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Father's parental leave timing: promotion opportunities and workplace norms



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ABSTRACT

Paternity leave reforms have consistently increased fathers' leave-taking but have done little to reduce gender gaps in the labor market. We study a Finnish paternity leave reform that made the use of paternity leave more flexible over the child's first years but did not increase the number of earmarked days. Using this reform as a natural experiment, we explore its effects on fathers' leave take-up and labor market outcomes for parents. While we find that the reform significantly increased fathers' take-up of parental leave without the mother, we observe no effect in the labor market outcomes for parents. We further examine fathers' leave-taking patterns that could explain the negligible impact on gender gaps. We show that fathers use their parental leave during holiday periods,

such as the summer months and the end of the year. Fathers with a higher predicted promotion probability respond less to the reform, take less additional leave, and slightly increase the share of leave taken during holidays. By contrast, there is no significant difference in the take-up responses at workplaces with stronger paternity leave-taking norms.

JEL Codes: J13, J16, J18, J22, J31, M51

Keywords:

paternity leave,
parental leave reform,
leave timing, gender inequality,
labor supply

1 Introduction

The unequal consequences of parenthood on men and women contribute significantly to gender inequality in the labor market (Cortés and Pan, 2023; Kleven et al., 2019, 2025). To address these disparities, governments have implemented various policies aimed at helping women balance work and family responsibilities (Olivetti and Petrongolo, 2017). Specifically, several policy reforms have aimed to incentivize fathers to take up more family leave. For example, within the European Union, since 2019 member states have been mandated to increase fathers’ earmarked family leave to a minimum of two months with adequate compensation, which is a substantial reform for most countries (European Union, 2019).

The central idea behind increasing fathers’ leave taking is that it could trigger enduring changes in how unpaid and paid work is divided between mothers and fathers, and ultimately reduce labor market inequalities between genders. However, existing evidence shows that paternity leave reforms, whether by strengthening financial incentives to stay home or by expanding non-transferable leave quotas reserved for fathers, often increase fathers’ uptake of parental leave yet generate little to no change in gender inequalities in paid work or caregiving (Canaan et al., 2022).

Recently, growing attention has turned to understanding why increased paternal leave-taking has not translated into meaningful reductions in gender inequalities. Andresen and Nix (2026) show that fathers’ leave-taking is more pronounced during summer months or when the child is already in formal care. González et al. (2026) find that paternity leave spikes during the FIFA World Cup. These results suggest that fathers do not take independent responsibility for child care, and that paternity leave is sometimes even used for leisure activities, which obstructs the equalization of care. Our paper offers a nuanced analysis of leave-taking patterns among fathers, which reflect but also reinforce the sticky gender roles in child care that hamper improvements in gender equality in the labor market.

We complement the results from Norway in Andresen and Nix (2026) by showing that also in Finland, fathers tend to take leave more often during the holiday months. However, we extend the analysis by studying the role of the workplace, showing that in certain industries and occupations fathers’ tendency to take leave during the holidays is more prevalent. Importantly, the reform we study changed the timing flexibility of leave rather than its generosity or the length of the earmarked quota, which lets us isolate how fathers reschedule leave when given more freedom over *when* to take it. The industries and occupations that display this behavior align with what Goldin (2014) calls “greedy jobs”, which are characterized by high returns to long work hours and have been linked to particularly large mothers’ career penalties due to longer caregiving-related breaks. Our evidence suggests that fathers in these jobs, even when taking relatively short

paternity leave spells, time their leave strategically toward holiday periods, consistent with concerns about career costs, but also potentially reflecting preferences and norms that favor continuous work.

Our empirical analysis draws on high-quality administrative data that permit us to observe the exact leave spells. The data can also be combined with a rich set of background variables and comprehensive information on fathers' careers and workplace. Our empirical design exploits a paternity leave reform from 2013 that was introduced unexpectedly late in 2012 and the eligibility for the reformed rules was determined by the child's due date. This creates a natural regression discontinuity (RD) design that compares parents just after the cutoff (eligible) to those just before (ineligible), using a three-month window around the threshold. To account for potential seasonality around the cutoff months, we use the same window in the previous year as a comparison group and estimate a difference-in-discontinuities (RD-DD) model, following related work such as Avdic and Karimi (2018).

While earlier studies on paternity leave have mostly studied its introduction or extensions, the Finnish reform differs in design. By 2013, Finland had already established an earmarked paternity leave, where fathers could take up to nine weeks of leave. However, before 2013 the use of these nine weeks was rather restricted. Three weeks were intended to be taken simultaneously with the mother, while the remaining weeks were conditional on the father taking the last two weeks of shared parental leave (which lasted 26 weeks). These six weeks of independent leave (2+4 weeks) had to be taken as a single continuous spell; however, fathers could postpone the leave until the child turned one and a half years old. In 2013, the policy was amended to allow the nine weeks of leave to be freely taken at any time before the child turned two years old and the independent leave could be taken in more than one spell. Altogether, the reform made the use of paternity leave much more flexible.

We present the results in two parts. First, we examine fathers' take-up responses to the reform, distinguishing between leave taken *with* the mother (both parents on parental leave during the child's first months) and leave taken *without* the mother (when the mother is not on parental leave), which could also be used in the child's second year. The reform's intention was to increase fathers' independent leave taking, that is, the spells taken after the mother has returned to work. We find that the take-up of leave without the mother increased by 14 percentage points from the control group mean of 40% (a 36% relative effect), and the duration of this leave increased on average by about 8 workdays from the control group average of 13 workdays (a 58% relative effect). At the same time, there was a reduction in the take-up of leave with the mother, around 7% relative to the control mean. For mothers' and fathers' labor market outcomes (labor force participation and earnings) 0–9 years after childbirth, we conclude that there are no discernible effects on either labor market outcomes or within-household earnings inequality.

In the second part of the paper, we analyze fathers’ leave timing over the calendar year and study how its use varies across industries and occupations. We observe that fathers tend to take parental leave during the summer months, especially in July, which is the main holiday month in Finland, and at the end of the year. Before the reform there was only one spike in take-up, in July; with the increased flexibility of use after the reform, the July and end-of-year spikes also recur in the following year. The pronounced seasonality in fathers’ leave-taking, concentrated in holiday months, suggests that much of this leave does not reflect independent caregiving. We use this observation to construct a holiday clustering score based on the pre-reform behavior among fathers. We classify industries and occupations as high holiday clustering if fathers in them are more likely to take their parental leave during the holiday period (July). We show descriptive evidence that fathers who work in high holiday clustering sectors pre-reform, e.g. workers in management consulting, R&D, programming, are more likely to use their leave during holidays after the reform—consistent with “greedy jobs” by Goldin (2014). Adding firm fixed effects reduces these coefficients substantially toward zero, showing that the pattern reflects differences between firms rather than holiday clustering group itself.

The previous finding makes it worth looking inside the firm and studying how fathers within the same firm adjust their behavior and why. We find that fathers with a higher promotion probability are less likely to take independent paternity leave after the reform, and take shorter leaves when they do. Among these fathers, there is also a small increase in the share of leaves taken during holiday months. We also study workplace norms towards paternity leave-taking, defined by using information on fathers’ paternity leave taking in the pre-reform period in the same firm. The reform response does not differ significantly between firms with stronger and weaker paternity leave-taking norms.

From a policy perspective, our results show that the goal of reducing gender gaps in care-taking is hard to achieve when the flexible rules in parental leave systems reallocate fathers’ leave to time periods where care responsibilities are likely shared instead of taken independently. Our results also show some unintended consequences of this policy reform, as we find that some immediate birth-related leave together with the mother was postponed to a later time. Given that a father’s presence at home during a newborn’s first weeks is likely beneficial for the well-being of the family (Persson and Rossin-Slater, 2024), and paternity leave has been shown to reduce mothers’ long-run work disability (Fontenay and Tojerow, 2026), this reallocation of leave taking was likely not intended by the policy maker.

We contribute to several strands of the literature. First, we extend research on the take-up and labor market responses to mandated paternity leave by studying a reform that altered the degree of flexibility with which parental leave days can be taken. Earlier research has widely studied the extensions and introduction of paternity leave days on the take-up decisions and on the division of child care responsibilities (Cools et al., 2015; Dahl

et al., 2014; Ekberg et al., 2013; Farré and González, 2019; Hart et al., 2022; Kotsadam and Finseraas, 2011; Pailhé et al., 2024; Patnaik, 2019; Tamm, 2019). These studies typically show that giving fathers more paid family leave does increase the take-up of these leaves. Ziegler and Bamieh (2023) study, in the Austrian context, how financial incentives on the one hand and scheme flexibility (increasing fathers’ freedom to choose between different durations of leave) on the other affected take-up decisions. They find that higher flexibility was more effective than financial incentives, as fathers rather use shorter leaves and return to work earlier. Our paper studies a different type of flexibility, in which the time window during which leave can be taken increases (from 9–17 months to 9–23 months after birth), and we show that this type of reform is also effective in shifting take-up decisions. Yet, consistent with earlier studies, we find null effects on parents’ labor market outcomes over the long run.

We also add to the literature aiming to understand *why* paternity leave does not translate into removing gender gaps in labor market outcomes. While our timing results echo the findings from Andresen and Nix (2026) and González et al. (2026), who show that the timing of leaves suggests that paternity leave is either used as leisure or fails to increase independent care, we provide a detailed analysis of the work-related characteristics underlying these timing effects. Our findings are consistent with tournament-style competition within firms (Johnsen et al., 2024): fathers with higher promotion prospects respond less to the reform, and particularly in sectors with stronger holiday clustering, fathers may minimize perceived career costs by taking leave during periods when many coworkers are also away. These results are relevant for policy making, in that they point to the limits of mandate-based reforms when workplace competition and expectations of continuous availability, or perceptions of such, remain unchanged.

We also relate to literature studying how parental leave decisions depend on coworkers’ behavior (Dahl et al., 2014; Welteke and Wrohlich, 2019; Dottori et al., 2024; Casarico et al., 2025). Rather than estimating peer effects directly, we use pre-reform leave-taking among fathers in the same firm as a proxy for workplace norms. In doing so, we connect to a broader literature on gender norms and fathers’ leave. Paternity leave reforms and policy can shift attitudes on fathers’ leave taking (Kleven et al., 2026). Attitudes and norms can also operate through a workplace and differ by occupations and industries. For example, Schmieder et al. (2024) find that fathers who seem to have been taken long parental leave are penalized in hiring decisions in the male-dominated occupations but not in female-dominated occupations. While the industry and occupation channels have been linked consistently to mothers’ careers (Goldin, 2014; Cortés and Pan, 2023), we highlight that similar job characteristics also shape fathers’ behavior through timing of the leave taking.

2 Institutional setting: Parental leave in Finland

Until January 2013,¹ the Finnish parental leave scheme included 17.5-week maternity leave, 5 weeks of which had to be taken before the due date, 3 weeks of paternity leave for fathers which could be taken while the mother was on her leave (usually around childbirth), and 26 weeks of parental leave, which the parents could share between them as they wished, and which had to be taken immediately after maternity leave. On top of the 3 weeks of paternity leave, fathers were entitled to an additional 4 weeks of leave if they took the last 2 weeks of shared parental leave. During this leave period, i.e., leave without the mother, fathers were meant to take the main responsibility for child care.

During parental leave (maternity leave, paternity leave or shared parental leave), parents with above-threshold earnings receive an earnings-related benefit. There is no upper ceiling for the benefit, but the replacement rate is decreasing in income. For fathers, the average replacement rate is approximately 70%. For comparison, according to the OECD family database, eight OECD countries offer leaves specifically for fathers with a replacement rate of 50% or more (OECD, 2022). Parents without any previous earned income receive a flat rate parental benefit. After paid parental leave, around the time the child is about 10 months old, families can either take their child to ECEC (early childhood education and care), or use home care allowance to take care of their child at home until the child turns 3 years old. The amount of home care allowance is about a half of the minimum (flat-rate) parental benefit. All parental leave spells are job protected which means that workers taking the leave are guaranteed to be able to return to the job they had pre-birth.

In January 2013, the link between shared parental leave and fathers' earmarked leave was abolished, and fathers no longer had to use the last 2 weeks of shared parental leave to be eligible for the 4 additional weeks of paternity leave. Fathers had a designated leave of 6 weeks to be used after shared parental leave and they still had 3 weeks paternity leave that could be taken together with the mother's leave, at most in 4 separate spells, but its flexibility was increased so that the days could also be transferred to a later phase, and, for example, combine it with the 6-week leave taken after the parental leave period. The flexibility of fathers' leave was further increased by extending the period until when fathers could use their leave from when the child was 1.5 years to when they turned two. Consequently, before and after the reform, fathers had 9 weeks of leave designated to them but the reform added increased flexibility on when the leave could be taken. After the reform fathers' independent leave could be divided into two spells at the most, while before the reform, independent leave had to be taken in one spell.

It is unlikely that parents could anticipate when the reform would take effect. The

¹Note that the parental leave system underwent a complete overhaul in 2022. Consequently, the description here does not reflect the current state of the Finnish parental leave system.

reform was announced relatively late, and the proposal was given to the Parliament in September 2012, with press releases only later that year. Eligibility for the new scheme was determined by the start of the family’s parental leave (maternity leave) period: families whose leave started on the 1st of January 2013 were covered by the new rules.

3 Conceptual framework

Earmarked leave for fathers has been driven by the aim to increase fathers’ involvement in childrearing and reduce gender specialization in household-related activities within the family. Non-transferable quotas can push fathers and families into more equal division of childrearing, during baby’s first years and in childhood, which has potential to reduce statistical discrimination against women in the labor market. Change in household specialization (Patnaik, 2019) or gender norms (Kleven et al., 2026) requires fathers’ independent care taking of their offspring. Thus, we hypothesize that the within-year timing of the leave-taking matters for whether we can expect any gender equalizing effects in the labor market. When leave is taken during holiday periods, it is more likely that the mother or other family members are on vacation as well, which can mean that there is little change in the father’s care-responsibilities.

The timing of paternity leaves towards holiday periods can also be linked to workplace characteristics, such as norms on suitable behavior for men as fathers, or real or perceived career costs of being absent from work for longer periods. The male breadwinner model can induce families to take fathers’ leave when more colleagues are away from work, while this behavior simultaneously can reduce career costs in the form of lost opportunities within the workplace or shown dedication. Lazear and Rosen (1990) suggested that wage gaps between men and women are driven by differences in the probability of getting promotions. Women, who have more often career interruptions, face lower probability of career progression compared to similarly qualified men. However, the same mechanism within men in the workplace can explain timing and take-up decisions. Fathers’ leave decisions can be also independent of career costs and instead reflect workplace norms towards men’s leaves. Coworkers’ leave-taking signals on acceptable behavior. Previous literature studying motherhood penalties (e.g., Bütikofer et al., 2018; Goldin, 2014) has shown that certain industries are more greedy than others, so we could expect that for fathers’ paternity leave taking there are heterogeneities in take-up and timing by industry and occupation, and by firms.

Given both the leisure complementarities between spouses and the potential implicit career costs found in the literature, we hypothesize that the reform affected both the take-up and timing differently for the fathers in different occupations and industries. First, we expect that increasing flexibility increases fathers’ leave taking in general. Second, we expect that fathers’ leave taking is more pronounced during holiday periods because

of the leisure complementarities. Third, we expect that this clustering around holiday periods is stronger for fathers working in firms in industries and occupations with higher perceived career costs, either in the form of perceived individual career progression or through workplace norms.

4 Data and empirical methodology

4.1 Data

We use the Lape II dataset, which was produced by the Social Insurance Institution of Finland (Kela). The data contain the due dates of pregnancies and all maternity leave, paternity leave, and parental leave spells taken by parents, including information on the start and end dates of the spells as well as the amount of paid benefits. The data cover the years 2000-2016 and correspond to a sample of 70% of all births in Finland during that time.

With the Lape II data, we define three different paternity take-up variables: fathers' overall take-up of any parental leave, leave take-up together with the mother during her maternity or parental leave (maximum of 3 weeks), and take-up without the mother, meaning the mother is not receiving any parental leave benefits at the same time². The aim of the reform was to increase especially the independent child care of fathers, and so the outcome of interest is especially the reform's effects on the leave type without the mother.

The Lape II dataset was merged with Statistics Finland's register data (FOLK-datasets). These data contain labor market variables, such as earnings and employment, as well as information on the occupation and industry, as well as firm id for the employer. Earnings are defined as the sum of annual income from wages and self-employment. The source for earnings data is the tax register. Employment is defined as the main activity status during the last week of the year. The latest available year in the data on labor market outcomes is 2021. Consequently, we can study the effects of the parental leave reform for up to 9 years starting from 2013.

Our estimation sample consists of families in which the father can be linked to the mother and the newborn child, so that leave taking and labor market outcomes can be observed for both parents. We focus on cohabiting parents. Table 1 shows some descriptive statistics of mothers and fathers 1 year before the discontinuity date. Compared to mothers, fathers were, on average 2.2 years older, less educated, and they had a higher employment rate. Fathers' annual earnings were €14,000 higher than that of the mothers. We measure earnings inequality within household by the father's share of earnings per

²Leave without the mother includes leave designated to the father (after shared parental leave) and shared parental leave. However, only very few fathers (less than 4 %) use shared parental leave after the 2013 reform (Saarikallio-Torp and Miettinen, 2021).

total household earnings. Descriptive information shows that fathers' share was 63% of the couple's earnings in the end of 2011.

4.2 Regression discontinuity approach

We use a difference-in-discontinuities design (RD-DD) to study the effects of the 2013 parental leave reform in Finland. That is, we apply a regression discontinuity design (RDD) around the cutoff for the year when the reform happened, and the year before as a control.³ The RDD uses a defined policy threshold as a source of exogenous variation to create treatment and control groups to identify causal effects. The control year (second difference) is used to remove seasonal differences between the treatment and control group.

The due date of the pregnancy is used as the running variable. The law came into effect on the 1st of January 2013. It stated that families that started their parental leaves on the 1st of January 2013 or later were eligible for the new parental leave scheme. Since mothers have to start their leave 5 weeks prior to the due date, the actual date threshold for regression discontinuity is set on the 6th of February. The due date is decided using medical criteria at the mother's first prenatal visit. Therefore, parents are unable to modify the due date in order to be eligible for the new parental leave scheme. Figure B2 in the Appendix shows no discontinuity in the number of births around the cut-off date, providing evidence of no manipulation of the due date.

The following regression is estimated:

$$Y_{it} = \alpha + \beta_1(R_{it} \times T_{it}) + \beta_2 R_{it} + \beta_3 T_{it} + \gamma_1 f(d) + \gamma_2 f(d)T_{it} + \gamma_3 f(d)R_{it} + \gamma_4 f(d)(R_{it} \times T_{it}) + \delta X_{it} + \epsilon_{it} \quad (1)$$

where Y_i is the outcome variable (leave taking, earnings, employment, or father's earnings share) for individual i . Outcomes are measured 1-9 years after childbirth and 5-0 years before childbirth. R_{it} is the reform indicator that takes value one if the due date is after the 6th of February, and zero otherwise. T_i is the due date cohort indicator that takes value one if the due date is around the 2013 cutoff date. d is the running variable. The coefficient of interest is β_1 which represents the interaction between the treatment and due date cohort indicators. X_i is a set of control variables we include to add precision in our preferred specification that includes educational status, age, mother tongue, region, and child birth order; and ϵ_i is the error term that is clustered at the individual level. The observations are weighted with a triangular kernel and use a 90-day bandwidth.

Table 1 presents the sample and control averages, and the difference between the treatment and control groups at the discontinuity date for a set of background variables in the year 2011. For uniformity, a 90-day bandwidth was used. From all the variables, we

³For example, Avdic and Karimi (2018), Olafsson and Steingrimsdottir (2020), and Persson and Rossin-Slater (2024) use a similar identification strategy.

notice that the differences in observables around the cut-off are mostly small and statistically insignificant. Only the parents' age, father's employment, and mothers' earnings are statistically significant. In our preferred specification we control for fathers' age, as well as other control variables, however, all the results are robust to excluding control variables.

Table 1: Descriptive statistics and balance of variables between treatment and control group

	Sample average	Control average	Diff
Fathers			
Age, years	32.76	32.88	0.24***
Tertiary (0/1)	0.47	0.47	0.01
Employed (0/1)	0.88	0.87	-0.01**
Earnings, Eur	34,254.70	34,163.61	-180.07
Disposable income, Eur	28,010.79	27,825.84	-365.61
Finnish (0/1)	0.88	0.88	0.00
Swedish (0/1)	0.05	0.05	-0.00
Mothers			
Age, years	30.50	30.63	0.26***
Tertiary (0/1)	0.57	0.57	-0.00
Employed (0/1)	0.77	0.77	-0.00
Earnings, Eur	20,412.67	20,679.32	527.06**
Disposable income, Eur	21,149.65	21,735.82	1158.66
Finnish (0/1)	0.88	0.88	-0.01
Swedish (0/1)	0.05	0.05	0.00
Couples			
Earnings share (fathers)	0.63	0.63	-0.01***
Age difference, years	2.26	2.24	-0.04
Observations	17,330	8,596	17,330

Note: The table shows in the first column the sample average of selected variables. The second column shows the average of all parents whose due date lay within 90 days before the cut off date (6th of February). The third column shows the simple difference between the due dates before and after cut off. Tertiary corresponds to the ISCED codes 6-8 (UNESCO Institute for Statistics, 2012). Earnings corresponds to the sum of wage and self-employment earnings. Finnish and Swedish correspond to the share of individuals whose native language is either of the two. Age difference measured as mother's - father's age. Data from 31st December 2011. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.3 Measuring leave timing and holiday clustering

There is clear holiday clustering in fathers' leave-taking as shown by Appendix Figure B1 which plots the percentage of leave taken by fathers over the year for fathers whose children had a due date 12 months after or before the cutoff.⁴ The most popular fathers' leave-taking month is around Finnish summer and annual holiday months. We quantify the seasonality of paternity leave taking by computing a holiday clustering score based on occupations and industries. This score enables us to classify fathers according to within year patterns typical for their occupations or sectors in the pre-reform periods, and to examine whether fathers' post-reform paternity leave take-up varies accordingly⁵. In constructing the score, we can focus only on employed fathers, for whom we can retrieve occupation and industry information. However, around 88% of fathers are employed (Table 1).

The score is constructed using the fathers from the pre-reform periods and by calculating the probability of a father taking leave without the mother during the month of July. We use the following specification:

$$Y_{it} = \sum_{j \in J} \beta_j (\text{July} \times x_j) + \psi_i + \eta_i + \epsilon_{it} \quad (2)$$

where Y_{it} is an indicator variable that takes value one if the father took leave without the mother in month t . When computing the holiday clustering score of occupations we interact a dummy for the month of July with an indicator variable x_j that takes value one if the father works in occupation j . ψ_i are due-date fixed effects and η_i are sector fixed effects when computing the seasonality of occupations and occupation fixed effects when computing the seasonality of sectors. β_j is the coefficient of interest and it captures the probability that a father in occupation (or sector) j takes leave without the mother in July, relative to other months. We construct the clustering score separately for occupations and for sectors because these capture distinct sources of leave seasonality, the task structure (occupation) and the seasonal demand (sector). We do not interact the two dimensions because the resulting occupation-by-sector cells are too sparse to estimate the July increment precisely for a large share of workers. We use these estimated increments to sort occupations and sectors into three groups using terciles in the coefficient distribution. We include only occupations and sectors with at least 300 fathers, and restrict the sample to fathers whose child's due date falls within the two years preceding the reform due date.

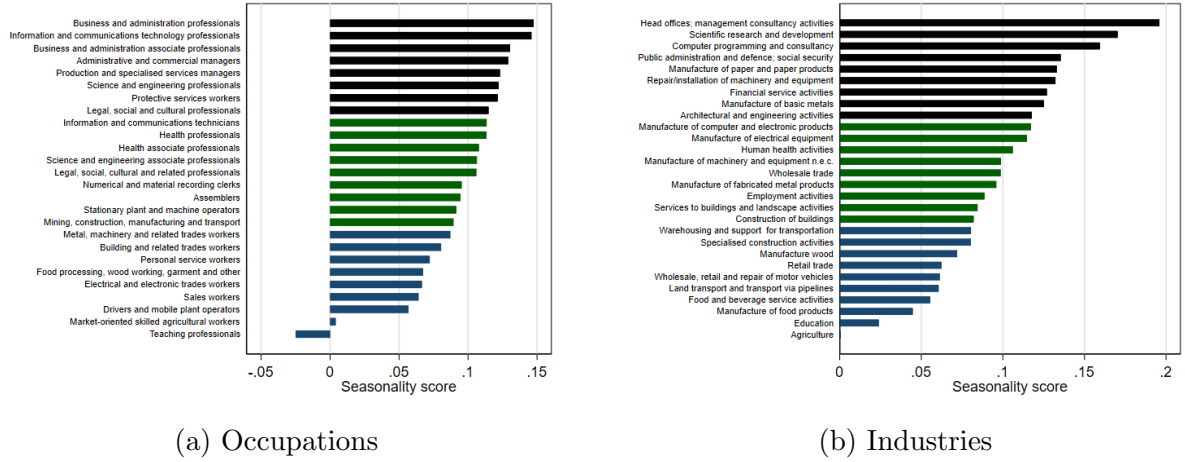
Figure 1 shows the coefficients for different industries and occupations. Sectors or occupations with the largest coefficients (in the highest tercile) are considered to be of high

⁴The control/treatment groups are defined as the due date within one year before/after the cut-off date.

⁵We omit showing the labor market outcomes by these subgroups, as there are no discernible differences.

summer clustering in fathers' leave taking, and those in the lowest tercile are considered to be of low clustering. In the highest tercile there are managers and high professionals and mostly industries that employ white-collar workers. In the lowest tercile, there are more blue-collar occupations in more labor intensive industries. We mostly compare these two opposite groups throughout our analysis. Table A1 shows descriptive statistics of fathers from low and high clustering sectors and occupations. Fathers who work in high July leave-taking occupations or sectors are older, more educated, and have higher earnings, while fathers' earnings share within couple is similar in both groups.

Figure 1: Coefficients for July take-up, by occupations and industries



Note: The figures show the holiday clustering score by two-digit occupational code (left) and two-digit sector code (right). The holiday clustering score is defined as the probability of taking paternity leave without the mother in the month of July compared to other months.

5 Results

We organize our results in three parts: First we report the reform effects for the 2013 reform increasing flexibility on the timing of paternity leave use. Second, we study the timing of leave-taking across calendar year. Third, we study firm-based channels of career concerns and workplace norms.

5.1 Effects of the 2013 paternity leave reform

As changes in the parental leave system could affect the share of fathers taking leave as well as the duration of leave, we show both margins separately for different leave types (with or without mother leave).

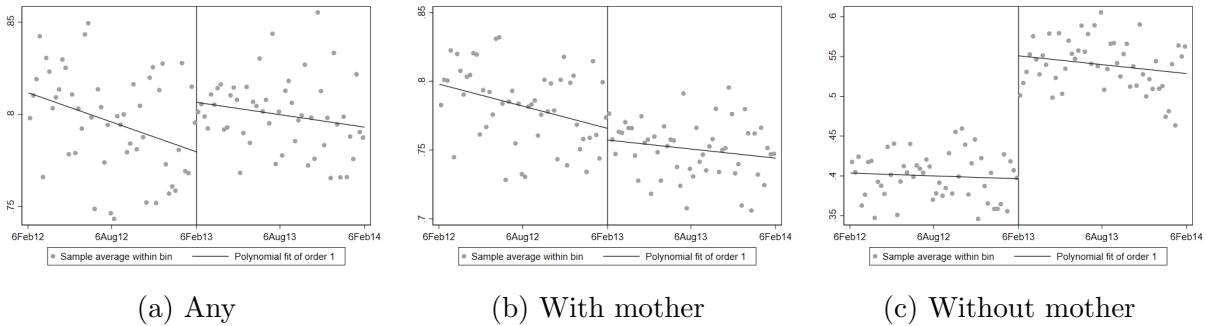
Figure 2 plots the fathers' parental leave taking by due date before and after the cut-off date, with linear fits for both sides of the cut-off. Figure 2a shows the overall total of the share of fathers taking any type of leave. The figure indicates that there is a small increase in the share of fathers who take any leave at the cut-off. Figure 2b plots only

the type of leave that is taken with the mother (during the first months of baby's life), while Figure 2c plots the share of fathers taking leave without the mother on leave at the same time. There is no noticeable effect on the leave with mothers, but there is a clear and large jump in the take-up of leave without the mother.

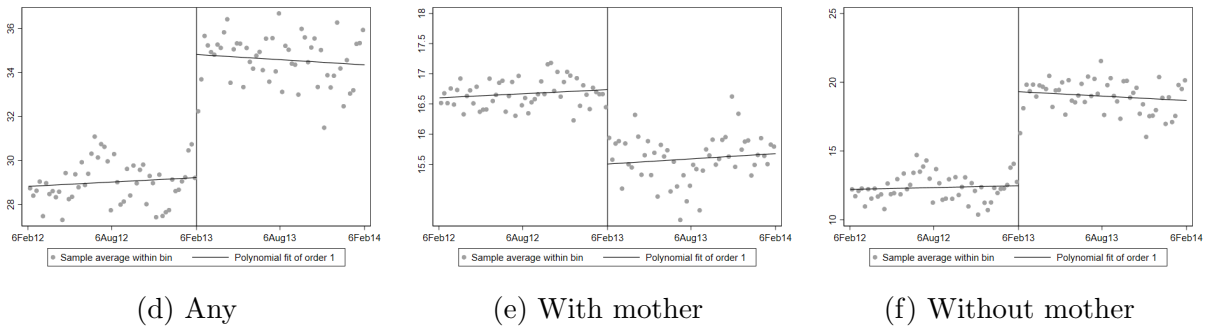
In panel B, we turn to look at duration of leave. In Figure 2d, we observe a clear jump in the total duration of leave at the cut-off. Figure 2e indicates that while there is not a large change in the absolute number of days of leave taken together with the mother, this change is negative. Most of the overall change in duration of leave comes from the without mother leave, as observed in Figure 2f where there is a large discontinuous jump around the cut-off.

Figure 2: Fathers' parental leave taking, by leave type

(A) Share of fathers taking parental leave



(B) Duration of fathers' parental leave (days)



Note: Panels display scatter plots with linear fits for outcomes within one year before and after the cut-off date (6 February 2013). Each point represents a weekly average.

To understand the effect sizes, in Table 2 we present results from running regression equation 1.⁶ Panel A shows the effects of the reform on the share of fathers taking leave, while Panel B shows the effects on the duration, in days, of the leave, conditional on

⁶The first child may have a greater influence on the parents' leave-taking behavior. As a robustness check, Table A2 in the Appendix reports the effects on the take-up and duration of leave only for first-time mothers in the sample. The results are quite similar. In general, the control group in the sample has a greater average leave duration and share of fathers taking leave when compared to the control group of the full sample. Therefore, mechanically, the relative effects of the 2013 reform on fathers' leave-taking are marginally smaller in magnitude than in the main analysis but still significant.

taking any leave. The reform did not increase the overall share of fathers taking any parental leave. However, there is a change in the timing of fathers' leaves: for leaves taken at the same time with mothers, there is a 5.4 percentage point reduction compared to the control group, while for the leave spell without mother on parental leave benefits, there is a large increase, around 14 percentage points compared to control group. As the baseline level for leave without mother is much lower than for leave with mother (40% compared to 80%), this coefficient translates into a large relative effect of 36% (compared to relative reduction of 7% for leaves at the same time with mothers).

The average duration increased by 6.7 days (Panel B), which translates into a 22% relative increase from the control average. Columns 2 and 3 present the results for different types of leaves. There was a reduction of 1.0 day in the average number of days of leave taken with the mother and an increase of 7.8 days in leave without the mother. Together these results show that while adding more flexibility in leave taking did not increase the overall share of fathers taking parental leaves, it did increase the duration of total paternity leave and shifted leave taking from child's first months towards later periods.

From policy makers' point of view, this reallocation was potentially an unintended consequence. Persson and Rossin-Slater (2024) show for Sweden that granting fathers more flexibility to be at home together with the mother in the months right after childbirth lowers the risk of maternal physical postpartum complications and improves maternal mental health. Our estimates therefore suggest that added flexibility, while increasing fathers' overall leave, may draw some care away from the window in which it yields the largest health benefits for the mother. We return to detailed analysis of the timing of these leaves in Section 5.2.

Table 2: Effects of the paternity leave reform

Panel A	All	With mother	Without mother
Share of fathers	(1)	(2)	(3)
Treated	-0.0298 (0.02064)	-0.0542** (0.02212)	0.1423*** (0.02637)
Control average	0.82164	0.79902	0.39717
N	17263	17263	17263

Panel B	All	With mother	Without mother
Days of leave			
Treated	6.72*** (0.98)	-1.04*** (0.28)	7.76*** (0.97)
Control average	29.89	16.41	13.48
N	14154	14154	14154

Note: The table shows the effects of the 2013 reform on the share of fathers, in panel A, and duration of leave, in panel B, taking any leave, leave with the mother, and leave without the mother. Each coefficient (standard error in parentheses) comes from a different regression where dependent variable is the leave type mentioned in column header and the main independent variable is an indicator for the due date (1 after the 6th of February, 0 otherwise). Outcome in panel A is 1 if the father used the corresponding leave type and otherwise zero. Outcome in panel B is the number of days. Panel B includes fathers that have taken some leave. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

We also examine whether these take-up responses differ across the holiday clustering groups introduced in subsection 4.3. Table A3 in the Appendix reports these effects by interacting the baseline specification with the low, medium (baseline), and high clustering groups, separately for occupations and sectors controlling for individual background characteristics. Two patterns stand out. First, leave-taking among these groups differs already before the reform; fathers working in sectors and occupations belonging to the low holiday take-up group, take independent leave less often and for fewer days, as seen in the negative and significant *Low* coefficients. Second, and more relevant for the reform, the response itself is broadly common across groups: aside from a few marginally significant coefficients in the occupation panel, the interactions are statistically insignificant for both share and days of leave. The increase in independent leave-taking is therefore not concentrated in any particular holiday clustering group. We return to the heterogeneity in the timing of leaves in subsection 5.2.

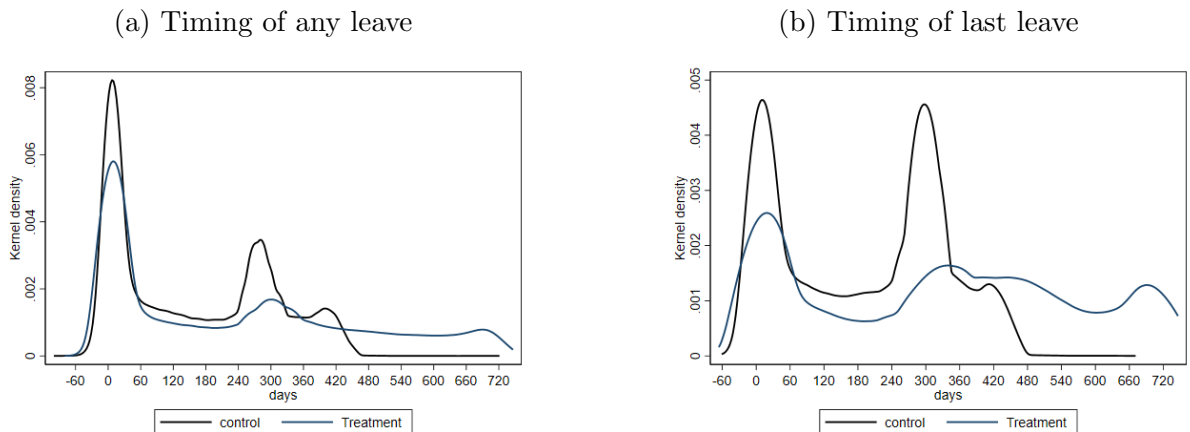
Figure B3, in the appendix, reports the effects on labor market outcomes (employment, log earnings, and fathers' earnings share within household) 1-9 years after childbirth using the same RD-DD regression as before. These results indicate that the reform did not have a clear impact on these outcomes. This aligns with earlier evidence from modest parental leave reforms (Canaan et al., 2022), whereas larger reforms that substantially increased

fathers' leave-taking have been shown to narrow gender gaps in labor market outcomes, at least in the short term (Kleven et al., 2026). While the absence of labor market effects can reflect the limited duration of leaves taken by fathers, it can also depend upon when the actual leave is taken.

5.2 Paternity leave timing

We move on to studying the timing of paternity leave and especially if the increased flexibility is reflected by when to use paternity leaves. We start by discussing when the leaves are taken relative to the due date⁷. In panel (a) of Figure 3 we show the kernel density of the distance between the due date and the first day of any parental leave spell taken by the father.⁸ In the control group (black line), there are two peaks: one for the birth-related leave and another for the period when the parental leave benefits are ending (around 270 days). For the control group, the use of earmarked paternity leave was tied to using the last weeks of shared parental leave, this is expected. After the reform, this peak almost disappears for the treatment group (blue line), and there are many more spells starting also during the child's second year instead, demonstrating how increased flexibility diversified the leave taking towards older ages of the child. In panel (b), where we show the starting day of the very last spell, this is shown clearly.

Figure 3: Timing of fathers' leave take-up



Panel (a) shows the kernel density of the distance from the due date to the beginning of each leave taken by fathers (in days). Panel (b) is similar to panel (a) but only shows the distance to the starting date of the last leave spell taken by fathers. Treatment and control groups are defined with a 12-month window around the cut-off.

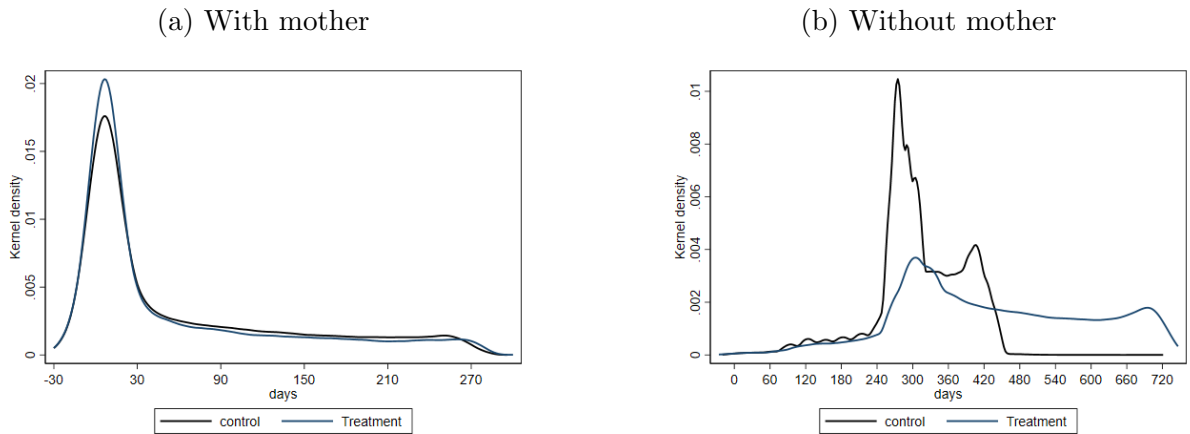
Figure 4 shows the kernel density figures by types of leave. Panel (a) shows that the leave fathers took with the mother remained almost unchanged before and after the reform. Most of the leave taken together with the mother is linked to the birth of the child.

⁷Instead of birth date, we focus on due date because it aligns with our discontinuity threshold.

⁸Notice that the area of the graph is one by definition, so a drop in one day does not necessarily mean that fewer fathers are taking leave on that day but instead shows how the timing has changed overall.

Panel (b) for the leave without mother, on the other hand, presents a spike in fathers' parental leave-taking between 240 and 300 days after the due date before the reform, linked to the aforementioned end of the shared parental leave and a second smaller spike related to the ending of the eligibility period. However, after the reform, there is a much smoother kernel density of leave without the mother. The kernel density increases after 240 days (ending of shared parental leave) and spikes around 300 days staying elevated for the rest of the eligibility period.

Figure 4: Timing of fathers' take-up, types of leaves



Panel (a) shows the kernel density of the distance, in days, from the due date to the beginning of each leave taken with the mother. Panel (b) is similar to panel (a) but shows the distance to the beginning of each leave taken without the mother. Treatment and control groups are defined with a 12-month window around the cut-off.

While the distributions of timing are informative about how policy design shapes the take-up with respect to the birth of the child, they do not reveal how leaves are taken over the year, on which we focus in Figure 5. For each holiday clustering group⁹, we plot the share of independent leave taken by fathers during each week of the year, separately for control group and the treatment group. Because the holiday clustering groups are constructed from pre-reform July take-up, the control group's (black line) summer concentration in the high-clustering panel is partly mechanical; the informative comparison is how the treatment group reallocates leave once the timing constraint is relaxed, and whether this response differs across groups.

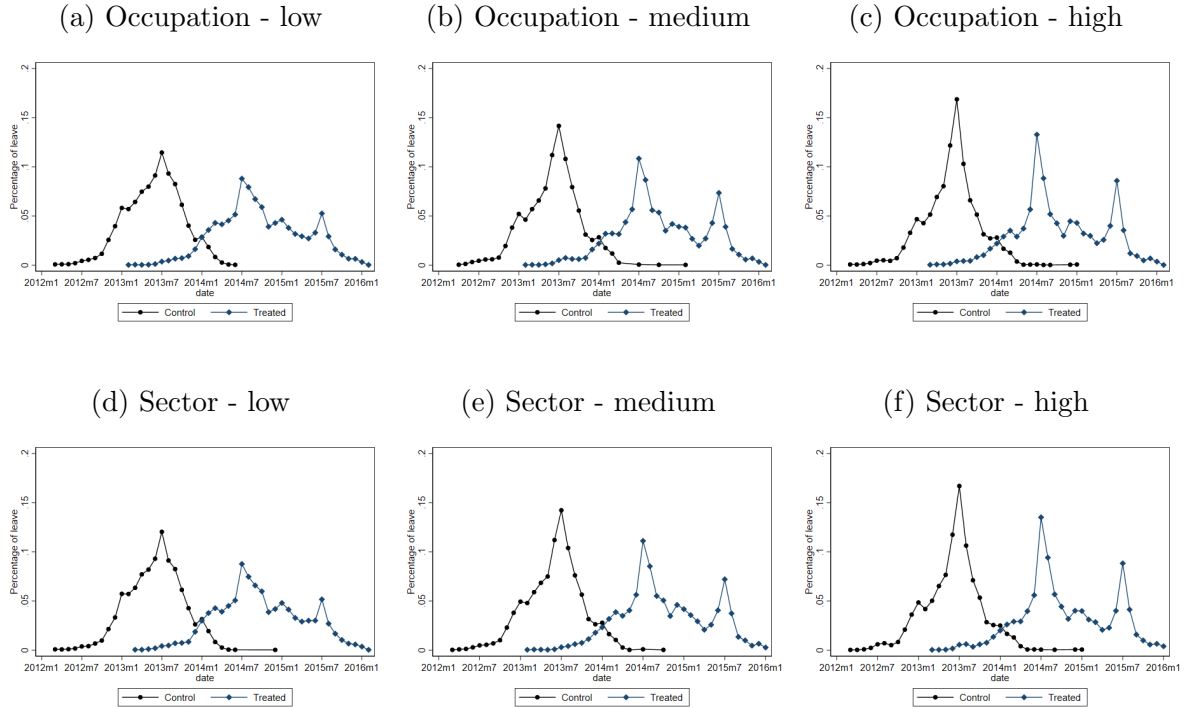
We observe from these figures that holiday clustering is pervasive, i.e., in each group leave-taking peaks sharply around the Finnish summer holiday, and somewhat during the end of the year, rather than being spread out evenly across the calendar year. The reform does not undo this type of seasonality but multiplies it: in the treatment group a single spike gives way to recurring summer spikes in the consecutive years. Fathers thus use the added flexibility to place leave in additional holiday windows rather than to take independent leave at other times of the year. And this pattern is strongest,

⁹Figure B1 in Appendix presents the same information for the pooled sample.

where we would expect: the summer spikes are tallest and most sharply defined in the high-holiday-clustering occupations and sectors and flattest in the low-clustering groups.

Taken together, these patterns suggest that the reform shifted *when* fathers take leave toward periods when workplaces are mostly on holiday, and when mothers and other family members are more likely to be on holiday as well, rather than toward periods that would require the father to take independent responsibility for child care. This reading is consistent with the absence of labor market effects documented above. To move from these visual patterns to a magnitude, we next quantify how much of a father's leave falls within the holiday period and how the reform changed it.

Figure 5: Timing of fathers' leave take-up by occupation- and industry-specific holiday clustering score



Note: The figure shows the percentage of leave taken by fathers without the mother in each week for those in the control and treatment groups divided by the low, medium, and high holiday clustering score. All births with the due date within one year before the cut-off date are in the control group, and those within one year after are in the treatment group.

To understand how strongly fathers concentrate their leave in holiday periods and how it is associated with the reform by holiday clustering groups, we provide a descriptive analysis. We ask whether the leave taken by post-reform fathers is more heavily tilted toward holiday weeks than that of otherwise comparable pre-reform fathers. We run a regression model of the form:

$$\text{Holiday}_i = \beta T_i + \delta X_i + \psi_{s(i)} + \eta_{o(i)} + \gamma_{m(i)} + \epsilon_i \quad (3)$$

where Holiday_i is a variable that contains the share of total days of leave without the

mother taken during the holiday period. We consider the holiday period as the weekdays between midsummer (around the 22 June) and the end of July, and the days between Christmas and the last day of the year.¹⁰ For example, if a father took 3 days of leave at the end of December and 7 more days during summer from a total of 20 days of leave, the value for Holiday_i would be 0.5. T_i denotes the treatment indicator, that is, the child's due date is after the cut-off. As in equation 1, X_i is a set of control variables that include educational status, age, mother tongue, region, and child birth order. ψ_i , η_i , and γ_i are fixed effects for sector, occupation, and due date month to control for seasonal effects. In some specifications we additionally include firm fixed effects, which restrict the comparison to fathers within the same workplace.

We estimate equation 3 on all fathers whose child's due date falls within one year on either side of the cut-off, rather than the 90-day bandwidth used in the RD-DD analysis; the larger window provides enough fathers within each occupation, sector and firm to absorb the fixed effects. Accordingly, we read β as a conditional descriptive association, the difference in the average holiday share between post- and pre-reform fathers, holding occupation, sector, due-date month, and covariates fixed. A positive β indicates that, given the added flexibility, post-reform fathers place a larger share of their independent leave in holiday weeks. We also interact T_i with the holiday-clustering groups to examine whether this change is more pronounced in high-clustering occupations and sectors.

¹⁰Public holidays for which no benefit is paid (for example, 25 December) are not counted as leave days. Benefit days follow the six-day week used by the benefit system, and we apply the same convention to the numerator and the denominator of Holiday_i , so the ratio is unaffected.

Table 3: Share of paternity leave days taken during holidays

	All		Occupation		Sector	
	(1)	(2)	(3)	(4)	(5)	(6)
Treated	0.1152*** (0.0140)	0.1478*** (0.0236)	0.1155*** (0.0157)	0.1354*** (0.0250)	0.1257*** (0.0165)	0.1443*** (0.0266)
Low			-0.0031 (0.0078)	-0.0025 (0.0123)	0.0005 (0.0076)	0.0068 (0.0249)
High			0.0133* (0.0072)	0.0130 (0.0105)	0.0126 (0.0077)	0.0011 (0.0205)
Treated $\times$ low			-0.0148 (0.0100)	-0.0115 (0.0147)	-0.0120 (0.0103)	-0.0122 (0.0154)
Treated $\times$ high			0.0113 (0.0102)	0.0064 (0.0137)	0.0224** (0.0111)	0.0144 (0.0148)
Control average	0.1775	0.1835	0.1773	0.1834	0.1740	0.1808
Observations	14951	9723	13834	8918	11618	7580
Occupation FE	✓	✓			✓	✓
Sector FE	✓	✓	✓	✓		
Firm FE		✓		✓		✓

Note: The outcome variable is the share of paternity leave days taken without the mother during the period between midsummer and the end of July and from Christmas until the end of the year.

Regression made with due date month, occupation (columns 2 and 4), and sector (columns 3 and 4) and firms (columns 2,4,and 6) fixed effects. Low and high refer to lowest and highest occupation's (columns 3 and 4) and sector's (columns 5 and 6) tercile in the holiday clustering score. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3 reports estimates of equation 3. Column (1) shows that fathers whose child was due after the reform place about 11.5 percentage points more of their independent leave in the holiday window than comparable fathers with a child due before the reform, conditional on occupation, sector, and due-date-month fixed effects. The association is precisely estimated. Adding firm fixed effects in column (2) does not attenuate this gap and if anything it grows, to about 14.8 percentage points. While in the table the sample narrows to fathers in firms with more than one leave-taker, we have also run the regressions without firm fixed effects for this narrower sample to rule out that these findings are due to change in composition. The direction in these coefficients remains, that is, this descriptive result says that the post-reform change toward holiday leave taking is not an artifact of post-reform fathers sorting into firms with strong holiday leave taking norms: within the same workplace, fathers with a child due after the reform concentrate their leave in holiday weeks if anything more strongly. The direction of the change when firm effects are added suggests, instead, that post-reform fathers are somewhat more likely to be found

in firms with lower average holiday concentration in leave taking, which pulls the pooled estimate down. We return to what these within-firm differences reflect in Section 5.3.

Columns (3)–(6) interact the post-reform indicator with the low- and high-clustering groups, leaving the medium group as the omitted category. Taken individually, the interaction terms are small, and only one, for high-holiday clustering sectors in the specification without firm fixed effects (column 5), is statistically significant on its own, and it loses significance once firm fixed effects are added (column 6). The individual coefficients therefore provide little evidence on their own that the post-reform tilt towards more holiday concentration is confined to particular occupation or sector groups.

Their signs, however, are consistent. The coefficients on interaction for low holiday clustering group are negative and for high holiday clustering group positive, so the point estimates trace a gradient in the post-reform holiday share in the expected direction. Read cautiously this suggests that fathers in high-clustering occupations and sectors use the added flexibility to push a somewhat larger share of their leave into holiday weeks, precisely the groups in which holiday timing was already most entrenched before the reform. The implied differences are nonetheless small relative to the common term, which is on the order of 11–15 percentage points in every specification. Adding firm fixed effects shrinks the high-group interactions toward zero, while the low-group interactions stay small and negative. This points to the workplace, rather than the occupation or sector label as such, as the level at which the interesting variation resides. In Section 5.3 we therefore turn to within firm mechanisms, asking which fathers inside the same firm adjust their leave timing and whether career concerns or workplace norms can account for it.

5.3 Firm level analysis

We study two potential channels that could affect fathers’ behavior in leave-taking and are linked to their careers and firms they are employed by. First is individual concern about career costs. Fathers might prefer less leave and/or holiday leave-taking in order to not be absent from the workplace and forgo opportunities for career advancement. This interpretation is consistent with the tournament type of model presented in Johnsen et al. (2024). The second channel reflects broader workplace level factors, such as social norms in the workplace. For example, other fathers in the workplace might represent some suitable behavior for new fathers which translates into a similar kind of paternity leave uptake and leave timing. Evidence of this type of peer effects is provided by Dahl et al. (2014), Dottori et al. (2024), Casarico et al. (2025) and Welteke and Wrohlich (2019). Unlike these previous studies, we do not study peers’ influence on paternity leave take-up directly, but instead, we use peers’ behavior to categorize firms into more stringent and less stringent social norms groups towards parenthood.

To examine the career-cost channel, we use each father’s estimated promotion proba-

bility as a proxy for within-firm career concerns. To construct this probability, we start by ranking all 3-digit occupation codes in 2011 by their median salary. A person is classified as promoted if there are shifts from a lower occupation rank to a higher occupation rank. With this promotion measure, we run a linear probability model controlling non-parametrically for age, gender, language, education, tenure, occupation in 2010, sector, firm size, and firm fixed effects. Using the coefficients from this regression, we predict a promotion probability for each father. In order to analyze whether promotion expectations can hinder the use of parental leave over the calendar year, we repeat the empirical analysis with equation 1 by adding a promotion interaction to the *Treated* variable for fathers with a high promotion probability – defined as having an above median predicted promotion probability. That is, we study if there are heterogeneities in the 2013 paternity leave reform effects by these observables that are linked to promotions, not directly promotion itself.

We present these results in Table 4. Panel A shows the results for the extensive margin. Focusing on the interaction term, we find that when leave-taking was made more flexible, fathers with higher expected probability of promotion increased their independent take-up by less than the fathers in low-promotion-probability group. Panel B shows the regression results for the intensive margin, days of leave, measure. High-promotion fathers take about two fewer days of independent leave after the reform. Figure 6a shows the shares of leave taken during the holiday period by promotion group and treatment status. Under the old rules, high and low probability promotion groups have similar share of their leave taken in holiday months. However, after the reform the high-promotion likelihood group increases their holiday take-up slightly. That is, the high-promotion fathers take less leave on average and more of it during the holiday period. This pattern fits naturally with a model in which fathers who are closer to a promotion margin face steeper implicit costs from extended absences, and so the bite of the additional flexibility the reform offered is not used so much, especially off the holiday season.

Table 4: Effects of the paternity leave reform on fathers' leave take-up by promotion probability

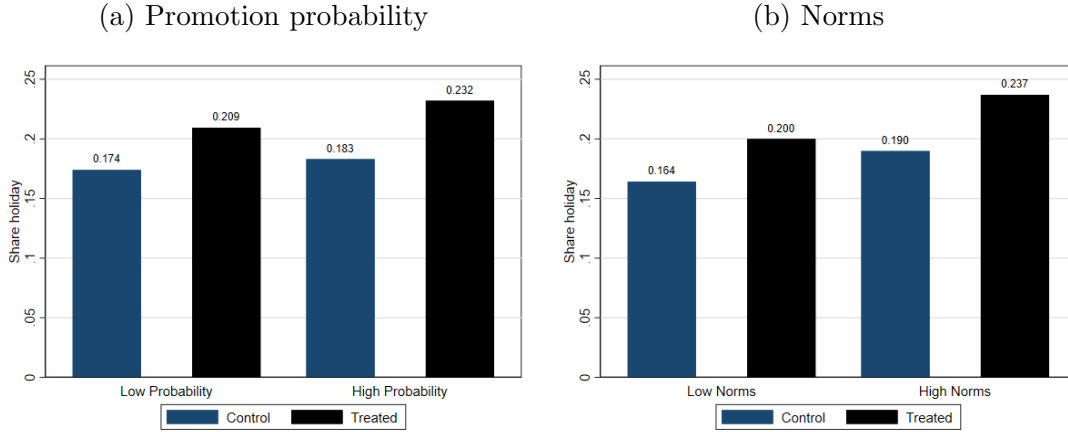
Panel A	All	With mother	Without mother
Share of fathers	(1)	(2)	(3)
Treated	-0.0281 (0.02073)	-0.0582*** (0.02221)	0.1564*** (0.02699)
High promotion	0.0966*** (0.00745)	0.0957*** (0.00784)	0.0905*** (0.01074)
Treated $\times$ High promotion	0.0023 (0.01398)	0.0231 (0.01558)	-0.0391* (0.02149)
Control average	0.82250	0.79986	0.39779
N	17237	17237	17237

Panel B	All	With mother	Without mother
Days of leave			
Treated	7.29*** (1.01)	-1.14*** (0.29)	8.44*** (0.99)
High promotion	1.51*** (0.35)	-0.02 (0.09)	1.53*** (0.34)
Treated $\times$ High promotion	-1.81** (0.79)	0.37 (0.23)	-2.18*** (0.78)
Control average	29.89	16.41	13.48
N	14153	14153	14153

Note: The table shows the effects of the 2013 reform on the share of fathers, in panel A, and duration of leave, in panel B, taking any leave, leave with the mother, and leave without the mother. Each column (standard error in parentheses) comes from a different regression where dependent variable is the leave type mentioned in column header and the main independent variable is an indicator for the due date (1 after the 6th of February, 0 otherwise). Outcome in panel A is 1 if the father used the corresponding leave type and otherwise zero. Outcome in panel B is the number of days. Panel B includes fathers that have taken some leave. High promotion refers to fathers that have a promotion probability above the median. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Next, we look at collective factors, and ask how the workplace environment, rather than individual level factors, drives the observed patterns. With peers' behavior, we proxy workplace leave taking norms by constructing a continuous measure that captures the share of fathers within a firm that took leave without the mother before 2011. In the regression, we interact this measure with the treatment variable as before. Table 5 shows that firms that are more paternity leave friendly have a higher share of fathers taking parental leave with and without the mother. Notice that the norms measure is between 0 and 1, therefore the interpretation is slightly different from the promotion

Figure 6: Share of leave taken during holidays by fathers' promotion probability and firm-specific norms in the control and treatment groups



Note: The figure shows the average percentage of leave taken by fathers without the mother during the holiday period, dividing the sample into treated and control groups, and high and low promotion probability (panel a), high and low norms (panel b). High promotion refers to fathers that have a promotion probability above the median. Low and high norm firms are defined as firms that have the share of employees taking paternity leave without the mother below and above the median, respectively.

probability table that has a binary definition. The coefficients compare a firm where no fathers took leave without the mother before the reform with a firm where all fathers did. For a more realistic comparison, a 10 percentage point higher pre-reform share of fathers taking leave in the firm is associated with around 6 percentage points (0.59×0.1) higher take-up of leave without the mother and about 1.5 more days of such leave. The reform response, however, does not vary with workplace norms: the interactions are negative but imprecise. Additionally, workplace norms do shape the timing of the paternity leaves after the reform: Figure 6b shows that in firms with higher paternity leave-taking norms (above median in the distribution for norms measure) the increase in holiday clustering is stronger after the reform.

Table 5: Effects of the paternity leave reform on fathers' leave take-up by firms' norms

Panel A	All	With mother	Without mother
Share of fathers	(1)	(2)	(3)
Treated	-0.0358*	-0.0592***	0.1804***
	(0.01931)	(0.02148)	(0.02911)
Norms	0.2276***	0.1947***	0.5973***
	(0.04514)	(0.04940)	(0.09351)
Treated $\times$ Norms	0.0461	-0.0057	-0.2992
	(0.08368)	(0.12124)	(0.18436)
Control average	0.87404	0.85363	0.43227
N	15011	15011	15011

Panel B	All	With mother	Without mother
Days of leave			
Treated	7.50***	-1.02***	8.52***
	(1.04)	(0.29)	(1.03)
Norms	15.22***	0.30	14.93***
	(2.94)	(0.58)	(2.86)
Treated $\times$ Norms	-9.35	-1.06	-8.29
	(5.94)	(1.85)	(6.60)
Control average	30.31	16.47	13.84
N	13112	13112	13112

Note: The table shows the effects of the 2013 reform on the share of fathers, in panel A, and duration of leave, in panel B, taking any leave, leave with the mother, and leave without the mother. Each column (standard error in parentheses) comes from a different regression where dependent variable is the leave type mentioned in column header and the main independent variable is an indicator for the due date (1 after the 6th of February, 0 otherwise). Norms is defined as the share of employees that took leave without the mother before 2011. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The results on the firm-level analysis can be summarized as follows: Fathers with a higher predicted promotion probability take more leave before the reform but respond less to the added flexibility. This pattern is consistent with higher implicit career costs of absence for these fathers. Fathers in firms with stronger leave-taking norms also take more leave before the reform, but the reform response is weaker than for the promotion channel. Descriptively, both groups shift a slightly larger share of their leave toward holiday periods after the reform than other fathers do. Together with the timing analysis in subsection 5.2, these results suggest that added flexibility is used largely to place leave in periods when care responsibilities are more likely to be shared while the individual career concerns affect the overall take-up of independent leave.

6 Conclusions

A large and growing literature has documented that many family-leave reforms have not been successful in reducing gender disparities in the labor market, which has been their primary goal during the past decades. In this paper, we have exploited a Finnish reform in the paternity leave system that did not alter the total duration of paternity leave but made the use of fathers' paternity leave days more flexible. Using the reform in a difference-in-discontinuities design, we show that the reform did increase fathers' take-up of leave, but the policy was unsuccessful in substantially affecting labor market disparities. Importantly, we combine different channels and show that holiday clustering (Andresen and Nix, 2026; Ziegler and Bamieh, 2023), career competition (Johnsen et al., 2024), and (workplace) norms (Kleven et al., 2026) are relevant factors in shaping the duration and timing of paternity leave, and help to explain why greater leave-taking need not translate into gender equalizing labor market outcomes.

We also find some unintended consequences of the reform, which may have policy relevance. With increased opportunities to use the designated leave more flexibly, part of the birth-related leave that fathers were initially expected to take simultaneously with mothers was postponed to a later stage. Since the presence of fathers at home in the first weeks after the birth of the child is likely beneficial for maternal and family well-being (Persson and Rossin-Slater, 2024), this reallocation was probably not what the policy maker intended.

We also look at industries and occupations where fathers work, and show that there are clear differences in the clustering of holiday leave-taking. This connects our findings to Goldin (2014): the “greedy jobs” in industries that reward long hours and steep promotion tournaments are exactly where career breaks carry the highest penalties for women (Bütikofer et al., 2018). Fathers in similar industries also face the same pressures that penalize mothers, but resolve them differently — while mothers cannot avoid the career interruption, fathers can reallocate their leave taking into windows where the cost of absence is the lowest. However, occupations and industries are not the determining factor as firm fixed effects fade many associations, indicating that understanding within firm dynamics is also important.

For policy, our results carry a clear message. Making paternity leave more flexible timing-wise is effective at raising take-up, but does not deliver those labor market equalizing effects that these policies are designed for. When fathers have more freedom to decide when to take paternity leave, they take it during periods when they are unlikely to be independent caregivers. As independent leave taking could reduce the gender gaps in caregiving and subsequently reduce the gender gaps in the labor market, these results make clear that the policy design of the leave entitlement alone cannot solve the problem it is intended to solve. Instead, more attention should be paid to the workplace conditions

that make fathers reluctant to take more leave during ordinary working periods over the year.

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Appendix

A Tables

Table A1: Descriptive statistics by high and low holiday leave taking

Seasonality	(Occupation)		(Sector)	
	Low	High	Low	High
Fathers				
Age	30.53 (6.13)	33.04 (5.09)	30.90 (6.05)	32.58 (5.21)
Tertiary	0.28 (0.45)	0.69 (0.46)	0.38 (0.48)	0.59 (0.49)
Earnings	30221.06 (14335.33)	47286.55 (25768.25)	31977.69 (16825.86)	44162.35 (22961.40)
Disposable income	24738.63 (14666.10)	36315.63 (27573.29)	26089.68 (17015.23)	33615.67 (22003.18)
Finnish	0.88 (0.32)	0.90 (0.30)	0.88 (0.33)	0.91 (0.29)
Swedish	0.05 (0.22)	0.06 (0.24)	0.05 (0.22)	0.05 (0.22)
Mothers				
Age	28.25 (5.32)	30.89 (4.39)	28.63 (5.22)	30.46 (4.50)
Tertiary	0.45 (0.50)	0.71 (0.45)	0.50 (0.50)	0.67 (0.47)
Employed	0.76 (0.43)	0.85 (0.36)	0.78 (0.42)	0.84 (0.37)
Earnings	17571.21 (14194.66)	25324.85 (19251.81)	18701.76 (15083.86)	23533.29 (17476.11)
Disposable income	18908.60 (10369.67)	24476.72 (61757.31)	19636.47 (10825.67)	22678.61 (12931.41)
Finnish	0.89 (0.32)	0.89 (0.32)	0.88 (0.32)	0.90 (0.30)
Swedish	0.05 (0.21)	0.06 (0.23)	0.05 (0.22)	0.05 (0.21)
Couples				
Earnings share (fathers)	0.67 (0.22)	0.67 (0.19)	0.66 (0.22)	0.67 (0.19)
Age difference	2.29 (4.42)	2.15 (3.79)	2.27 (4.37)	2.11 (3.85)
Mother is the highest earner	0.22 (0.41)	0.17 (0.38)	0.22 (0.41)	0.16 (0.36)
Observations	13948	9350	11419	6353

Table A2: Effects of the paternity leave reform on first-time parents

Panel A	All	With mother	Without mother
Share of fathers	(1)	(2)	(3)
Treated	-0.0344 (0.03858)	-0.0526 (0.04169)	0.1240** (0.05126)
Control average	0.85281	0.82631	0.41003
N	9131	9131	9131

Panel B	All	With mother	Without mother
Days of leave			
Treated	9.62*** (1.45)	-0.66 (0.43)	10.28*** (1.41)
Control average	30.40	16.41	13.99
N	6669	6669	6669

* p<0.10, ** p<0.05, *** p<0.01

Note: The table shows the effects of the 2013 reform on the share of fathers, panel A, and number of days of leave, panel B, of any leave, leave with the mother, and leave without the mother for first time parents. Each coefficient (standard error in parentheses) comes from a different regression where dependent variable is the leave type mentioned in column header and the main independent variable is an indicator for the due date (1 after the 6th of February, 0 otherwise).

Table A3: Effects of the paternity leave reform by holiday take-up clustering group

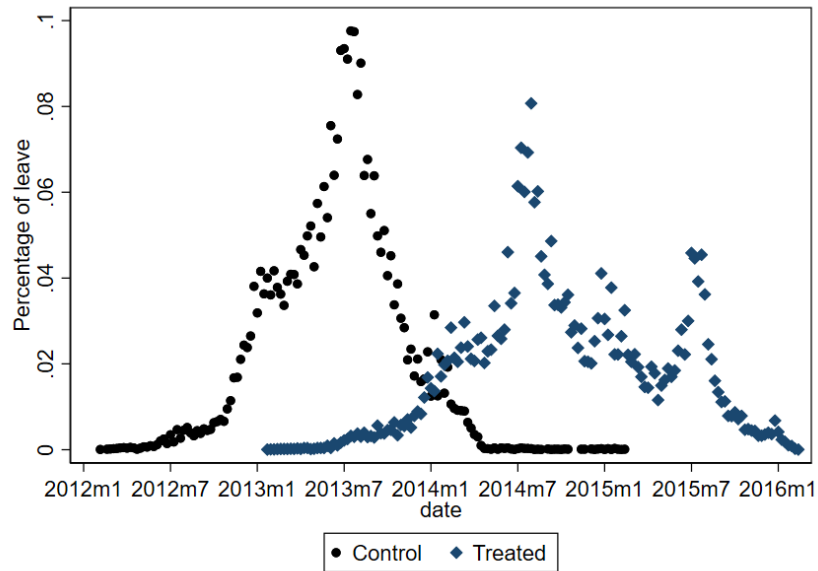
	Occupation			Sector		
	All (1)	With (2)	Without (3)	All (4)	With (5)	Without (6)
<i>Panel A: Share of fathers</i>						
Treated	-0.0648*** (0.0228)	-0.0754*** (0.0253)	0.1388*** (0.0353)	-0.0346 (0.0243)	-0.0427 (0.0271)	0.1761*** (0.0373)
Low	-0.0455*** (0.0096)	-0.0450*** (0.0099)	-0.1077*** (0.0139)	-0.0260*** (0.0099)	-0.0254** (0.0101)	-0.0708*** (0.0136)
High	-0.0166* (0.0096)	-0.0253** (0.0102)	0.0141 (0.0150)	0.0363*** (0.0101)	0.0290*** (0.0106)	0.1597*** (0.0161)
Treated $\times$ Low	0.0206 (0.0186)	0.0116 (0.0203)	0.0523* (0.0277)	-0.0034 (0.0195)	-0.0111 (0.0211)	0.0080 (0.0284)
Treated $\times$ High	0.0351* (0.0183)	0.0220 (0.0207)	-0.0090 (0.0289)	0.0219 (0.0187)	0.0042 (0.0220)	-0.0032 (0.0312)
Control average	0.8786	0.8583	0.4351	0.8754	0.8560	0.4327
N	13689	13689	13689	11674	11668	11668
<i>Panel B: Days of leave</i>						
Treated	7.84*** (1.26)	-0.68* (0.35)	8.52*** (1.24)	7.85*** (1.31)	-0.84** (0.37)	8.69*** (1.30)
Low	-2.68*** (0.45)	0.08 (0.10)	-2.76*** (0.44)	-0.87** (0.43)	-0.02 (0.11)	-0.85** (0.41)
High	-0.21 (0.49)	-0.40*** (0.12)	0.19 (0.47)	2.79*** (0.51)	-0.01 (0.12)	2.80*** (0.49)
Treated $\times$ Low	-0.36 (1.00)	-0.17 (0.27)	-0.19 (1.00)	0.10 (1.01)	0.04 (0.28)	0.06 (1.00)
Treated $\times$ High	-1.57 (1.05)	-0.31 (0.29)	-1.26 (1.04)	0.36 (1.11)	-0.08 (0.31)	0.44 (1.10)
Control average	30.36	16.46	13.90	30.39	16.51	13.88
N	12010	12010	12010	10204	10204	10204

* p<0.10, ** p<0.05, *** p<0.01

Note: The table shows the coefficients of the 2013 reform on the share of fathers, in panel A, and duration of leave, in panel B, taking any leave, leave with the mother, and leave without the mother. Each coefficient (standard error in parentheses) comes from a different regression where dependent variable is the leave type mentioned in column header and the main independent variable is an indicator for the due date (1 after the 6th of February, 0 otherwise). Low and high refer to lowest and highest tercile of the seasonality clustering score distribution, by occupation and by sector.

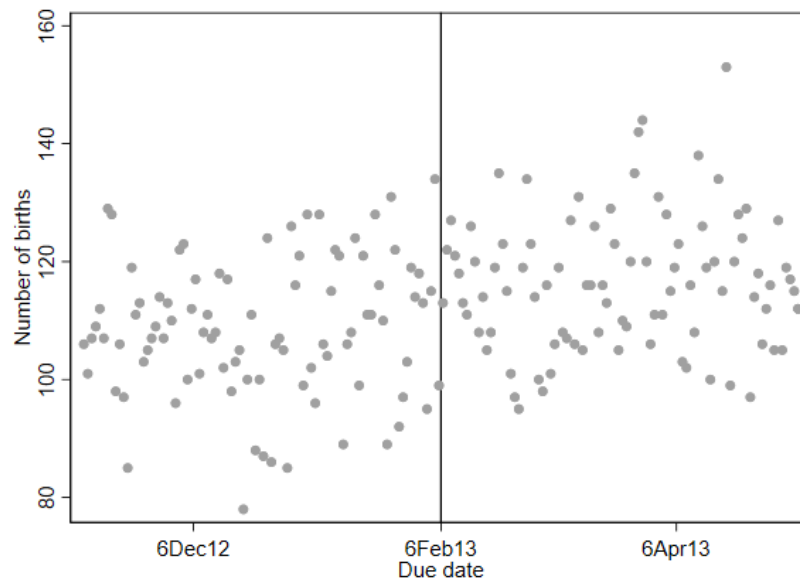
B Figures

Figure B1: When fathers take the without mother leave



Note: The figure shows the percentage of leave taken by fathers without the mother in each week for those in the control and treatment groups. All births with the due date within 1 year before the cut-off date are in the control group, and those within one year after are in the treatment group.

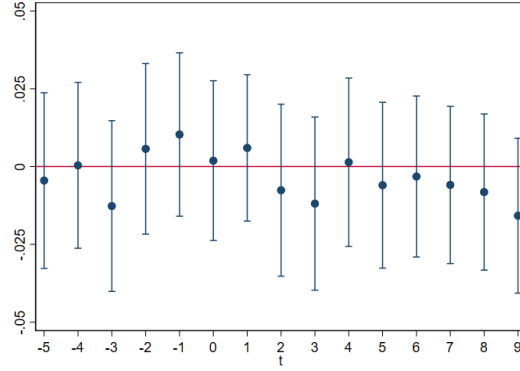
Figure B2: Number of births by due date



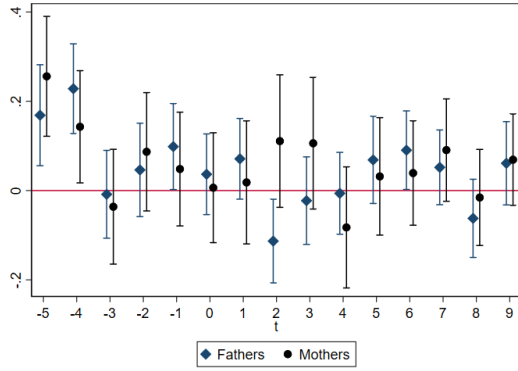
Note: The figure displays scatter plots of the daily number of births by due date 90 days before and after the cut-off date (6 February 2013).

Figure B3: Effects of the reform on earnings and employment

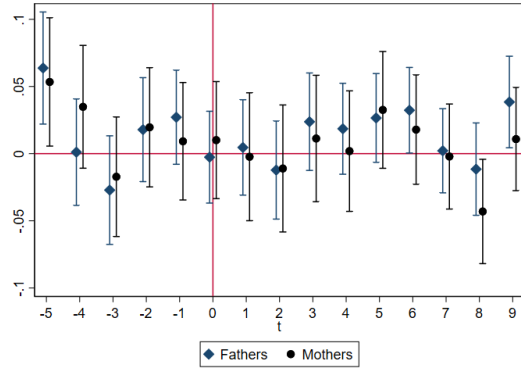
(a) Earnings share



(b) Earnings



(c) Employment



Note: The panels contain the estimated effects of the 2013 reform on the earnings share of fathers (a), earnings (b), and employment (c). Each year has two regression results in panels (b) and (c). The blue diamond, on the left, shows the results for fathers, and the black circle, on the right, shows the estimation results for mothers. Each coefficient comes from regressions run separately for each year where the main independent variable is an indicator for the due date (1 after the 6th of February, 0 otherwise). The bars correspond to a 95% confidence interval. Estimation done with control variables. The point estimates for employment represent percentage points. The earnings regressions were made in logs.



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