taking no leave at all than men with secondary education. On the other end of the spectrum, the highest educated men (with more than two years of tertiary education) have 67 percent higher odds of taking an extensive leave of more than two months, as compared to those with secondary education. Higher education may be related to attitudes in favor of gender equality and father involvement, but also to less labor market constraints in taking long leave and stronger bargaining positions in relation to employers.

Educational attainment is also an important indicator for one's earnings potential. As the parental leave benefit is related to previous employment and earnings, the contrast between low and high educated men may to some extent be related as well to variations in the perceived costs of taking leave. The estimates for the link of man's actual earnings to his leave taking provides some support for this assumption. Relative to the middle-income earners, the lowest income earners have nearly five times higher odds of taking no leave. Top earning men also have higher odds of using no leave. The relationship between men's income and taking a leave longer than two months shows an inverted U shape. The middle-income earners are at the forefront, whereas men with the lowest and highest earnings are less likely to take a long leave.

These results have several implications. The high odds by low-income men of taking no leave, and their low risk of taking extensive leave are likely related to their economic restrictions. Some of them may not be eligible for the earnings-related benefit, some others might need to work for the income they have rather than live on the 80% income compensation from the leave program. The somewhat lower uptake of extensive leave by men with top earnings may be because they consider their labor market rewards more important than the opportunity to care for their children. They are also likely to be negatively affected by the ceiling in the income replacement of the parental leave program.

The estimate for the geographic factor, the place of residence when becoming a parent, shows that men's likelihood of taking no or extended leave is higher for couples who reside in any of the three metropolitan areas of Sweden. It appears that Stockholm, Göteborg and Malmö allow for a larger diversity in life styles than those that are dominant in average Sweden.

Our estimates for couple's country of origin manifest differences in parental leave use between Swedish- and foreign-born fathers. Compared to a Swedish-born man with a Swedish-born partner, a foreign-born man with a foreign-born partner has a 76 percent higher odds of taking no leave. In families with mixed origin, a foreign-born man with a Swedish-born partner is more likely to take no leave than a Swedish-born man with a foreign-born partner. These findings are mirrored by the findings for taking extended leave. Swedish-born fathers with either a Swedish-born or foreign-born partner are more likely than foreign-born men to take long leave. Foreign-born men with a foreign-born partner are the least likely to take extensive leave. To some extent, these findings may reflect the impact of higher labor market uncertainties of foreign-born men (Lundström and Andersson 2012). To some extent they may reflect differences in attitudes towards gender equality that stem from exposures to different normative environments.

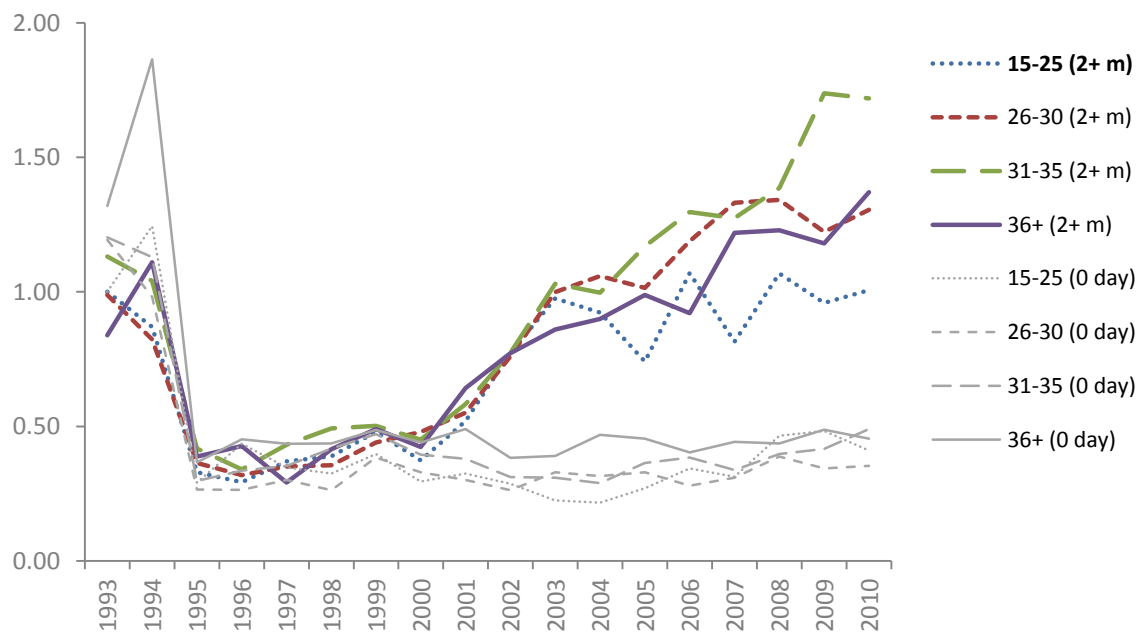
Estimates for the control variables also show interesting results. The effect of the mother's education on the father's uptake of parental leave is similar to that of men's own educational attainment. It is visible in that low educational attainment of women correlates with men's higher odds of taking no leave, whereas women's higher educational attainment promotes men's longer parental leave. However, the influence of women's income is different from that of men's. In particular, both the depressed and the very high earnings of women is associated with men taking extended leave. In addition, low earnings of the mother are related to a high odds of the father to take no leave at all. These results can be interpreted in different ways. The link of women's low earnings with men's high odds of taking no leave may reflect a situation where the mother has a very weak attachment to the labor market and little motivation to return fast to work and share the leave with the father. At the same time, some of these women may have so low income-replacement levels that it stimulates the father to take very long leave instead, in situations where only he is entitled to generous benefits from the leave program. In contrast, women with very high earnings have stronger incentives than other women to return to work relatively fast. Their career might suffer if they spend too long time out of the labor market and in these cases, it is rational for the couple to let the father take a longer leave than what is usually the case.

Results: Forerunners and laggards in father's uptake of long parental leave

In order to demonstrate changes over time in fathers' uptake of parental leave across socio-demographic sub-groups, we estimate interactive terms of each and one of our main explanatory variables and the calendar year variable. Figure 4 presents the over-time changes in father's extended parental leave by age group of fathers. It shows that the relative trends for different age groups were almost identical during the early period in 1993-2002. However, clear differences emerged thereafter. In particular, the youngest fathers seem to be lagging behind in the developments towards increasing use of extended parental leave. It may be that young people's less stable employment situation make young fathers in particular less prone or able to follow the trend towards increasingly long leaves.

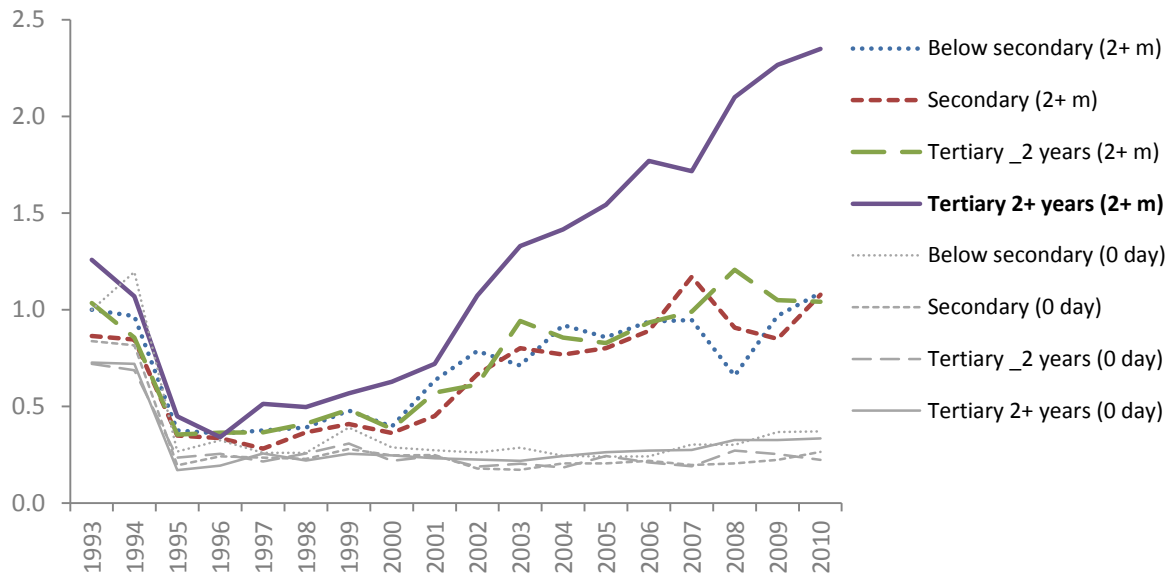
This and the following diagrams also display the changes over time in the odds of taking no leave at all (see soft grey lines at the bottom of the diagram). When compared to the absolute levels of odds differences between categories of fathers taking extended leave differences in odds appear minor. This concerns differences in odds between calendar years as well as differences between different age groups of fathers. The same picture arises in many of the remaining graphical presentations in Figures 5-8.

Figure 4: Interactive effect of father's age and calendar year, Sweden 1993-2010 (Base outcome: less than two months of parental leave; reference category: 1993, age 15-25)



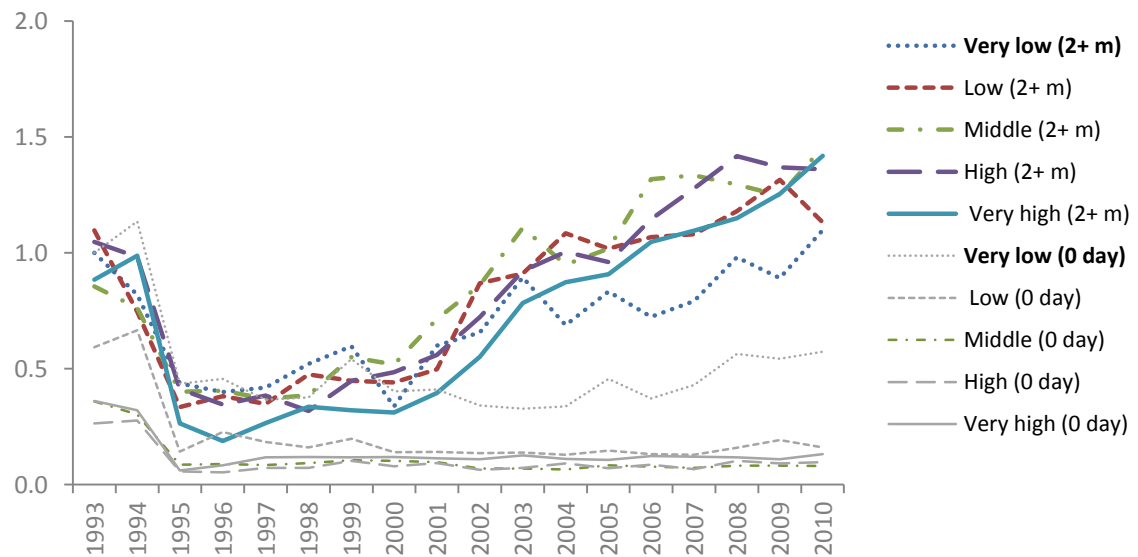
Source: Authors' own calculation based on Swedish register data

Figure 5: Interactive effect of father’s education and calendar year, Sweden 1993-2010 (Base outcome: less than two months uptake of parental leave; reference category: 1993, below secondary)



Source: Authors’ own calculation based on Swedish register data

Figure 6: Interactive effect of father’s annual income and calendar year, Sweden 1993-2010 (Base outcome: less than two months uptake of parental leave; reference category: 1993, very low income)



Source: Authors’ own calculation based on Swedish register data

Figure 5 presents the interactive effect of father's educational attainment and calendar year. It demonstrates that the highest-educated men have higher likelihood to take long parental leave. However, in the beginning of the study period the differences towards other groups of fathers were relatively small. Over time these differences have increased substantially as the highly educated fathers have become much more likely than others to take extended leave. Evidently, they may be seen as forerunners in recent family-demographic change. The odds for other groups of fathers to take long leave did not differ much but increased steadily over time. The odds of taking no leave did not change during the study period.

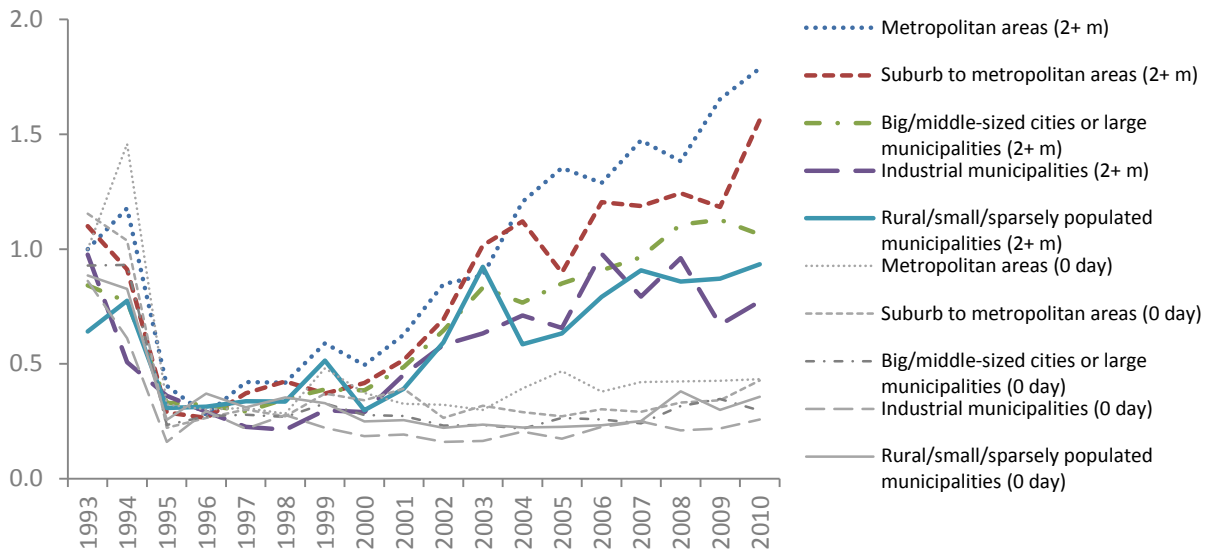
The interaction term of father's income and calendar year is shown in Figure 6. Before 2002, differences by income categories of fathers to take extended leave were small. After that, the lowest income quintile started to lag behind in the generally increasing probabilities for fathers to take long leaves. In addition, the probability of this group of fathers to take no leave was much higher than for other groups. In later years the differences towards other income categories of fathers became even larger. Being laggards in recent trends, this group had a distinctively different pattern than the other income categories, underlying the case that economic considerations may sometimes matter for parents' uptake of parental leave.

Figure 7 captures the interactive effect of the municipality of residence at childbirth and calendar year. Like in the previous diagrams, we note relatively small differences in behavior between socio-demographic groups during the first ten years of observation. Again, a clear divergence in trends occurred during the new century. Men living in metropolitan municipalities with their surrounding suburbs substantially increased their propensity to take long parental leave. In comparison, the practice of extended parental leave by fathers in rural, small or sparsely populated areas increased at a much slower pace. However, fathers in metropolitan municipalities also had a slightly higher probability of using no leave, indicating a polarized pattern for this geographical category.

Finally, Figure 8 shows the interactive effect of the couple's country of origin and calendar year. In line with our findings from the main effects model, it is clear that couples where both parents are foreign-born stand out by having the lowest odds of fathers taking extended leave. What is more, this difference opened up at the beginning of the new century when the odds for fathers to take long leave increased for all family types except for families

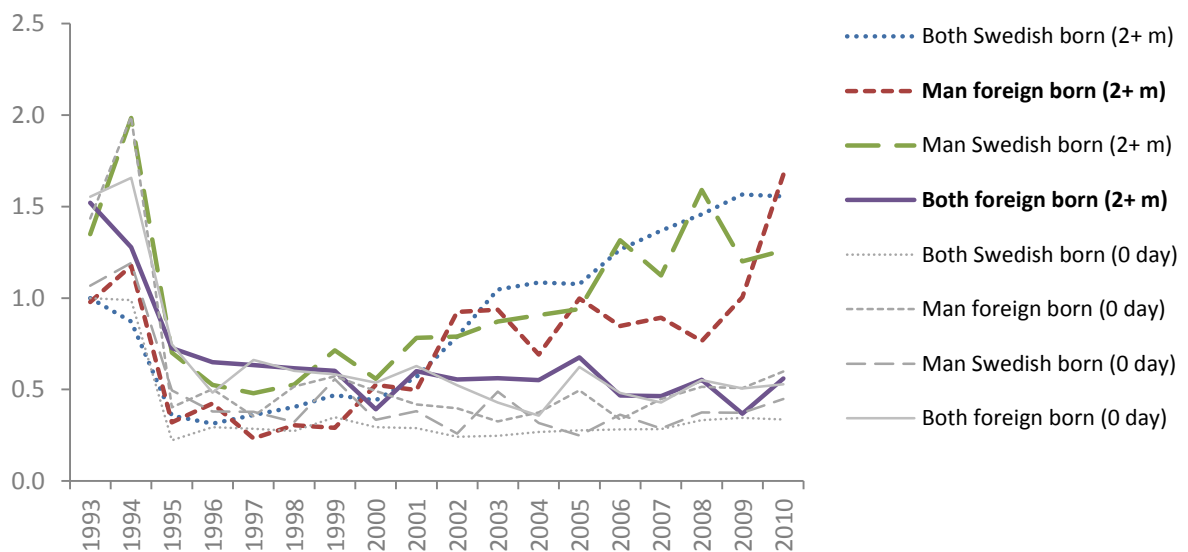
of two foreign-born parents. Evidently, this group appears increasingly different in terms of its leave use pattern.

Figure 7: Interactive effect of couple’s residence at childbirth and calendar year, Sweden 1993-2010 (Base outcome: less than two months uptake of parental leave by father; reference category: 1993, metropolitan area)



Source: Authors’ own calculation based on Swedish register data

Figure 8: Interactive effect of couple’s country of origin and calendar year, Sweden 1993-2010 (Base outcome: less than two months uptake of parental leave by father; reference category: 1993, both Swedish-born)



Source: Authors’ own calculation based on Swedish register data

Conclusion

This study examined how fathers' uptake of parental leave has changed over time in Sweden in the decades before and after the turn of the new century. In particular, we studied changes in behavior across different socio-demographic groups of fathers. With our study design, we aimed at identifying possible forerunners and laggards in new patterns of leave use over time and in relation to the reforms in 1995 and 2002 that provided additional time ear-marked for fathers' (and mothers') parental leave.

Our descriptive statistics showed that the reservation of the first "daddy month" in 1995 was followed by a substantial decrease of taking no leave and a notable increase of taking a leave of less than two months. The introduction of the second reserved month in 2002 was accompanied with a decrease in taking a leave of less than two months and an increase in taking more extended leave. Our multivariate regression results for the calendar year variable is consistent with these descriptive statistics.

To study how the uptake of parental leave has varied over time for different sub-groups of fathers, we ran interaction models between calendar year and fathers' different socio-economic and demographic characteristics. The results from our multivariate analyses show that the increase in leave use from 2002 onwards is shared by most categories of fathers in Sweden, but we also found distinct patterns in terms of forerunners and laggards in the new trend of increasing uptake of extended parental leave. To start with the forerunners, we note that highly educated men increasingly often used extended leaves and that the difference versus other educational categories increased over time. Another forerunner group was men in metropolitan areas, but they also showed a polarized pattern where some of them were more likely to take no leave at all.

At the other end of the spectrum, there are a few groups that have been falling behind as laggards in the general trend towards increased leave use of fathers. The youngest fathers had a depressed probability of taking extensive leave, when we control for other factors than age, with the difference towards older first-time fathers increasing over time. In addition, differences increased between fathers with the lowest incomes and other income categories of fathers. Those with the lowest incomes had much higher odds of using no leave and also lagged behind in the general trend of increasing use of extended leave. The last category that was falling behind in the trend of taking more extended leave was that of foreign-born fathers with a foreign-born partner. The foreign-born may have been restricted by challenges in

getting established at the labor market, they may also share other gender norms than those prevailing in the general population of Sweden.

The emergence of multiple inequalities in parental leave use of fathers in Sweden is a cause for concern. A pattern has emerged where better-educated, Swedish-born fathers, and residents in metropolitan areas are the forerunners in family change based on a more gender equal division of parental leave. Other groups are lagging behind: The groups who use less leave, i.e., young fathers, low-income earners, and foreign-born men perhaps do so because they face more restrictions economically or are restricted by other factors in the labor market. The findings highlight the intersectionality of our approach. Future research need to follow up on whether previous patterns of relatively homogenous social change have disintegrated into new inequalities in social welfare. Finally, a third reserved month for fathers (and mothers) was introduced in 2016. This makes it crucial to follow whether this policy change may fuel or dampen the trend of increasing inequalities that we have uncovered. If the current situation of partly unintended policy effects is maintained, we need to ask ourselves what policy measures are needed to also reach the fathers who now fall behind in Sweden's ongoing family-demographic change.

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