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**Citation:** Girsberger, E. M., Hassani-Nezhad, L., Karunanethy, K. & Lalive, R. (2022). Mothers at Work: How Mandating a Short Maternity Leave Affects Work and Fertility (22/06). Department of Economics, City, University of London.

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# Mothers at Work: How Mandating a Short Maternity Leave Affects Work and Fertility

*Department of Economics\**  
*Discussion Paper Series No. 22/06*

**Esther Mirjam Girsberger**  
University of Technology  
Sydney

**Lena Hassani-Nezhad\***  
City, University of London

**Kalaivani Karunanethy**  
University of Lausanne

**Rafael Lalive**  
University of Lausanne

\* The departmental editor for the discussion paper series was Dr. Orkun Saka and this paper was approved to be published without need for full internal review.

\* Corresponding author address: Department of Economics, City, University of London, Northampton Square, London EC1V 0HB, UK.  
Email: [Lena.Hassani-Nezhad@city.ac.uk](mailto:Lena.Hassani-Nezhad@city.ac.uk).

# Mothers at Work: How Mandating a Short Maternity Leave Affects Work and Fertility \*

Esther Mirjam Girsberger<sup>†</sup> Lena Hassani-Nezhad<sup>‡</sup>

Kalaivani Karunanethy<sup>§</sup> Rafael Lalive<sup>¶</sup>

December 19, 2022

## Abstract

Switzerland mandated a 14-week paid maternity leave in 2005 when many firms already offered a similar benefit. While the mandate had only small and temporary effects on labor market outcomes of first-time mothers, it raised the share of those having a second child by three percentage points. Women employed in firms with prior paid leave sharply increased their subsequent fertility. In contrast, women employed in other firms did not change their fertility behaviour, but instead saw a persistent increase in their earnings after birth. This pattern of results suggests that firms with pre-mandate leave passed on (some of) their resulting cost-savings to their employees - “trickle down effects” - by making their maternity leave more generous than mandated, hiring temporary replacement workers and/or supporting mothers’ return to work in other ways.

*Keywords:* Female labor supply, maternity leave, return-to-work, earnings, fertility.

*JEL Categories:* J13, J22, J78

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\*The authors would like to thank the Federal Office of Statistics in Switzerland - namely, Dominik Ullmann and Jacqueline Kucera - for providing the federal census and vital statistics register data and the facilities to do the data merging. We also thank Alex Pavlovic for providing the Swiss Social Security Data, and Alice Antunes and Sergey Alexeev for their invaluable research assistance. The paper benefited from inspiring conversations with Adeline Delavande, Matthias Krapf and Shiko Maruyama, and useful comments from conference and workshop participants at the IZA Summer School in Buch a/Ammersee, the Annual Meeting of the Swiss Society of Economics and Statistics, the Young Swiss Economists Meeting, the EALE-SOLE-AASLE World Conference, the European Winter Meeting of the Econometric Society and the Swiss Economists Abroad Conference. Esther Mirjam acknowledges the support of the Swiss National Centre of Competence in Research LIVES - Overcoming vulnerability: Life course perspectives, which is financed by the Swiss National Science Foundation (grant number: 51NF40-160590). She is grateful to the Swiss National Science Foundation for its financial assistance. She also acknowledges financial support through the UTS Business School Research grant. Lena Hassani-Nezhad acknowledges financial support from the British Academy. This research project has been approved by UTS Ethics (ETH21-6582).

<sup>†</sup>University of Technology Sydney & IZA

<sup>‡</sup>City, University of London & IZA, corresponding author: [lena.hassani-nezhad@city.ac.uk](mailto:lena.hassani-nezhad@city.ac.uk)

<sup>§</sup>University of Lausanne

<sup>¶</sup>University of Lausanne, CEPR, IZA

# 1 Introduction

Over the past century, women’s labor force participation rates in high-income countries have increased substantially. This trend paralleled the adoption of many family friendly policies, among which paid maternity leave played a key role (Olivetti and Petrongolo, 2017). By the late 20th century, most high-income countries had adopted national mandates for paid maternity leave (Rossin-Slater, 2017). In contrast, Australia, New Zealand, Switzerland, and the United Kingdom introduced such mandates only at the dawn of the 21st century. In 2022, the United States remains the only OECD country without a federal provision for paid maternity leave, and even today paid maternity leave is not universally available to self-employed, domestic, part-time and casual workers in some other OECD countries.<sup>1</sup>

Family leave policies aim to help parents of young children reconcile the demands of work and family. Considering their large costs to taxpayers and firms, a better understanding of how a short paid leave could support mothers continue participating in the labor market is important. A rich literature documents the impact of these policies on female labor market outcomes, child outcomes, and fertility. However, most of these papers study the effects of *extensions in the duration* of existing family policies<sup>2</sup>, and focus on labor market outcomes, while only a few study effects on fertility.<sup>3</sup> Therefore, we lack understanding of the value of paid maternity leave in the period right after birth, especially if the value of maternity leave varies substantially in the very early months of a child’s life. A too short leave right after birth may not help meet working parents’ needs, whereas, a somewhat longer leave could be highly valuable, especially if the leave covers the period when finding alternative modes of care is very challenging.<sup>4</sup>

This paper studies the dynamic impact that introducing the first federal paid maternity leave had on women’s labor market outcomes around the birth of their first child and on their subsequent fertility in Switzerland. The mandate became effective from 1st July 2005 and provided 14 weeks of maternity

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<sup>1</sup>In some countries, such as Japan, maternity leave is available as insurance through the employer. In Japan, only regular workers qualify for this insurance, that is, full-time employees with permanent contracts who are covered by the social insurance programs (see Asai (2015)).

<sup>2</sup>Studies on extensions of parental (mostly maternity) leave include: Austria (Lalive et al. (2013)), Germany (Ruhm (1998), Kluge and Tamm (2013), Schönberg and Ludsteck (2014), and Geyer et al. (2015)), Scandinavian countries (Ruhm (1998), and Dahl et al. (2016)), Czech Republic (Bicakova and Kaliskova (2019)), Japan (Asai (2015) and Yamaguchi (2019)), and Canada (Hanratty and Trzcinski (2009)), among others.

<sup>3</sup>The impact of an introduction of a short paid family leave on employment (and sometimes earnings) in California is studied by Rossin-Slater et al. (2013), Baum and Ruhm (2016), and Byker (2016), in New Jersey by Byker (2016), and in Australia by Broadway et al. (2020). Only Baum and Ruhm (2016) and Byker (2016) analyze the anticipatory effects of these policies. None of these articles investigate the impact on subsequent fertility.

<sup>4</sup>Rossin-Slater (2017) discusses different estimated effects of short (i.e. less than one year) versus long maternity leaves on labor market outcomes across countries. Carneiro et al. (2015) use a similar argument to explain their findings of why a 4-month paid maternity leave introduction had significant (positive) impact on child outcomes in Norway while the previous literature had not found any effects. Parental leave taken by mothers plays a role for children’s outcomes (Ginja et al., 2020), but leave taken by fathers does not improve the long-run gender balance in housework (Ekberg et al., 2013).

leave benefits and job protection during pregnancy and the 16-week period following birth. Before the mandate was introduced, around 40% of employers already offered their female workforce access to paid maternity leave, but such leave was not universal and leave provisions differed enormously (see [Guillet et al. \(2016\)](#) and [Aeppli \(2012\)](#)). The mandate aimed to provide a minimum level of paid maternity leave to all eligible women and thereby, reduce inequalities in coverage.

Studying the Swiss mandate is interesting for several reasons. First, the total leave duration is short, and since there is no other parental leave mandate in Switzerland, the maternity leave mandate constitutes all such publicly provided leave.<sup>5</sup> However, the benefit level is fairly generous at 80% of previous earnings for most women. Most mandates in other European countries are longer and sometimes even more generous.<sup>6</sup> Second, the mandate was implemented in a context where about four out of ten firms already offered paid maternity leave. Thus, the mandate led to two different changes. It *introduced a short, paid maternity leave* in firms that did not offer this benefit, while it *reduced costs* for firms and public administrations that already provided a similar benefit prior to the reform. Comparing the effects of the mandate across firms with and without prior leave, we provide evidence on these heterogeneous effects. Firms offering prior paid leave that is now superseded by a publicly-financed scheme could pass on their resulting cost-savings to their employees in the form of *support on the job* or *expansion of family policies* over and above the mandated minimum, suggesting possible "trickle-down effects". Third, the Swiss labor market is characterized by high rates of part-time employment among mothers, indicating problems in reconciling the demands of work and family. We study complementarity of the maternity leave mandate with another family policy, *early child care*, by exploiting regional differences in the availability of early child care. Finally, the timing of the announcement of the new mandate and its implementation enable us to study both the *anticipatory and treatment effects*.

For our analysis, we compile a unique and rich dataset by linking several administrative registers. These include the social security register, which provides information on earnings and social security benefits, the vital statistics register, which provides information on life events, and the census. Our main population of interest are Swiss women who gave birth to their first child shortly before and after the mandate was introduced on 1st July 2005. We construct a dataset of women's complete labor market and fertility histories at a monthly frequency starting from five years before birth to nine years after birth. We employ a difference-in-differences approach where we compare the difference

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<sup>5</sup>Switzerland introduced two weeks of paternity leave in 2021.

<sup>6</sup>Note that European mandates are among the most generous worldwide. Anglo-Saxon countries like Australia, Canada, Ireland, New Zealand and the UK offer a benefit level which is similar to Switzerland or even lower (see indicator PF 2.4 in the OECD Family database [OECD, Social Policy Division - Directorate of Employment, Labour and Social Affairs \(2017\)](#)).

in outcomes of women who gave birth to their first child in the three months before and after the introduction of the mandate in 2005, with the difference in a control cohort of women who gave birth in the same three-month windows in the year prior to the reform. This identification strategy allows us to estimate the causal effects of being covered by the mandate around the time of birth of the first child.<sup>7</sup> By including in our analysis pre-birth periods, we examine behavioral responses in anticipation of the mandate. We also investigate the heterogeneous effects of the mandate by the availability of early child care in the mother's state (or canton) of residence at the time of birth of her first child and across firms with and without pre-mandate leave. As pre-mandate leave availability is not directly observed in the data, we identify firms with prior leave using information on the pre-mandate incidence of significant positive earnings immediately after birth when women are not allowed to work by law.

Our empirical findings can be summarized as follows. First, our results reveal no or only small effects on most labor market outcomes. We do find increased job continuity with the pre-birth employer in the two to three years after birth but little or no effects on employment rates. In the long run, up to five years after birth, all labor market effects dissipate. Second, our estimates uncover sizeable anticipatory responses by women covered by the mandate at the intensive margin of labor supply. That is, the earnings of these women increase compared to the control group prior to the birth of their first child, reflecting a relative increase, or a smaller decrease, in the hours worked prior to birth. Third, we find a significant and persistent impact of the maternity leave mandate on subsequent fertility. An additional three out of 100 women exposed to the mandate gave birth to a second child in the long run, that is, in the nine years after the birth of their first child.<sup>8</sup> Fourth, the mandate allows women to reconcile demands of work with those of family life: it raises the proportion of women who care for a young child while working a job with similar earnings as prior to birth.

The effects of the mandate on fertility differs across regions with different levels of early child care availability. The mandate increases subsequent fertility in regions that offer above-median slots in early child care by four percentage points, but does not have a statistically significant impact in regions with below-median slots in early child care. This evidence suggests complementarity between the maternity leave mandate and the availability of early child care leading to the effect we see on subsequent fertility.

Women who benefitted from paid maternity leave for the first time see improved labor market outcomes after returning from leave. Their employment rate increases slightly (albeit not statistically)

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<sup>7</sup>A similar approach was used by [Lalive et al. \(2013\)](#) and [Schönberg and Ludsteck \(2014\)](#) to study long expansions of maternity leave in Austria and Germany. [Lalive et al. \(2013\)](#) study two Austrian reforms that extended maternity leave durations from 12 to 24 and then to 30 months, while [Schönberg and Ludsteck \(2014\)](#) study German reforms extending the benefit duration from two to six months, and later up to 24 months.

<sup>8</sup>This result is in line with the findings of [Barbos and Milovanska-Farrington \(2019\)](#) that the 2005 mandatory paid maternity leave in Switzerland affected fertility intentions through an experience effect.

between 18 to 30 months after the birth of their first child. Moreover, their monthly earnings after birth increase by almost 300 Swiss francs. This corresponds to a 6% increase compared to the median pre-birth earnings and persists in the long run. After five years, these women have earned 16,000 Swiss francs more as a result of the mandate (i.e. 3.6 months of their pre-birth earnings). Introducing the mandated minimum thus boosts post-birth earnings, but does not affect subsequent fertility. Surprisingly, women employed in firms that offered paid maternity leave prior to the mandate also reacted sharply to the reform, yet in a very different way. Five in 100 of these women give birth to an additional child and subsequent fertility remains persistently higher throughout our observation period. At the same time, the mandate only has a small overall financial impact, which dissipates after two years, while improvements in work-life balance are strong: job continuity increases significantly after birth and more women combine caring for a young child aged less than two years with earning around the same as prior to the first birth. Firms with prior leave available used some of the funds freed up by the mandate to expand family policies beyond the mandated minimum and made other adjustments to help women better balance work and family commitments.

This pattern of evidence suggests that the value of maternity leave, in terms of improving work-life balance, evolves non-linearly throughout the "duration" of maternity leave. Women working in firms that did not have prior leave experience improvements in the "work"-side of the work-life balance. They have higher earnings after returning from maternity leave, indicating that they are working a greater number of hours. Whereas women working in firms with prior leave see improvements in the "family life"-side since more of them go on to have a second child. Many of these firms implemented additional policies such as extended leave, higher maternity leave benefits, temporary replacement worker arrangements, and employer-provided child care - the trickle-down effects from the cost-savings resulting from the mandate - which all support the return to work of new mothers and reduce the costs of having additional children.<sup>9</sup>

Our paper ties into a growing literature on the effects of maternity leave on female labor market outcomes and fertility in developed countries. A large part of the literature has investigated the impact of parental leave policies on female labor market outcomes (for excellent recent reviews, see [Rossin-Slater \(2017\)](#) and [Olivetti and Petrongolo \(2017\)](#)), while fertility has received less attention.<sup>10</sup>

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<sup>9</sup>We note that women working for firms with prior leave and without prior leave are not quite comparable and were differently affected by the reform. Comparing the estimated causal effects of the mandate across the two groups therefore remains challenging.

<sup>10</sup>Some papers investigating the effect of maternity leave reforms on fertility include [Lalive and Zweimüller \(2009\)](#) for Austria, [Dahl et al. \(2016\)](#) for Norway, [Malkova \(2018\)](#) for Soviet Russia, [Golightly and Meyerhofer \(2021\)](#) for California and [Cygan-Rehm \(2016\)](#) and [Raute \(2019\)](#) for differential effects on earnings subgroups in Germany. All of these papers analyse (extensions of) relatively long (i.e. more than six months) maternity leave provisions. Studies on the effect of parental leave reforms on fertility *intentions* include [Bassford and Fisher \(2020\)](#) for Australia and [Barbos and Milovanska-Farrington \(2019\)](#) for Switzerland.

Analysing the recent Swiss mandate extends our understanding of how a short maternity leave affects work and fertility of mothers in four important ways.

First, we include pre-birth labor market outcomes in our analysis to gauge if anticipatory behavioral effects are present and to determine their quantitative importance. Our results indeed reveal sizeable adjustments at the intensive margin of labor supply before birth. Such behavioral adjustments are likely to occur for other parental leave reforms as well (unless such reforms are announced very late or implemented ex-post) and should be taken into account when quantifying the overall effects of such reforms.<sup>11</sup>

Second, our paper sheds light on the heterogeneous effects of a universal maternity leave mandate that supersedes prior employer-provided maternity leave for a subset of women. While these women were not directly affected by the mandate, since they had already been covered by employer-provided maternity leave, their employers see their costs of providing maternity leave reduced. This can in turn trickle down to female workers through extended maternity leave provisions, increased job continuity, more flexible work options, and employer provided child care. Our results highlight that such “trickle down” effects can be large and affect different outcomes than the direct effects of introducing a short paid leave.

Third, our analysis also encompasses the effect of the maternity leave mandate on subsequent fertility. While labor market effects of a short maternity leave reform could be temporary and limited, this does not preclude sizeable and long-lasting impacts on subsequent fertility decisions as our findings show.

Finally, our paper contributes to improve our understanding of how different family policies, such as parental leave and provision of child care places or child care subsidies, interact. As highlighted by [Olivetti and Petrongolo \(2017\)](#), family policies should not be analyzed in isolation, since the impact of a paid maternity leave could be determined not only by the duration and level of benefits, but also by the cost and availability of child care when the leave ends. Our heterogeneity analysis provides suggestive empirical evidence of such a complementarity between a short paid maternity leave mandate and higher availability of child care for younger children, at least in the subsequent fertility dimension and - to a lesser extent - in terms of post-birth earnings.<sup>12</sup>

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<sup>11</sup>Sizeable anticipatory effects have also been documented for welfare reforms ([Blundell et al. \(2011\)](#)), tort reforms ([Malani and Reif \(2015\)](#)) and health care reforms ([Alpert \(2016\)](#)).

<sup>12</sup>[Danzer et al. \(2020\)](#) analyse the impact of the Australian maternity leave expansion in the 1990s from one to two years on children’s outcomes, maternal labor market outcomes and fertility in communities with and without formal childcare. They find evidence of an initially larger decrease followed by no effect on maternal full-time employment in communities with formal childcare compared to communities without formal care, but a slightly larger family size in the former communities. [Ravazzini \(2018\)](#) investigates how expansions in child care from 2002 to 2009 affect maternal full-time and part-time employment. She uses variations in the implementation of paid maternity leave for public sector employees in Switzerland as a proxy for maternity leave availability. She does not find any medium-term labor market effect of the 2005 mandate on maternal employment. [Kleven et al. \(2020\)](#) estimate the joint effect of parental leave and

These four important findings warrant further attention from researchers and should inform policy makers on how to shape family policies to help women better reconcile the demands of work and family in the future.

## 2 Institutional Background and Possible Mechanisms

### 2.1 Institutional Background

While Switzerland was among the first countries in the world to mandate (unpaid) leave from work for women giving birth, it was not until July 2005 that it implemented a federal mandate providing for paid maternity leave with job protection.<sup>13</sup> Since 1877, women in Switzerland were forbidden to work for eight weeks around the time of birth of their child. While this leave was unpaid, their jobs remained protected during this period. A federal mandate adopted in 1945 requested the government to implement some form of paid maternity leave. Subsequently, job protection during pregnancy and 16 weeks following birth, as well as a wage payment during at least 3 weeks after birth were introduced in 1989.

In Switzerland, national referenda are usually held in order to pass contested new federal legislation. Several referenda on paid maternity leave were held between 1945 and 2000, but all of them failed.<sup>14</sup> The canton of Geneva implemented its own paid maternity leave mandate with job protection on 1st July 2001. A new federal initiative for maternity leave was launched in June 2001 and passed parliamentary approval in October 2003. However, one major party opposed it and called for a federal referendum in January 2004. The referendum vote was held on 26th September 2004 and gained 55.4% of votes in favor of the maternity leave mandate. At this time, the implementation date of the new mandate was not yet known. On 24th November 2004, the federal council announced that the new maternity leave mandate - officially titled in French *Loi sur les Allocations pour Perte de Gains* (LAPG) - would become effective on 1st July 2005.

The mandate provides women with 14 weeks (98 days) of paid maternity leave beginning at the birth of the child. It also ensures job protection against dismissal during pregnancy and in the first 16 weeks after birth. The maternity benefits are set at 80% of average labor earnings (including from self-employment) prior to birth, subject to a daily cap. At the time of the mandate's introduction, the cap amounted to 172 CHF per day or 5,160 CHF per month.<sup>15</sup> The benefits are financed through child care subsidies for several policies reforms in Austria since the 1950s on the gender earnings gap. They find virtually no effect of either policy on gender earnings gap convergence.

<sup>13</sup>See the OECD Family data base on [oe.cd/fdb](http://oe.cd/fdb) and the PF2.5 Annex accessed on 5/02/2021 here: [https://www.oecd.org/els/family/PF2\\_5\\_Trends\\_in\\_leave\\_entitlements\\_around\\_childbirth\\_Annex.pdf](https://www.oecd.org/els/family/PF2_5_Trends_in_leave_entitlements_around_childbirth_Annex.pdf).

<sup>14</sup>The last unsuccessful referendum on paid maternity leave was held in 1999, which failed to pass with 61.1% voting against.

<sup>15</sup>Hence, women with average monthly pre-birth earnings above 6,450 CHF would see their maternity leave benefits

employee and employer contributions similar to other existing social insurance schemes. The mandate fully covers all women who had a child on or after 1st July 2005 subject to meeting certain employment eligibility requirements. Women can request for a two-week extension after the end of the mandated 98 days, which, on account of the post-birth 16-week job protection period, is rarely refused by the employer. However, the employer is not required by the mandate to pay wages for these two extra weeks of leave.

In order to qualify for paid maternity leave, women need to: (1) have worked and contributed to social security for nine months in total before the birth; (2) have worked for at least five months during the nine months before birth, that is, during the pregnancy; and (3) be employed at the time of birth. Or alternatively, they need to have been receiving unemployment benefits during the pregnancy for an equivalent period and be officially unemployed at the time of birth.<sup>16</sup>

A majority of women, mainly employees in federal and cantonal public administrations, all women working in Geneva, as well as a considerable share of women working in the private sector (mostly in large firms and the banking/IT/insurance/consulting sector) had access to some form of employer-provided paid maternity leave prior to the implementation of the federal maternity leave mandate on 1st July 2005 (Guillet et al., 2016; Aeppli, 2012).<sup>17</sup> Eligibility for many of these employer-sponsored maternity leave insurance schemes was tied to tenure with the same employer, sometimes requiring up to nine years of tenure to become eligible for full, that is, three months of paid maternity leave. This practice disadvantaged younger women, those with frequent job changes, and those working in small and medium sized firms, which often did not offer paid maternity leave.

After the adoption of the new mandate, cantonal legislations and employer arrangements had to meet at least the federal standards, but those that were more generous such as that of Geneva remained in force.<sup>18</sup> Moreover, the federally guaranteed maternity leave was now paid by the federal government, and hence, it freed up the considerable funds used to pay for maternity leave arrangements covered by employers prior to the adoption of the federal mandate.<sup>19</sup> How firms used the freed up funds is

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capped at 5,160 CHF (unless their employer paid the difference). In 2009, the cap was increased from 172 to 196 CHF per day. On 30th June 2005, 1 CHF corresponded to 0.79 USD.

<sup>16</sup>Every woman who met the eligibility criteria and had a child in the 98 days before the mandate came into effect, that is, they gave birth between 25 March and 30 June 2005, received *partial* benefits. They would receive benefits from the 1st July 2005 for the remaining number of days of the 14-week maternity leave period. Therefore, their maternity leave benefits lasted from one to 97 days. We define these women as *partially treated*. We do not include first-time mothers who gave birth between 1st April and 30 June 2005 in our main analysis.

<sup>17</sup>While most of these private schemes were at least as generous as the federal mandate in terms of the benefit level (i.e., 80% of previous earnings or more), a third offered a maternity leave payment duration of less than 14 weeks, which is the federally mandated duration.

<sup>18</sup>The Geneva legislation provides for 16 weeks (112 days) of paid maternity leave. The maternity benefits are at 80% of previous average earnings, subject to a minimum of 62 CHF per day and a maximum of 237 CHF in 2005, which was higher than the maximum level of federal benefits at the time (172 CHF).

<sup>19</sup>Estimates suggest that employers annually incurred maternity leave expenditures of 353 million CHF prior to the votation, while the total cost of the maternity leave mandate implementation for the government was expected to be 483 million CHF (Bundeskanzlei, 2004).

critical for interpreting the estimates we report below. Unfortunately, no administrative data source provides detailed insights on how firms that provided paid maternity leave before the mandate used the funds that were freed up. A survey in 2011 of 402 firms suggests that 33% of firms used these funds to support families (through longer maternity leaves, paternity leave, child care, etc.), 20% hired a replacement worker, and the remaining firms did not use the funds in a particular way or did not answer the question (Aeppli, 2012).

## 2.2 Discussion of Mechanism and Motivation of Outcome Variables

Mandated benefits will, on average, increase *incomes* of women with newborn children after the policy change for the duration of the mandated leave (14 weeks).<sup>20</sup> This increase will be substantial for those women who were not covered by paid employer provided ML benefits before the policy change. The mandate will not directly affect incomes of women who are already covered by paid leave through the previous employer, except for those with prior coverage below the mandated leave or where the employer extends the previous leave scheme further. The previous employer will, however, benefit from the transfer and possibly use this transfer to finance longer maternity leaves or improvements to the jobs held by women returning from maternity leave.<sup>21</sup>

Introducing paid maternity leave (ML) has consequences on behavior before and after giving birth (*outcome variables* in *italics*). Prior to the mandate, some women tended to reduce employment and hours already before giving birth. With the introduction of the paid ML, women will increase (or decrease less) employment upon learning that they are pregnant to meet the employment requirement for ML before childbirth. Moreover, women will possibly increase hours to accumulate higher average *earnings* compared to the situation without paid ML because the marginal benefit of working an extra hour increases, as higher average prior earnings raise the ML benefit. We observe *employment* at the extensive margin, and *employment earnings*, which reflects both hours – the intensive margin of labor supply – but also wages. We denote these pre-birth effects as anticipation effects.

Paid ML could reduce post-birth labor market *participation* of women, through an income effect, or increase it through job protection (Lalive et al., 2013). But since job protection was already available

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<sup>20</sup>Maternity leave (ML) offers job protection and benefits to all eligible women. Job protection was already available under previous regulations, but benefits were not mandatory before the policy change in 2005 and were only available to those women employed in firms offering employer-funded maternity leave with varying lengths, eligibility criteria and levels of benefits. The benefits under the federal mandate became proportional to average earnings prior to birth (up to a cap), and conditional on an active employment history.

<sup>21</sup>Mandated employer provided ML is costly to firms and it can lower wages of women (Gruber, 1994). Firms that are more highly exposed to ML tend to hire more replacement workers, increase hours on incumbent workers, thereby increasing the wage bill. These effects are especially strong for small firms (Brenøe et al., 2020; Gallen, 2019; Bartel et al., 2021; Ginja et al., 2022). In our context, the federal mandate is financed through a small social security contribution increase, and many employers decided to offer paid leave before the federal mandate. The federal mandate thus lowers the costs of employing women on ML, and employers who previously offered paid ML could raise women’s wages, extend the leave beyond the mandated level or offer other family friendly policies to women returning from paid leave.

to women before the policy change, its effects are likely to be limited. Paid ML likely affects the share of women in *employment*, and especially the share *employed at pre-birth employer* because women invest more into their jobs prior to birth, so the value of returning to the pre-birth employer increases. Also, women who work in firms that offered paid ML before the mandate may be offered better jobs or more flexibility upon returning to work, since employers can offer paid ML at a lower cost with the mandate compared to without it. If women are employed more, they need to rely less on other forms of transfer, e.g. unemployment insurance.

Introducing paid ML raises the *cumulative income* of families who have one child, both through working more prior to birth, and through the ML benefit after birth. This increase in income may contribute to increase *subsequent fertility*. Family income increases directly for women whose employer did not offer paid ML before the mandate. Women who work for an employer that already offers paid ML before the mandate may not receive a higher monetary transfer, but their employers could offer better work conditions, or child care, which in turn lower the costs of having an additional child.

Child-care is a second key policy to support working parents. The costs of having an additional child are low in areas that offer generous child care, and high in areas that offer little child care. The fertility effects are thus expected to be stronger in areas with generous child care compared to areas with little child care. Employment effects may also be heterogeneous with respect to the availability of child care. Generous availability of child care limits the extent to which women depend on the pre-birth employer to offer child care, and women could be less likely to return to the pre-birth employer.

Maternity leave intends to facilitate having children while pursuing a career, but whether the short paid leave offered in the Swiss context has any impact is not clear. The Swiss mandate introduces a short paid maternity leave in firms that did not offer it. Firms that already offered leave can decide to complement it with other family policies, so we can compare the effects of introducing a short paid leave to complementing an existing leave, which goes beyond the mandated level. Women who benefit from a short leave might be better off in terms of income, but may not be able to fully return to the careers held prior to birth. Complementing a short leave with more family policies, e.g. child-care, might then be more valuable than introducing a short leave – evidence of non-linearity in the effects of leave. If firms that already offered the leave do not complement it with other policies, the effects of the mandate will be weaker for women in firms that already provided leave compared to those where leave gets introduced.

## 3 Data and Descriptive Evidence

### 3.1 Data Sources

Our analysis is based on data compiled from three different administrative registers provided by the Swiss Federal Office of Statistics (FOS) and the Central Compensation Office (CCO). These are the Swiss federal population census (FOS), the Swiss social security register (CCO), and the vital statistics register of Switzerland (FOS).

The federal population census contains sociodemographic information about the residential population of Switzerland in December 2010 and December 2012. It includes information on an individual's status within a household (head, spouse or child), sex, date of birth, marital status, date of last change in marital status, current municipality of residence, past municipality or country of residence and more. In addition, the population census links individuals within a household and parents with their children. All individuals can be identified through their unique (anonymized) social security number called 'AVS13'. Our baseline sample are women (and their partners) who had a child between 1st January 2003 and 31st December 2007, and who were living in Switzerland in December 2010.

For each mother and partner in our sample, we retrieve their social security register information from 1995 to 2014 using the AVS13. The social security register records all individual earnings from employment and self-employment, as well as any federal benefits received for maternity leave, unemployment, disability, military service, and more.<sup>22</sup> The information is provided for spells of various lengths (from one day to one year) within the same calendar year. We aggregate all data at a monthly frequency and transform the nominal earnings data into real earnings using the CPI with base year 2010.

We complement this data with the vital statistics register covering the period from 1995 until 2014. This register for life events records information on individuals' marriage, divorce, live births, as well as complementary data such as residence at different life events, paternal acknowledgments of births (for unmarried parents), divorce arrangements, and more. From 2011 onward, the AVS13 is recorded for all involved individuals of a life event.

We merge the first two registers using individuals' AVS13. The third register is merged using the AVS13 for events from 2011 onwards and using unique combinations of date of life events, woman's date of birth and partner's/children's date of birth for life events prior to 2011.<sup>23</sup> From this merged

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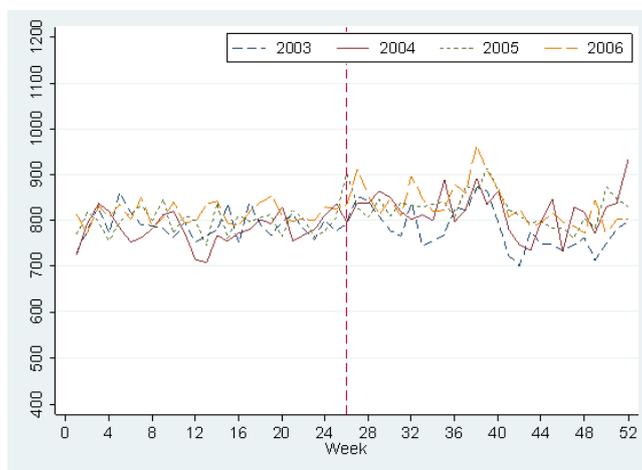
<sup>22</sup>Every resident aged 18 years and above with annual earnings above 2,300 CHF must contribute to social security. Those with annual earnings below 2,300 CHF (corresponding to less than half of median monthly earnings) can choose to contribute voluntarily.

<sup>23</sup>This procedure allows us to match 96% of all births and 80% of all marriages. The unmatched marriages almost uniquely concern foreign individuals who are likely to have been married abroad. We do not include them in our main analysis.

data set, we construct a monthly panel of every woman’s labor market status, earnings, federal social security benefits received (including paid maternity leave), marital status, canton of residence and all living children born to her since she appeared in the social security register (usually between the ages of 18 and 20 years).<sup>24</sup> Our final data set spans the period from January 1995 to December 2014.

### 3.2 Descriptive Evidence

Figure 1 plots the total weekly number of births of Swiss women in Switzerland for the years 2003 to 2006. The vertical red line marks the week of implementation of the maternity leave mandate on 1st July 2005.



Notes: Figure provides the number of births by week. The dashed vertical line identifies week 26 (week of year of 1st July 2005).  
Source: Authors’ calculations using Swiss vital statistics register.

Figure 1: Weekly number of children born to Swiss women 2003 - 2006

Total numbers of births vary from week to week and over different years. Yet, while we observe some seasonal patterns in the total numbers of births, for example, an increase followed by a drop around 38 to 40 weeks after Christmas/New Year, there is no evidence of a drop in fertility prior to the introduction of the maternity leave mandate or an increase after its implementation on 1st of July 2005, nor is there any apparent time trend.

Following this descriptive evidence, we construct two samples of women who had their first child in two three-month periods in 2005, one before and one after the mandate became effective. Our pre-reform group comprises of women who had their first child in the period from 1st January 2005 to 31st March 2005, our post-reform group are first-time mothers of children born from 1st July 2005 to 30th September 2005.<sup>25</sup> We restrict our sample to women with Swiss nationality, who were not

<sup>24</sup>The source of earnings is used to construct the labor market status. If an individual has any earnings from (self-)employment, they are classified as “employed” even if they receive some unemployment benefits. Similarly, months with some days of employment and unemployment are classified as “employed”. We do not directly observe hours worked but construct a measure of “full-time” and “high part-time” employment by comparing current earnings to those one year prior to birth (when most women work full-time).

<sup>25</sup>We exclude first-time mothers giving birth between 1st April and 30th June 2005 as they received partial benefits.

Table 1: Descriptive Statistics

	Jan-March05	Jul-Sept05	
<b>A Demographics</b>	Before	After	Mean Difference
Age at first birth	30.488 (0.071)	30.005 (0.068)	-0.483 (0.098)
Age first observed	18.756 (0.032)	18.711 (0.030)	-0.045 (0.044)
Married at first birth	0.764 (0.006)	0.776 (0.006)	0.012 (0.008)
<b>B Labour market history</b>			
Share in labour force (LF) 12m prior to first birth	0.903 (0.004)	0.912 (0.004)	0.009 (0.006)
Share employed among those in LF 12m prior to first birth	0.981 (0.002)	0.980 (0.002)	-0.001 (0.003)
Monthly income from employment (CHF) 12m prior to first birth	5217.162 (40.465)	5234.869 (41.131)	17.707 (57.789)
Cum. experience (months) from 6y to 12m prior to first birth	50.702 (0.232)	51.061 (0.223)	0.359 (0.322)
<b>C Eligibility and treatment</b>			
Eligible	0.841 (0.005)	0.853 (0.005)	0.012 (0.007)
Received federal paid maternity leave	0.000 (0.000)	0.808 (0.005)	0.808 (0.006)
Received federal paid maternity leave among eligible	0.000 (0.000)	0.896 (0.004)	0.896 (0.005)
Share with 50% of pre-birth income 1m to 3m after birth	0.552 (0.007)	0.850 (0.005)	0.298 (0.008)
<b>Observations</b>	<b>5,119</b>	<b>5,412</b>	

Mothers who had their first child between January and March in 2005 were not affected by the reform and are classified as before the reform. Those who had their first child between July-September in 2005 are classified as after the reform. The third column displays the difference between the first two columns. We define as eligible those women who had been in the labor force for eight months prior to the actual birth of their child and had been employed (or officially unemployed) for at least five months during pregnancy. Standard errors are in parentheses.

living in the canton of Geneva, and who were aged between 15 and 45 years old at the time of birth following the literature (Lalive and Zweimüller (2009)).<sup>26</sup> The pre-reform and post-reform groups comprise of 5,119 and 5,412 first-time mothers, respectively. Table 1 presents descriptive statistics on demographics, labor market outcomes and potential federal maternity leave eligibility for these two groups in our sample.<sup>27</sup>

Pre-reform and post-reform first-time mothers are similar in many respects, in particular in terms of labor market histories and potential eligibility for maternity leave. Twelve months prior to giving birth, pre-reform and post-reform women have almost identical labor force participation rates (90.3%

Effects of the reform on partially treated mothers are quantitatively smaller, as one would expect from attenuation bias. Results are available upon request.

<sup>26</sup>For women without Swiss nationality, we often lack complete marital and residence histories. In addition, the period covered coincides with intensified economic relationships with the European Union (EU) that allowed for the free movement of persons between the EU and Switzerland. This drastically changed the composition of non-Swiss women in the sample over this period. We also exclude first-time mothers from Geneva since this canton already had an existing paid maternity leave mandate since 2001 and women in these cantons would, therefore, have been unlikely to respond to the new federal mandate.

<sup>27</sup>Eligibility for federal maternity leave benefits depends on the *expected* date of birth, which we do not observe in our data. To define potential eligibility in our data set, we use information on the *actual* date of birth of a child but reduce the requirement of being in the labor force prior to birth to eight months (instead of nine) and keep the employment requirement unchanged at five months.

and 91.1%, respectively), employment rates (98.1% and 98.0%, respectively), monthly earnings (5,224 CHF and 5,242 CHF, respectively) and cumulative work experience (50.7 vs 51.1 months over the last 60 months, respectively). Furthermore, the eligibility for federal maternity leave is also very similar at 84.1% and 85.3%, respectively. None of these differences are statistically significant at the 5% significance level. Given that many firms offered paid maternity leave prior to the mandate, the discontinuity in the share of women receiving federally paid maternity leave overestimates the share of women affected by the introduction of the mandate. We thus also report the share of women who earned at least 50% of their pre-birth income one to three months after giving birth. This share increased from 55% in the pre-reform cohort to 85% in the post-reform cohort.

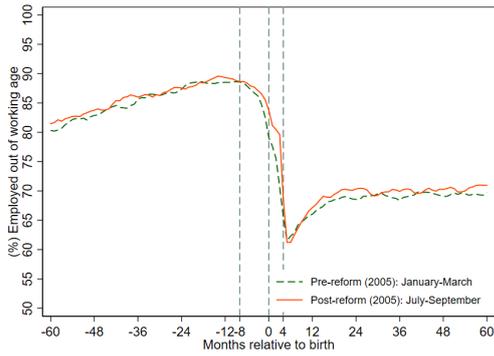
One dimension in which pre-reform and post-reform mothers differ slightly are socio-demographic characteristics. The average age when mothers give first birth drops from 30.5 to 30 years among post-reform mothers (a statistically significant difference at the 1% level), and the share of married mothers at first birth increases from 76.4% to 77.6% (albeit not statistically significant). However, these differences are driven by seasonality effects unrelated to the reform and will be taken care of by our estimation strategy (see Section 4).

Figure 2 sheds further light on the dynamics of various labor market outcomes around the birth of the first child and subsequent fertility. It plots employment, monthly earnings, job continuity (i.e., employment at pre-birth employer) and the share with a second child of pre-reform (dashed line) and post-reform women (bold line) in a 10-year-window around the birth of the first child.<sup>28</sup> The first column presents the outcomes for pre- and post-reform women who had a child in the year 2005. The second column shows the same outcomes for women who had a child in the same two three-month periods in the year 2004. These later women were not affected by the maternity leave mandate for their first child. The horizontal axis represents time in months relative to the birth month of the first child (marked by a dashed vertical line at month zero). The dashed vertical line at four months marks the approximate end of the federal paid maternity leave period. The dashed vertical line at eight months prior to birth represents the start of the period of employment during pregnancy that is needed to become eligible for the federal paid maternity leave if the woman did not work previously.

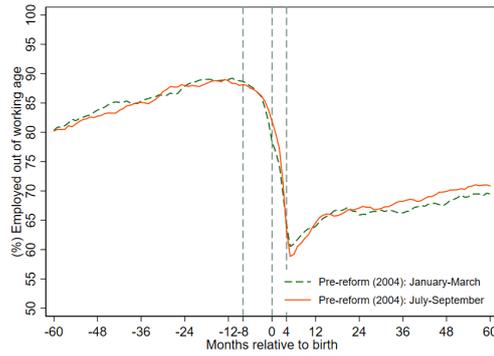
Figure 2a shows a share of female employment of almost 90% one year prior to giving birth. Employment declines to about 80% at the time of birth followed by a further drop, reaching a minimum at 60% four months after birth. It subsequently increases to about 70% within one year post-birth

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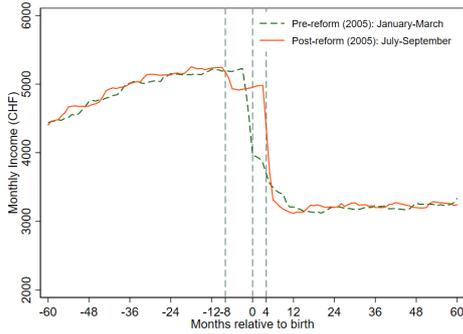
<sup>28</sup>We define women who receive federal maternity leave benefits (or maternity leave payments from their employer) as being in the labor force and employed. However, those on unpaid leave are considered being out of the labor force. We adopt this definition as we only observe income and the source, but not the effective labor market status (i.e., hours worked, paid and unpaid leave, being out of the labor market). We define as pre-birth employer the main employer of a woman at 12 months prior to first birth.



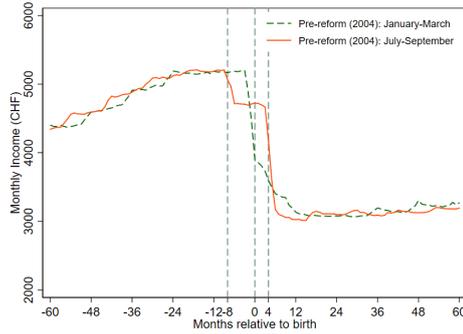
(a) Share Employed - 2005



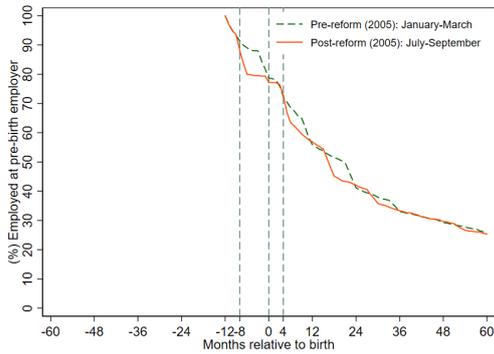
(b) Share Employed - 2004



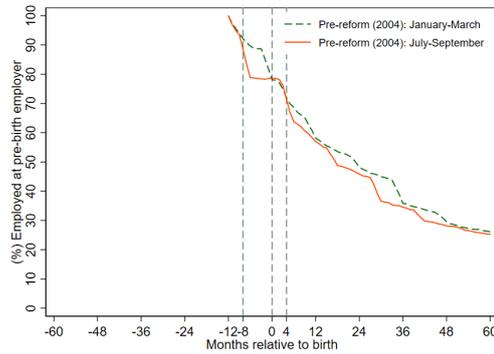
(c) Monthly Earnings - 2005



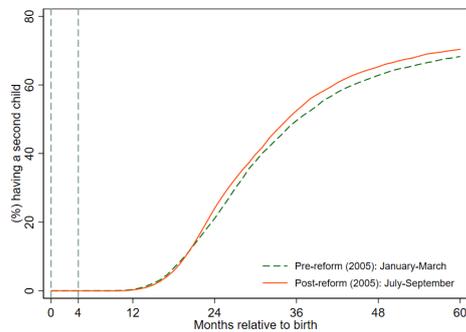
(d) Monthly Earnings - 2004



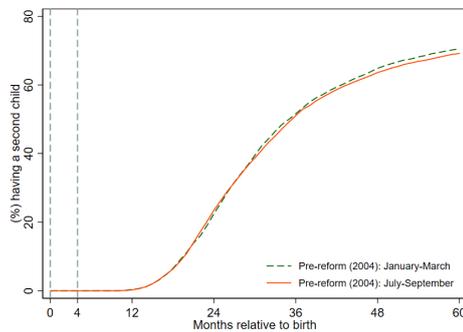
(e) Share Employed at Pre-Birth Employer - 2005



(f) Share Employed at Pre-Birth Employer - 2004



(g) Share with Second Child - 2005



(h) Share with Second Child - 2004

Notes: The figures of employment and fertility include all Swiss women (excl. Geneva). Employment at pre-birth employer (i.e., 12 months prior to the first birth) and monthly earnings are computed using the sample of employed Swiss women only. Women on paid maternity leave are classified as employed. Women on unpaid maternity leave are classified as out of the labor force.

Source: Authors' calculations using the merged data set.

Figure 2: Main Outcomes

and remains fairly constant afterwards. The trend before birth is very similar for pre-reform and post-reform women. After birth, however, post-reform women are slightly more likely to be employed than pre-reform women during the four months following birth (a direct result of the federal maternity leave mandate) and in the three years following birth. For women who had their first child in 2004, the overall trends are similar (see Figure 2b).

Figures 2c and 2d present monthly earnings including maternity leave benefits of employed women. These earnings patterns could be interpreted as the intensive margin of labor supply, that is, the hours worked, if we assume that hourly wages remain constant over this period. The trends in earnings leading up to 12 months prior to birth, as well as earnings trends 12 months after birth are very similar not only across years, but also between pre-reform and post-reform women. Moreover, both year cohorts and groups of women see important drops in earnings - though at different times relative to birth. Women giving birth between January and March experience a sharp decrease in earnings in the three months leading up to birth, while earnings of women giving birth between July and September drop at seven months prior to birth (though to a smaller extent for the 2005 cohort) and four months after birth. These seasonal patterns are observed across both year cohorts and point towards strong end-of-year effects when working contracts are re-negotiated. Strong seasonal patterns are also apparent for the share of first-time mothers employed with their pre-birth employer (see Figures 2e and 2f).

Finally, Figures 2g and 2h depict the share of women who had a second child in the five years after the birth of their first child. Post-reform women in 2005 were slightly more likely to have a second child around 24 months after the birth of their first child than the pre-reform women in the same year. This difference is not merely a temporary gap but it remains (and slightly widens even) until the end of the five years analyzed. For women giving birth in 2004, we find no evidence of a difference across the two three-month periods (if anything, those giving birth between July and September are slightly less likely to have a second child).

Overall, the descriptive evidence points towards small to no changes in employment, strong seasonal patterns, drops in earnings and job continuity both before and after birth, as well as slight differences in subsequent fertility.<sup>29</sup> The observed differences between the pre-reform and the post-reform women in 2005 could be the result of the federal maternity leave mandate or they could be caused by other factors. In the next section, we present the identification strategy which we use to pin down the causal effects of being covered by the federal maternity leave mandate for the first child.

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<sup>29</sup>Appendices A.A and A.C present further descriptive evidence on marital status changes and unemployment.

## 4 Empirical Design

We employ a difference-in-differences design (similar to [Lalive et al. \(2013\)](#) and [Schönberg and Ludsteck \(2014\)](#)) to estimate the causal effects of the federal maternity leave mandate on first-time mothers' labor market outcomes and subsequent fertility. Our identification strategy hinges on comparing the outcomes of women who had their first child in a three-month period prior to the reform (1st January to 31st March 2005) with those who had their first child in a three-month period after the federal mandate became effective (1st July to 30th September 2005).<sup>30</sup> To isolate the causal effects of the federal mandate from seasonal differences across birth months, we use women who had their first child in the same three-month periods in the year preceding the reform, that is, 1st January to 31st March 2004 and 1st July to 30th September 2004, as the control group.

We estimate the following regression on all first-time mothers with Swiss nationality (excl. Geneva):

$$Y_{it} = \beta_{0t} + \beta_{1t}Reform_i + \beta_{2t}Months_i + \beta_{3t}Reform_i \times Months_i + x_i'\theta + \epsilon_{it}, \quad (1)$$

where  $i$  indexes women, and  $t$  indexes months relative to the first child's birth-month ( $t$  runs from 12 months before birth, to 60 or 108 months after birth in our main analyses). The binary variable  $Reform_i$  is equal to one if mother  $i$  gave birth to her first child in the reform year 2005 and zero otherwise.  $Months_i$  is a binary variable equal to one if mother  $i$  gave birth to her first child between 1st July and 30th September, and zero otherwise. The interaction term between  $Reform_i$  and  $Months_i$  reports the difference in outcomes of exposed and non-exposed mothers in 2005 relative to the difference in outcomes of mothers who had their first child in the same months in 2004. The coefficient on the interaction term, i.e.,  $\beta_{3t}$ , is the coefficient of interest as it identifies the causal effect of the federal maternity leave mandate on first-time mothers' outcomes in month  $t$  relative to the first child's month of birth.  $x_i'$  is a vector of individual characteristics of the mother including her age at birth, her marital status one year prior to birth and her pre-birth employment characteristics, such as cumulative work experience and cumulative income from six years to 12 months prior to birth.

For the dependent variable  $Y_{it}$ , we use different contemporaneous and cumulative labor market outcomes, as well as subsequent fertility of first-time mothers. The contemporaneous measures include labor force participation, share in employment, share in unemployment, real earnings from employment, share employed at pre-birth employer among employed mothers, the share working full-time (defined as earning at least 80% of pre-birth earnings) and the share working high part-time (earning

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<sup>30</sup>While women who had their first child before 25th March 2005 were not exposed to the mandate at all, women who had their first child between 25th March and 31st March were partially treated and potentially eligible for one to six days of paid maternity leave. This is negligible in comparison to the 98 days provided by the mandate and if anything, would only bias our estimates towards zero.

between 50% and 80% of pre-birth earnings). The cumulative measures include the share ever returned to employment, cumulative employment earnings post-birth (all since six months post-birth) and cumulative total earnings (including maternity leave benefits and other transfers) since nine months prior to the first birth. Finally, the share of women who had a second child measures subsequent fertility. We also construct a measure of reconciling (full-time) work with young children, that is, the share of women who work full-time and have their youngest child below 2 years old.

We estimate Equation 1 for different outcomes at different points in time relative to the month of birth of the first child indexed by subscript  $t$ .  $t$  equaling zero signifies the birth month of the first child for a woman  $i$ . Positive values indicate the months after birth for each woman  $i$ , while negative values indicate the months before birth. We estimate the equation for each outcome at 6, 12, and every 6 months until 60 months after birth (108 for subsequent fertility). Moreover, for labor market outcomes, we also report the estimation results for -12, -9, -6, -3 and -1 month prior to birth to uncover possible anticipatory effects of the mandate. For example, when we estimate Equation 1 for labor force participation at six months after birth, the coefficient  $\beta_{3t}$  reports the causal impact of the reform on labor force participation of mothers at six months after the birth of their first child.

There is one potential threat to our identification strategy and two caveats for interpreting the results. These are i) the selection into treatment through deferred fertility and timing of births, ii) the selection into eligibility for the federal maternity leave policy, and iii) the use of the 2004 cohort as a control group. The first threat, selection into our post-reform treatment group through timing of fertility and births, seems unlikely for three reasons. First, the implementation date of the reform on 1st July 2005 only became known on 24th November 2004. On this date, most (though not all) of the women in our post-reform group would have already conceived their child.<sup>31</sup> Secondly, we do not find any evidence of a significant change in the number of births between early July and end of September 2005 when compared to other years before the reform (see Section 3.2 for more details).<sup>32</sup> Finally, the sample of first-time mothers giving birth between January and March 2005 is very similar in terms of observed demographic and labor market characteristics to the sample of first-time mothers giving birth between July and September 2005. The observed differences in mothers' age at birth and the share married at birth are related to seasonal effects unrelated to the reform.<sup>33</sup>

<sup>31</sup>For the remaining women, one should bear in mind that only 30% of all couples conceive spontaneously within the first month of trying (Taylor (2003)).

<sup>32</sup>This does not preclude, however, selection into first-time fertility further away from the implementation date of the reform. In fact, changes in maternity leave benefits can have strong effects on first-order fertility as shown by Raute (2019) for a German reform in 2007.

<sup>33</sup>Figure A.1 in Appendix A.A presents the cumulative share of married women at any month relative to the birth of the first child who were single one year before birth. To formally test if the demographic composition of first time mothers changes across groups, we run the same DiD regression as described above using age at birth and marital status (i.e., a dummy indicator for being married) as dependent variables. The interaction coefficient of  $Reform_i$  and  $Months_i$  is not statistically significant at any conventional level for age at birth and the marital status. The estimation results

While it is unlikely that post-reform women were able to time their births to invalidate our identification strategy, they could have affected their eligibility for the federal maternity leave prior to giving birth through increased labor force participation (extensive margin of labor supply) or by increasing (or not decreasing) the hours worked (intensive margin of labor supply). Thereby, they would qualify for higher maternity leave benefits, since these benefits are calculated based on average pre-birth earnings. To alleviate concerns about potential biases due to endogeneity of eligibility, we include all women who were exposed to the reform - except for those living in Geneva - irrespective of whether they actually received maternity leave benefits. Therefore, we estimate an intent-to-treat effect. Moreover, we include some months prior to birth in the analysis, which allows us to quantify anticipatory effects along several dimensions.

The use of the preceding year as the control group is common in the literature (see [Lalive et al. \(2013\)](#) and [Schönberg and Ludsteck \(2014\)](#)), yet it is important to recognize that the causal effect we identify relates to having been potentially covered by the *federal mandate for the first child* rather than the effect of the federal mandate per se. For all outcomes measured at 12 months or more after birth, the control group could also become eligible for paid maternity leave if they have another child. If the federal mandate has only temporary effects for the first child without any follow-on effects, we would not expect to see any significant effects beyond the 12-month threshold. For robustness, we also report the results using the 2003 cohort of first-time mothers as an alternative control group.

## 5 Results

We report the causal impact of the introduction of the federal paid maternity leave mandate on various contemporaneous labor market outcomes of first-time mothers as well as on their subsequent fertility. For all estimated effects of the mandate, we report the corresponding confidence intervals using robust standard errors.<sup>34</sup>

### 5.1 Work and Fertility Outcomes

Figure 3 depicts the estimated coefficient of interest at different times, that is, the coefficient  $\beta_{3t}$  from Equation 1. It captures the causal effect of being covered by the federal maternity leave mandate for the first child on mothers' labor market outcomes (Panels (a) to (c)), subsequent fertility (Panel (d)), and the cumulative financial impact (Panel (e)) at different months  $t$  relative to the first child's month

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are shown in Appendix A.B.

<sup>34</sup>Given that the policy implementation was universal and that our administrative data set covers the population of women in the reform year and control year cohorts, we rely on robust rather than clustered standard errors (see [Abadie et al. \(2017\)](#)). However, using clustered standard errors at the local labor market level (with more than 100 clusters) yields very similar inference results.

of birth. Light and dark vertical lines indicate the 95% and 90% confidence intervals respectively. Tables C.1 and C.8 in Appendix C present the corresponding estimated effects, with robust standard errors and p-values.

Overall, we do not find any significant effect of the federal mandate on employment prior to or after the birth of the first child (Figure 3(a)). Our results show a weak S-shaped pattern in employment with a moderate, positive employment effect of 1.6 percentage points at 18 months after birth followed by small, negative effects from 30 months onward. None of these estimates are statistically significant. Our estimates on labor force participation and unemployment are quantitatively even smaller (see Figure B.1 in Appendix B).

While there is little evidence that the federal mandate led to labor supply adjustments at the *extensive* margin prior to or after the birth of the first child, real earnings from employment reveal that the *intensive* margin was affected (Figure 3(b)). Our results show an increase in the real earnings of first-time mothers covered by the mandate, both before birth as well as after, though the later increase is much smaller and not statistically significant.<sup>35</sup> Monthly real earnings increase by more than 200 CHF (or four percent) in the months prior to birth. We interpret these statistically significant estimates as anticipatory effects of the reform. Assuming constant hourly wages during this period, women who are likely to be covered by the federal leave mandate increase their hours worked (or decrease them less) prior to giving birth and before the mandate is implemented compared to pre-reform women. Most of this effect arises from women continuing to work full-time during pregnancy rather than reducing their work-time to a high part-time percentage (see Figure B.1, Panels (e) and (f) in the Appendix). By doing so, they stand to qualify for higher maternity leave benefits, since this is calculated at a rate of 80% of pre-birth earnings. After birth, these earnings effects remain positive, but they are much smaller in size and are not statistically significant.

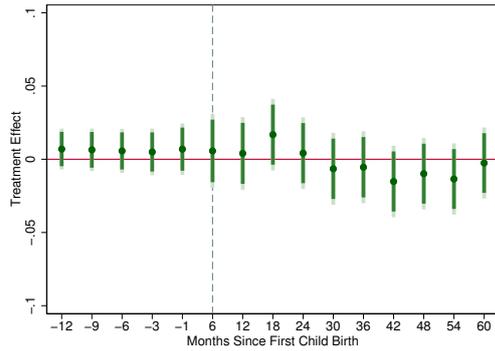
We also find moderate, positive effects in terms of job continuity.<sup>36</sup> Women exposed to the reform are slightly more likely to stay with their pre-birth employer during pregnancy and significantly more likely to be working for the same employer in the medium term after the birth of their first child (Figure 3(c)). This improvement in job continuity is closely related to the impact of the mandate on higher-order fertility, which will be discussed later.

The mandate increases subsequent fertility to an important extent (Figure 3(d)). Post-reform women are two percentage points more likely to have a second child 24 months after the birth of the first. In the long run, that is, nine years after the first child's birth, the fertility gap still persists

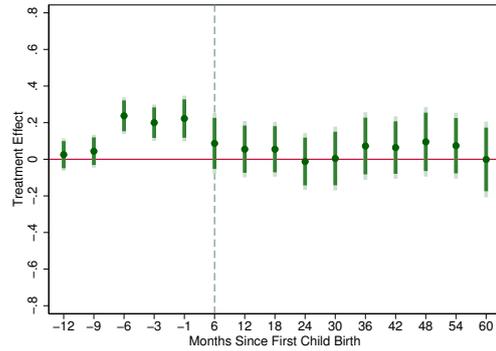
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<sup>35</sup>Earnings are adjusted for yearly inflation by using the CPI with base year 2010.

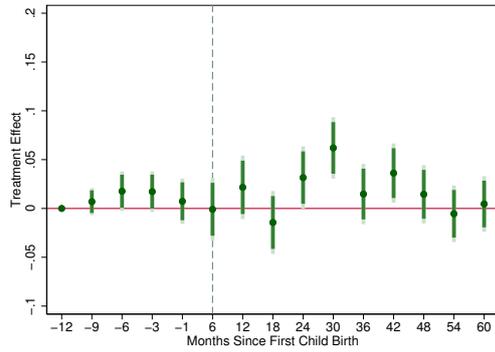
<sup>36</sup>We measure job continuity with an indicator variable that is equal to one if an employed woman in month  $t$  still works for the same employer as at 12 months prior to birth.



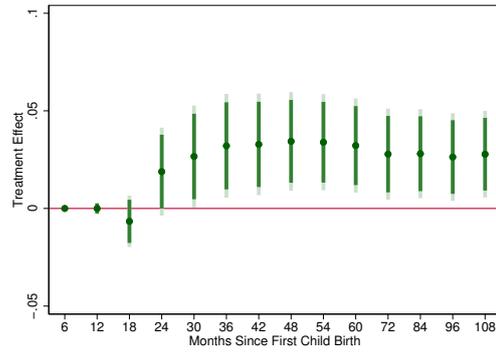
(a) Share Employed



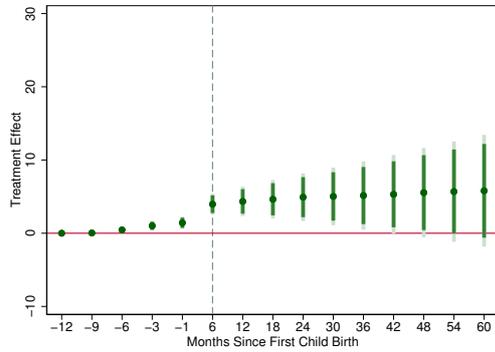
(b) Employment Earnings (in 1000s CHF)



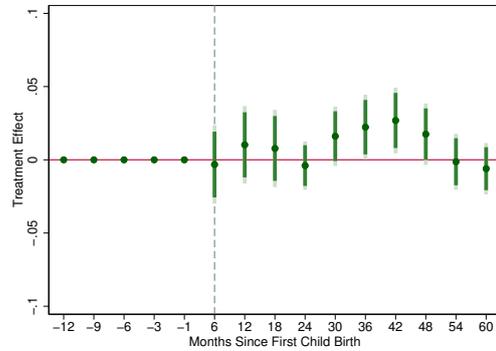
(c) Share Employed at Pre-Birth Employer



(d) Share with Second Child



(e) Cumulative Total Earnings Since 9 Months Pre-Birth (in 1000s CHF)



(f) Share Working FT with Child Below 2

Notes: Treatment effects identified by our DiD model for all Swiss women in our sample (excl. Geneva). All regressions control for mothers' characteristics such as age at first birth, indicator of marital status (married) one year prior to birth, cumulative work experience and cumulative income from six to one year prior to first birth of first childbirth. Subfigure (a) shows the effects of the federal mandate on the share of women in employment at various points in time pre- and post-birth. Subfigures (b) and (c) relate to employed women. They show the effects on real earnings from employment and the share returning to their pre-birth employer (i.e., the main employer 12 months prior to birth). Subfigure (d) shows the effect on the share of women who had (at least) a second child up in the period up to 9 years after the birth of first birthchild. Subfigure (e) presents the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since nine months prior to the first birth (i.e., around the time of conception). All earnings are adjusted for inflation by using the CPI with base year 2010. Subfigure (f) shows the effect on the share of women who work full-time (i.e. earning at least 80% of pre-birth earnings) and whose youngest child is less than 2 years old. Light vertical lines indicate the 95% confidence intervals, the dark vertical lines indicate the 90% confidence intervals. The dashed vertical line separates the time horizon into a pre-birth and post-birth period. Robust standard errors are used.

Figure 3: Results on Employment, Earnings and Subsequent Fertility

and stands at 2.8 percentage points (statistically significant at the 5% level). Given that around 70% of all first-time mothers have another child in the control group, this corresponds to an increase in subsequent fertility of four percent. The weak S-shaped pattern in employment and increased job continuity post-birth are best understood in relation to the timing of the second child's birth. As discussed above, the share of employed mothers among those covered by the mandate increases 18 months after the first birth (albeit not statistically significant), most likely with the aim of achieving eligibility for maternity leave benefits for the second child. Moreover, job continuity also increases around (and after) the second child's birth, only to dissipate in the long run.

The subsequent fertility effect is particularly interesting because pre-reform women could also become eligible for paid maternity leave for subsequent children, yet fewer of them go on to have a second child. While identifying the unambiguous cause of this result proves difficult with our data set, our findings suggest that a positive overall financial impact of the mandate and an improvement in reconciling full-time work with young children are at the core of this increase in subsequent fertility. To measure the financial impact of the federal mandate, we construct cumulative earnings since nine months prior to the first child's birth.<sup>37</sup> We find that women covered by the mandate accumulated significantly higher earnings during pregnancy, after maternity leave ends, and in the medium run after the first birth (Figure 3(e)). By the time couples consider whether to have a second child or not (that is, from around the time the first child has turned one year old), mothers under the mandate have experienced a statistically significant, positive total financial impact of the reform of around 4,340 CHF. This amount equals almost one month of median pre-birth earnings. However, there is a second effect of the mandate which goes beyond its financial impact which is reconciling full-time work and having young children. Figure 3(f) depicts the share of mothers working full-time (measured as having at least 80% of pre-birth earnings) whose youngest child is below two years old. While the mandate did not improve the reconciliation of full-time work and having a young child around the birth of the first child in a significant way, it did increase the share of full-time working mothers with young children by around two percentage points around the birth of the *second* child (i.e. 30 to 48 months after the first child's birth).

We find similar quantitative effects on subsequent fertility as reported by [Lalive and Zweimüller \(2009\)](#) for the Austrian reform in 1991. This result is interesting since their paper studies an extension of a *long* maternity leave from one to two years with *relatively low benefits* (i.e. a benefit of 240 euros

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<sup>37</sup>The cumulative earnings measure adds up all earnings from employment, self-employment, maternity leave, unemployment and other social security benefits since 9 months prior to the birth of the first child. Given the nature of the data, we cannot distinguish employment earnings from maternity leave earnings paid by the employer prior to the federal maternity leave mandate. Moreover, the mandate led to unemployment insurance benefits during the first 14 weeks after birth being displaced by maternity leave benefits. Hence, cumulative total earnings provide a more accurate measure of the total financial impact of the reform than a measure summing employment and maternity leave benefits only.

per month, approximately 31% of median gross female earnings), while our findings are the result of a *short* maternity leave mandate with *moderate-high benefits*. This comparison suggests that the length (i.e. short versus long) and benefit level (i.e. moderate versus low) across different leave policies might not be as crucial for achieving similar fertility outcomes if the total financial impact is comparable. However, the total financial impact appears too small to cause such a sizeable increase in subsequent fertility. Instead, our results on full-time working mothers with young children indicate that a shift in social norms could have taken place as a result of the mandate, similar to the one found for a maternity leave reform in Germany in 2007 by [Bergemann and Riphahn \(2015\)](#). Our estimated subsequent fertility effect is likely to be an underestimate of the *overall* fertility effect. As shown by [Raute \(2019\)](#) for Germany and [González and Trommlerová \(2021\)](#) for Spain, increases in maternity leave payments and baby bonuses also increase first-order fertility and hence, one would expect an even larger overall fertility effect in Switzerland.

Both the mandate's total financial effect and its impact on improved reconciliation of full-time work and having young children are the likely explanations of the higher subsequent fertility rates of first-time mothers affected by the reform compared to the control group mothers. While both groups of mothers could become eligible for paid maternity leave for their second child, the post-reform mothers have more financial means at their disposal at this point in time and they have personally experienced the federal mandate, both of which have probably led to a higher share of these women having a second child. Several other mechanisms could potentially explain the effect of introducing maternity leave on subsequent births. Subsequent fertility might increase through higher marital stability. In our data, however, marital stability is not affected by the maternity leave mandate. Moreover, [Avdic and Karimi \(2018\)](#) show that parental leave taken by fathers can even decrease marital stability. A second alternative mechanism for increased subsequent fertility could be an improvement in maternal health due to the mandated leave. [Bütikofer et al. \(2021\)](#) find evidence of improved maternal health (even in absence of income effects) as a result of the introduction of 18 weeks of paid maternity leave in Norway in 1977. We cannot investigate the role of this second alternative mechanism - and how it affects subsequent fertility - due to a lack of health data. A third mechanism would work through a better experience after birth due to the ability to take a longer leave which lowers the perceived psychological cost of the next birth. Given that stress rises the most right after a birth, it may be very valuable to have maternity leave right after a birth. This mechanism would arguably imply that subsequent birth effects are strongest among groups of women that were less covered by pre-reform leave, and weaker among women who were already covered. We investigate this conjecture in subsection 5.3.

## 5.2 Child Care Availability

One key determinant of mothers' labor market and fertility outcomes is the availability of child care services when maternity leave ends (Olivetti and Petrongolo (2017)). As a result, we expect complementarities between maternity leave and child care policies. Such complementarities may be particularly prevalent in a context like Switzerland where the demand for child care services by far exceeds its supply (Bundesamt für Sozialversicherungen (2006)).<sup>38</sup> To investigate if these two family policy instruments complement each other, we estimate the effects of the federal maternity leave mandate among women living in cantons with high child care availability and contrast them with those from cantons with low availability. To do so, we use the cantonal child care availability index of Ravazzini (2018) which measures the number of slots for children aged 0 to 3 years in all recognized private and public child care facilities of a canton relative to its population of children of the same age group. We define as high child care availability cantons where more than 10 slots per 100 children aged 0 to 3 years were available in 2002 (roughly corresponding to the median), and low child care availability otherwise. If the federal maternity leave mandate has an overall positive, medium run impact on labor market outcomes, we expect a larger effect where child care slots are relatively more abundant.<sup>39</sup>

Figure 4 depicts the estimated causal effect of the mandate at different times for women living at first birth in cantons with high child care availability (left column) and women living in cantons with low child care availability (right column). Tables C.2 to C.4 and C.8 in Appendix C present the corresponding estimated effects, difference in estimated effects, robust standard errors and p-values.

Women living in cantons with high child care availability (Column A in Figure 4) generally reacted more strongly to the federal maternity leave mandate than those in cantons with low availability (Column B in Figure 4).<sup>40</sup> The difference is particularly notable for the mandate's impact on subsequent fertility. Women living in cantons with above-median child care availability showed a strong and statistically significant subsequent fertility response of around four percentage points from two years post-birth onward, while the effect was much weaker at two percentage points (and not statistically significant) among the group of women living in cantons with lower child care availability. This

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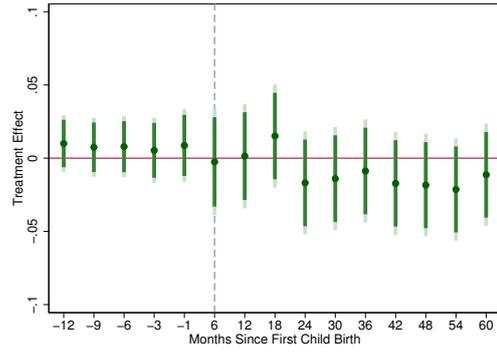
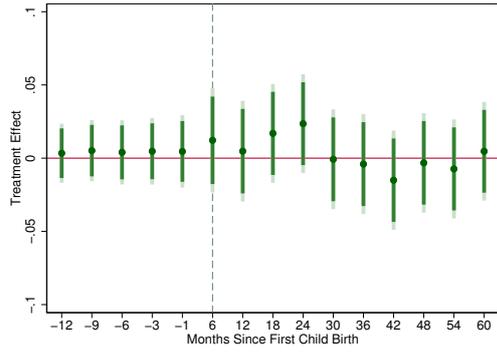
<sup>38</sup>Krapf et al. (2020) study the effect of child care availability on child penalties across municipalities in the canton of Bern in Switzerland from 2005 to 2015. They find that the presence of child care facilities increases female earnings (and decreases the compensating increase in male earnings) in the first year after a child's birth among below median earning households.

<sup>39</sup>Table A.2 in the Appendix presents descriptive statistics on first-time mothers in high child care cantons and in low child care cantons before and after the mandate came into effect. The women across these two broad areas are relatively similar both in their demographic and labor market characteristics, yet those in high child care cantons have slightly higher earnings pre-birth.

<sup>40</sup>Table C.4 and C.8 in Appendix C presents the estimated difference-in-difference-in-difference results between the two groups of women from high and low child care cantons. Note that as a result of the relatively large standard errors, we cannot reject the null hypothesis of an absence of difference-in-means for most estimated coefficients. However, we believe that the quantitative effects and the difference (and its sign) in quantitative effects across groups are interesting and should be seen as a lower-bound estimate due to possible attenuation bias.

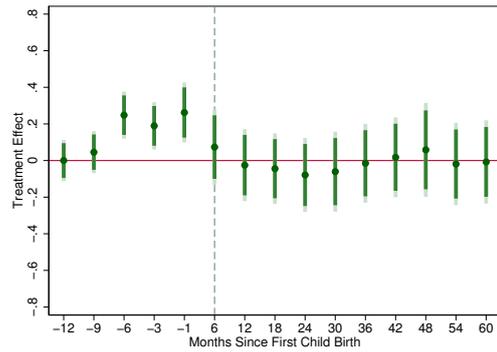
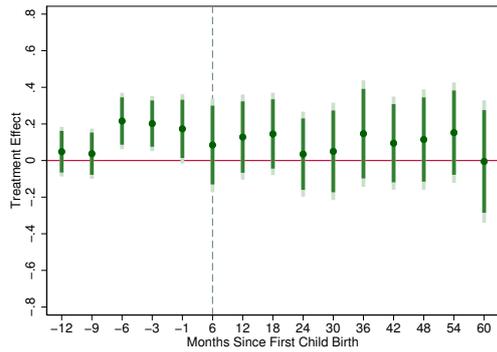
Column A. High Child Care Availability

Column B. Low Child Care Availability



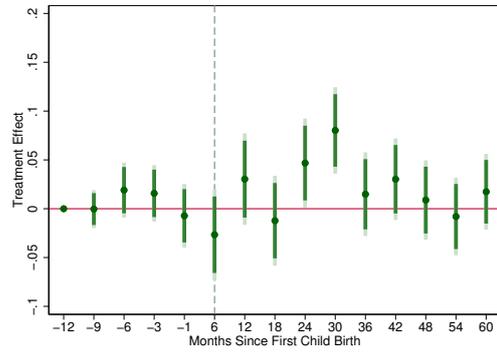
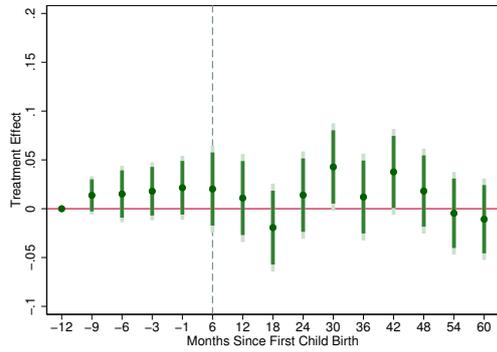
(a) Share Employed

(b) Share Employed



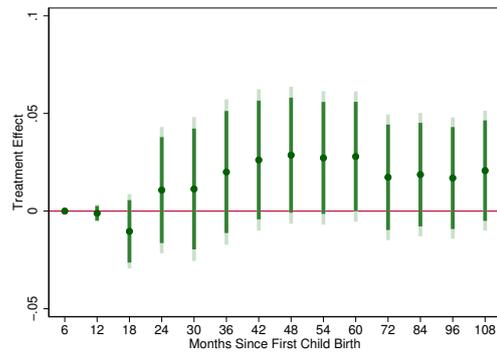
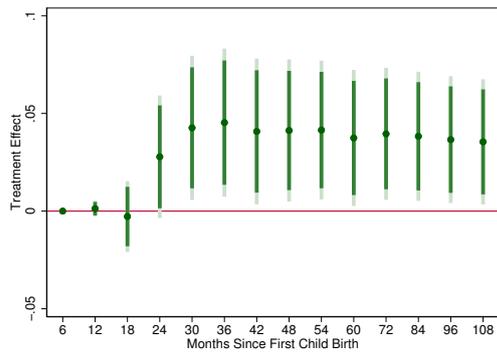
(c) Employment Earnings (in 1000s CHF)

(d) Employment Earnings (in 1000s CHF)



(e) Share Employed at Pre-Birth Employer

(f) Share Employed at Pre-Birth Employer



(g) Share with Second Child

(h) Share with Second Child

Notes: This figure shows the treatment effects for women according to the availability of child care slots in the canton of residence for children aged 0 to 3 years in 2002 (excl. Geneva). All regressions control for mothers' characteristics such as age at first birth, marital status one year prior to birth, cumulative work experience and cumulative income from six to one year prior to birth of first child. We distinguish cantons by whether they offer above or below median number of child care slots in the year 2002 (i.e., 10 slots and more per 100 children corresponds to above-median, while below 10 slots per 100 children corresponds to below-median child care availability). Light vertical lines indicate the 95% confidence intervals, the dark vertical lines indicate the 90% confidence intervals. The dashed vertical line separates the time horizon into a pre-birth and post-birth period. Robust standard errors are used.

Figure 4: Heterogeneous Effects by Child Care Availability

finding on subsequent fertility is surprising. Women in high child care cantons are characterized by a stronger attachment to the labor market, in terms of employment and hours worked as proxied by earnings, and hence, would face a higher opportunity cost of having another child. Women living in high-child care cantons were also slightly more likely to be employed and saw their monthly post-birth employment earnings increase by 100 to 250 CHF as a result of the mandate, though none of these effects are found to be statistically significant.

Women living in cantons with low child care availability, in contrast, showed slightly stronger anticipatory effects in terms of earnings prior to birth and attachment to their pre-birth employer around 24 to 30 months after the birth of the first child, which is for many women around the birth of their second child.

In terms of the cumulative financial impact of the mandate (see Figure B.2 in Appendix B), we find similar effects of the mandate six months after the birth of the first child in both low- and high-child care cantons. However, while this cumulative financial impact dwindles away in low-child care cantons over the following months, it continues to grow and remains statistically significant in high-child care cantons.

All in all, our estimation results point towards some complementarity between maternity leave policies and the availability of formal child care for very young children. Unless child care is widely available for children below three years of age, little impact of maternity leave reforms should be expected beyond the duration of the maternity leave itself. However, if child care is sufficiently available, a short maternity leave mandate could have some small labor market effects in the medium run, and persistent and large effects on subsequent fertility. [Danzer et al. \(2020\)](#) report a similar fertility result for the Australian maternity leave expansion from one to two years in the 1990s on increased family size in communities with formal childcare. Their results on maternal full-time employment suggest - somewhat counter-intuitively - that in communities with formal childcare women had relatively lower full-time employment after birth compared to communities without formal childcare.

### **5.3 Firms with and without prior paid leave**

The mandate affected women differently depending on their employers. It did not directly affect women who worked in firms that already offered a similar paid maternity leave but reduced their employers' costs of providing this benefit significantly. In contrast, the mandate introduced paid maternity leave for the first time to those women working in firms that did not provide such a benefit. Therefore, this raises the following key questions. How did the mandate's impact differ across these two groups of women? Did the mandate have any impact on women who were already covered through

their employers? That is, did firms that provided prior paid maternity leave pass on the resulting cost-savings to their female employees - potential “trickle down effects”?

We do not directly observe if a firm offered paid maternity leave prior to the mandate.<sup>41</sup> However, it is well known that larger firms were significantly more likely to have offered paid maternity leave prior to the mandate than smaller firms.<sup>42</sup> In addition, the availability of pre-mandate paid leave also differed across industries and regions (Aeppli, 2012).

To analyse how the impact of the mandate differed between women working in these two types of firms, we adopt the following two-step procedure.<sup>43</sup> First, we predict the likelihood of receiving paid maternity leave prior to the mandate among the control group based on the firm size of the employed woman before birth, her labour market region, and the social security fund of her employer, which is a proxy for the industry.<sup>44</sup> We exclude women not in the labor force one year prior to the birth of their first child. For the dependent variable, we construct an indicator variable that takes a value of 1 if a woman has earned at least 50% of her pre-birth income (i.e. the average monthly income earned between nine and eleven months prior to the birth of her first child) in the first three months after giving birth (i.e. months one, two and three post-birth) and 0 otherwise. This indicator variable is a proxy for paid maternity leave prior to the mandate because women are not allowed to work in the first eight weeks after birth.<sup>45</sup> We regress this “paid leave” indicator of woman  $i$  in the control group (i.e.  $p_i$ ) on the logarithm of her firm’s size  $size_f$ , and include fixed effects for her labour market region  $\lambda_j$  and her social security fund  $\alpha_k$  as follows:

$$p_i = \beta_0 + \beta_1 * \log(size_f) + \lambda_j + \alpha_k + \epsilon_i$$

Second, we recover the estimated coefficients and fixed effects to predict the likelihood of pre-mandate paid maternity leave coverage among both the control group and the treatment group in years 2004 and 2005.<sup>46</sup> We then split our sample into two groups. First-time mothers are classified

<sup>41</sup>As our data set also includes workers who are self-employed, this information would also be required for self-employed workers.

<sup>42</sup>A non-representative firm survey conducted by Aeppli (2012) revealed that only 42% of small firms (defined as those with less than 50 employees) offered paid maternity leave prior to the mandate, but the share amounted to 67% among large firms (those with 250 employees and more).

<sup>43</sup>Employers who provided paid leave before the reform differ from employers that did not provide prior leave in many other ways. These differences could interact with the provision of *mandated* paid maternity leave. Our results may therefore not solely represent the different impacts of the reform, but it could also reflect the different employers and employees who experienced the mandate.

<sup>44</sup>Our data set does not contain any direct information about the size of firms or industry. However, we can approximate the size of every firm by using the number of all mothers and fathers in our data set (which corresponds to around 11% of the working population at the time) working in a specific firm in January 2004. As a proxy for the industry, we use information on the social security fund. Every firm in Switzerland has to be linked to a social security fund. Some of these funds are private, some of them are for public employers, and others are mixed by covering both public administrations and private employers. Many funds are specifically linked to a certain industry such as a the insurance sector, retail, construction, the hotel and restaurant sector, or the watch making industry. In total, there are more than 70 different funds.

<sup>45</sup>This law has been in place since 1877 and was not affected by the maternity leave mandate.

<sup>46</sup>Predicted paid leave is given by  $\hat{p}_i = \hat{\beta}_0 + \hat{\beta}_1 * \log(size_f) + \hat{\lambda}_j + \hat{\alpha}_k$ .

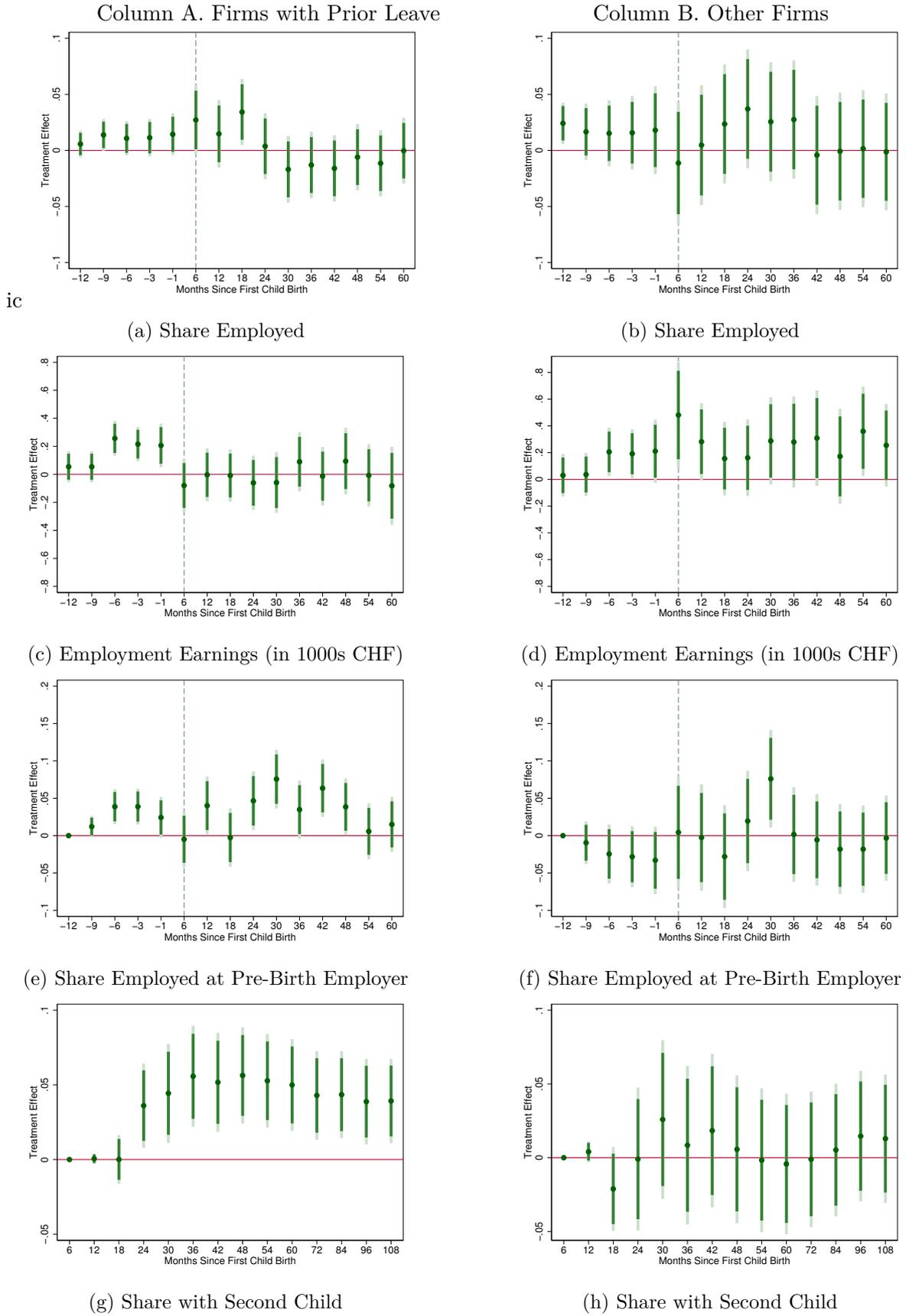
as employed by “firms with prior leave” if the predicted probability exceeds 50%. If the predicted probability is equal to or below 50%, first-time mothers are classified as employed in “other firms”. We then run separate difference-in-difference regressions for women in the two types of firms.

We use this classification based on women’s pre-birth employment characteristics to uncover possible differential treatment effects and trickle-down effects. In the January to March 2005 cohort, almost 70% of women classified as employed in firms with pre-mandate leave had substantial positive earnings in the first three months post-birth, while only 30% of women classified as employed in other firms (see Table A.3 in Appendix A.C). In the first cohort after the mandate came into effect, the shares had increased by approximately 20pp and 50pp, respectively, shrinking the difference in coverage between the two groups to less than 10pp. First-time mothers in “other firms” were directly affected since the mandate introduced of paid maternity leave for many of these women. For women employed in firms with paid leave prior to the mandate, the direct effect of the mandate was arguably smaller. However, for these firms, the mandate represented a decrease in the costs of providing this benefit, and they could potentially pass on these additional funds to their female employees, the trickle-down effects. Whether a very short paid leave affects work and fertility outcomes more than the same paid leave combined with further trickle-down effects is not clear.

Figures 5 and 6 depict the mandate’s estimated causal effect on several labour market and fertility outcomes at different times for women employed in firms offering paid leave prior to the mandate (left column) and women employed in other firms (right column). Tables C.5 to C.7 and C.8 in Appendix C present the corresponding estimated effects, difference in estimated effects, robust standard errors and p-values.

First-time mothers employed in firms with prior leave reacted strongly to the policy reform. The mandate temporarily increased the likelihood of employment in the first 18 months post-birth by nearly three percentage points (Figure 5 Panel (a)) and it boosted job continuity in the first four years after birth (Figure 5 Panel (c)). Most importantly, however, the mandate led to a substantial increase in subsequent fertility. An additional four to five out of 100 of these women had a second child (Figure 5 Panels (g)), a sizeable and significant increase which persists even in the long run (i.e. after nine years). While there are no discernable effects of the mandate on the extensive (Figure 5 Panel (a)) or intensive margin of labour supply (Figure 6 Panels (a) and (c)) in the medium and long term, we find that these women were more likely to work full-time after the birth of their second child (Figure 6 Panel (e)). Taken together, this evidence suggests that the mandate has led to an improvement in reconciling a larger family with (full-time) work for this group.

Women employed in firms without prior leave, in contrast, were affected quite differently by the



Notes: This figure shows the treatment effects by the type of firm (i.e. whether it was likely to offer paid maternity leave prior to the mandate or not) where a woman was employed one year before birth on contemporaneous outcomes (excl. Geneva). All regressions control for mothers' characteristics such as age at first birth, marital status one year prior to birth, cumulative work experience and cumulative income from six to one year prior to birth of first child. Figures in the left column (Panel A) show the effects for those women who were employed in firms with pre-mandate leave one year prior to birth while figures in the right column (Panel B) show the same effects for women employed in other firms one year before birth. Light vertical lines indicate the 95% confidence intervals, the dark vertical lines indicate the 90% confidence intervals (both based on robust standard errors). The dashed vertical line separates the time horizon into a pre-birth and post-birth period.

Figure 5: Heterogeneous Effects by Firm Type

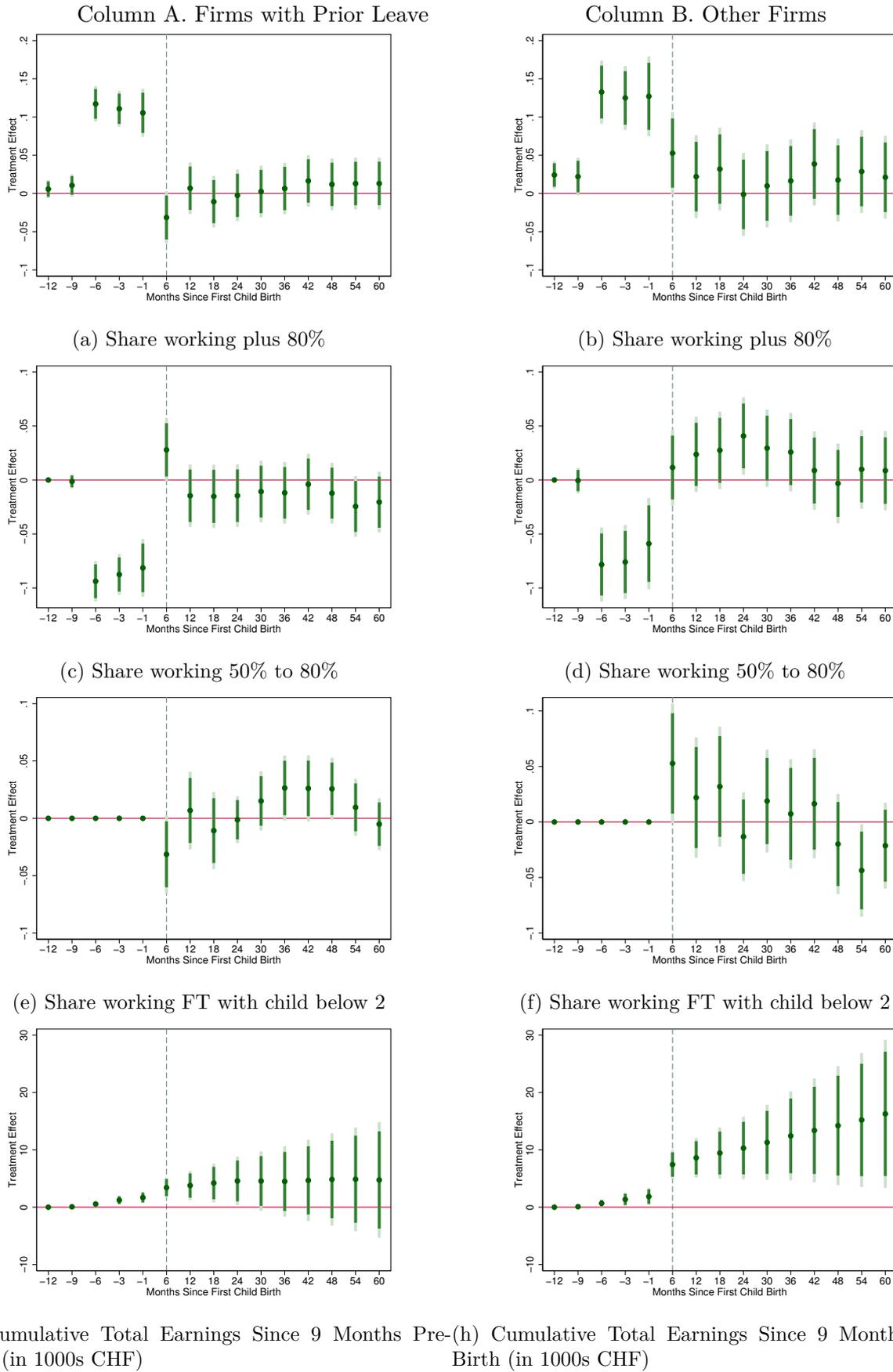
mandate. First, there is no statistically significant effect on subsequent fertility among this group of women (Figure 5 Panel (f)). Second, the mandate instead increased earnings from employment both in the short and long run (Figure 5 Panel (d)) caused by a slight increase in full-time work immediately after returning from leave (Figure 6 Panel (b)) and increased shares of high part-time work in the medium run (Figure 6 Panels (d)).

Comparing the cumulative earnings of women in firms with prior paid leave and those in other firms provides an insight into the mandate's (direct) financial effect. The cumulative *anticipatory* effect of the mandate on earnings was similar (and not statistically different) across the two groups of women. It amounted to 1,680 Swiss francs (with prior leave) and to 1,860 Swiss francs (without prior leave) one month prior to birth (see Figure 6 Panels (g) and (h), Table C.7 in Appendix C). Six months after birth, women employed in firms without prior leave had earned an additional 7,440 Swiss francs as a result of the reform - more than 1.5 months of their median pre-birth income - while the mandate's financial effect was only 3,420 Swiss francs among those working in firms with prior leave. The difference in treatment illustrates a significantly larger direct financial effect among women for whom the mandate introduced paid maternity leave. Moreover, the cumulative financial effect keeps growing over time for women without access to leave prior to the mandate, while it plateaus two years after the birth of the first child for the other women.

Overall, the mandate thus projected previously uncovered women onto a better financial trajectory. At the same time, the mandate allowed women with prior leave provided through their employer to have more children without sacrificing their careers. Given the limited financial impact of the mandate on this latter group of women, this suggests that other factors induced the sizeable shift in subsequent fertility. Non-financial trickle-down effects from affected firms to their female employees could have been important. Survey results from [Aeppli \(2012\)](#) indicate that almost 60% of interviewed firms found that the mandate lowered the financial burden of offering paid maternity leave. According to the same survey, 56% of firms that had offered prior paid leave used some of the freed-up funds to finance other family-friendly benefits. Almost one out of four firms made their paid maternity leave more generous (length and/or benefit level) than the mandated minimum and one in five firms hired a temporary replacement worker. Some firms also created or extended paternity leave, contributed to child care costs or made other adjustments ([Aeppli, 2012](#)). In addition to these trickle-down effects, two other effects could have been at work. First, the mandate probably created goodwill among employers who previously covered the cost of maternity leave themselves. Second, the media coverage surrounding the referendum could have shifted social norms about women continuing working after having children.<sup>47</sup>

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<sup>47</sup>For example, [Kluge and Schmitz \(2014\)](#) argue that a parental benefit reform in Germany had a profound effect on social norms about when mothers should return to work after giving birth. In their review article covering many reforms,



Notes: This figure shows the treatment effects of the mandate by the firms size where a woman was employed one year before birth on contemporaneous outcomes and cumulative total earnings (excl. Geneva). All regressions control for mothers' characteristics such as age at first birth, marital status one year prior to birth, marital status one year prior to birth, cumulative work experience and cumulative income from six to one year prior to birth of first child. Figures in the left column (Panel A) show the effects for those women who were employed in large firms one year prior to birth while figures in the right column (Panel B) show the same effects for women employed in small firms one year before birth. Light vertical lines indicate the 95% confidence intervals, the dark vertical lines indicate the 90% confidence intervals (based on robust standard errors). The dashed vertical line separates the time horizon into a pre-birth and post-birth period.

Figure 6: Heterogeneous Effects by Firm Size: further outcomes

All of these factors would help women better balance work and family commitments.

## 5.4 Robustness

In our main specification, we use as the control group those women who had their first child in the same three-month periods in the year preceding the reform, which is the year 2004. This implies that for all coefficients estimated at 12 months and later relative to the first birth, the control group women would have also been eligible for paid maternity leave for subsequent children. This could raise concerns regarding the interpretation of estimated effects at 12 months and later relative to the first birth.

We also run the same regression analyses as shown before, but which use the 2003 cohort of women as control group.<sup>48</sup> Our robustness analyses reveal very similar qualitative and quantitative patterns as in our previously presented results, indicating that our results are generally robust to the choice of the control group. For some outcome variables the significance level changes slightly. Our preferred specification remains the one with the 2004 cohort of first-time mothers as the control group since the common trend assumption is more likely to hold than for the 2003 cohort.

## 5.5 Discussion

Table 2 (panels A to C) summarises our key findings of the mandate’s causal impact on employment, earnings, subsequent fertility and its cumulative financial effect for the main sample (column (1)), as well as across regions with high and low child care availability (columns (2) and (3)), and firms with and without prior leave (columns (4) and (5)). Panel D shows women’s total earnings in the first four months following birth and the maternity leave payments made by the social security insurance for this period (APG payments). The difference between these two numbers corresponds to the firms’ voluntary top-up of mandated maternity leave payments.

All in all, the mandate primarily had small and temporary effects on women’s employment and earnings after the birth of their first child. Only mothers that worked in firms without paid maternity leave prior to the mandate saw changes in their earnings that persisted in the long run. These women’s monthly earnings increased by around 260-280 Swiss francs after birth, an effect that corresponds to around 6% of their median pre-birth earnings.

The overall financial impact of the mandate, that is, the sum of the direct effect and the indirect effect through endogenous responses in labour supply and fertility, can be measured by the change in

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[Bergsvik et al. \(2021\)](#) highlight that the symbolic meaning and signalling effect of parental leave and other pronatalist policies should not be underestimated.

<sup>48</sup>These figures are not included in this draft, but they are available upon request.

Table 2: Summary of main results

	Overall	Child care availability		Firm type	
	(1)	High (2)	Low (3)	Prior leave (4)	Other (5)
<b>A. Labour market treatment effects</b>					
Employment 12m post-birth	0.00 (0.01)	0.01 (0.02)	0.00 (0.02)	0.02 (0.02)	0.01 (0.03)
Employment 60m post-birth	-0.00 (0.01)	0.01 (0.02)	-0.01 (0.02)	-0.00 (0.02)	-0.00 (0.03)
Earnings 12m post-birth (1,000 CHF)	0.05 (0.08)	0.13 (0.12)	-0.03 (0.02)	-0.00 (0.10)	0.28 (0.15)
Earnings 60m post-birth (1,000 CHF)	-0.00 (0.11)	-0.01 (0.17)	-0.01 (0.12)	-0.08 (0.14)	0.26 (0.16)
<b>B. Cumulative financial treatment effects (1,000 CHF)</b>					
Sum of earnings 0m to 3m post-birth	1.10 (0.23)	0.79 (0.35)	1.36 (0.31)	0.68 (0.30)	2.64 (0.43)
Cumulative earnings 12m post-birth	4.34 (1.02)	4.38 (1.55)	4.12 (1.31)	3.78 (1.29)	8.61 (1.76)
Cumulative earnings 60m post-birth	5.80 (3.89)	8.66 (5.98)	2.09 (4.91)	4.74 (5.15)	16.27 (6.59)
<b>C. Subsequent fertility treatment effects</b>					
Second child 60m post-birth	0.03 (0.01)	0.04 (0.02)	0.03 (0.02)	0.05 (0.02)	-0.00 (0.02)
<b>D. Women's earnings vs. APG payments in treated cohort (1,000 CHF)</b>					
Total earnings 0m to 3m post-birth	16.16	17.16	15.12	18.73	13.34
Total APG payments	10.34	10.39	10.29	11.38	9.98
Observations	21,146	10,438	10,708	13,115	5,113

Panels A to C show a selection of the diff-in-diff coefficient estimates for different outcome variables in different months after the first birth. Panel D displays the average amount of earnings received by first-time mothers in the four months following birth (incl. maternity leave payments) and the APG payments for the same group of women made by the social insurance scheme. Both lines are given for the treated cohort (i.e. first-time mothers giving birth in July to September 2005). Across columns, we show results for the overall sample, and we distinguish women by their canton of residence for the child care availability results and by their employer's type (prior leave vs not). Low child care availability cantons offered below 10 slots per 100 children aged 0 to 3 in year 2002, while high child care cantons offered 10 slots and more per 100 children. Employed women are classified by whether they worked one year prior to birth in a firm which had a high likelihood of offering paid maternity leave prior to the mandate or not. See section 5.3 for more details on the firm classification procedure. Standard errors are in parentheses.

cumulative earnings five years after the first birth. On average, the financial effect amounts to around 5,800 Swiss francs (1.1 months of median pre-birth earnings), but it varies greatly across regions with different levels of child care availability, and between firms with and without prior leave. The overall financial effect is larger in regions with a higher availability of child care at 8,660 Swiss francs, whereas in regions with lower availability it amounted to 2,090 Swiss francs. This suggests that the availability of formal child care complements paid maternity leave. We note, however, that the difference is not precisely estimated and therefore, not statistically significant. For women in firms without prior leave the overall financial effect exceeds 16,000 Swiss francs (3.6 months of their pre-birth earnings), while it was substantially smaller at 4,700 Swiss francs among women in firms with prior coverage (0.9 months of their pre-birth earnings). Interestingly, the increase in earnings during the months of paid maternity leave (i.e., from 0 to 3m post-birth) contributes only a small share to the overall effect, while the endogenous responses that happen after the paid maternity leave expires, make up the bulk.

Similar to prior research on the effect of extensions in maternity leave benefits ([Lalive and Zweimüller](#),

2009; Raute, 2019) and cash transfers upon birth (González and Trommlerová, 2021), we find that the maternity leave mandate significantly increased subsequent fertility.<sup>49</sup> However, the mechanism behind our result is different. In fact, we find that those women who were financially *less affected* (i.e., those with prior maternity leave) by the reform reacted more by having *a second child*, while it did not affect the subsequent fertility of those who benefitted most from the mandate.

Our results also contribute to the recent discussion on the costs and benefits of voluntary and mandated paid maternity leave for firms. Prior research has documented that extensions in paid maternity leave mandates could have important adjustment costs for firms (Ginja et al., 2022) or negatively affect their probability to survive (Gallen, 2019), even though some of these effects might be primarily confined to small firms (Brenøe et al., 2020). However, firms could also benefit from voluntarily offering paid maternity leave in order to attract women who are more qualified and more committed to remaining in the labour force and to retain female employees after they started their families, and therefore, preserve valuable firm-specific human capital (Uribe et al., 2019).

The mandate is financed through a marginal increase in social security contributions levied on all employers and employees. Therefore, it helped reduce costs for firms that previously covered this benefit directly or indirectly through taking out maternity leave insurance for their female employees with newborn children. Among the first cohort that was fully affected by the mandate, new mothers earned 16,160 Swiss francs in the first quarter after birth. The federal social security fund (APG) contributed about two thirds, or 10,340 Swiss francs to this amount, a contribution that would have been paid by the employer before the reform (Table 2). This contribution varied only marginally across regions with high and low child care coverage, but it was on average slightly larger in firms that had previously offered paid maternity leave, reflecting the fact that women working in these firms also had on average higher pre-birth earnings than those working in other firms (see Table A.3 in the Appendix). Our data does not allow us to study adjustment costs or the survival probability of firms. However, since the mandated leave duration at 14 weeks is short, and the mandate was implemented when voluntary coverage was already widespread, it most probably had only small negative effects on firms (if any at all) and the benefits seem to have outweighed the costs.<sup>50</sup>

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<sup>49</sup>Raute (2019) studies a massive extension in maternity leave benefits in Germany which affected high-earning and low-earning women differently. For high-earning women, it corresponded to a transfer of around 21,000 euro and led to a 23% increase in birth rates. The author estimates that an increase of 1,000 euro in benefits would lead to a 2.1% fertility increase. González and Trommlerová (2021) study a 2,500 euro cash transfer upon birth in Spain. The real value of the cash transfer amounts to 220% for the median female monthly earnings. The authors find that the cash transfer increased birth rates by 3%. One should note that both of these studies evaluate the financial effect on *contemporaneous* fertility, while our study is similar to Lalive and Zweimüller (2009) and provides insights into how coverage by a contemporaneous maternity leave mandate affects *future* fertility.

<sup>50</sup>According to Aeppli (2012), two thirds of the surveyed firms find the administrative burden of the maternity leave mandate low and more than 9 out of 10 firms consider that the currently mandated leave length is either appropriate (68%) or even too short (23%).

## 6 Conclusion

In this paper, we evaluate the impact of the first federal mandate providing paid maternity leave in Switzerland on various labor market outcomes and subsequent fertility. Many women - especially those employed in large firms and public administrations - had access to paid maternity leave through their employer prior to the mandate. Hence, the mandate introduced paid maternity leave for some women (mostly those working in small firms or who were self-employed) and reduced the labor and insurance costs for all employers that had already offered paid maternity leave prior to the mandate. Our main findings and their implications for policy makers can be summarized as follows.

First, the mandate had some small, mostly positive effects on (full-time) employment, job continuity, and real earnings in the medium run, but these effects dissipate in the long run. In contrast, we find sizeable anticipatory effects prior to birth. Earnings increase for women in the last six months of pregnancy (but employment does not), reflecting a relative increase (or lower decrease) in hours worked. In addition, the positive medium run employment effects, starting from 18 months after the birth of the first child, could be interpreted as anticipatory effects for a potential second child. These results indicate that a short leave affects post-birth labor market outcomes only marginally - if at all. However, the large and significant anticipatory effects in terms of increased earnings prior to birth indicate that any future studies should include the pre-birth period to capture the overall impact of similar reforms. Comparing only post-birth outcomes would probably underestimate the full impact of such mandates.

Second, we find a strong and significant impact of the mandate on *subsequent* fertility. Thirty months after the birth of their first child, women affected by the reform were three percentage points more likely to have a second child, an effect that persists in the long run. The mandate not only significantly increased the financial means of women, but it also promoted full-time work among mothers with young children. The fertility effect is similar to that reported by [Lalive and Zweimüller \(2009\)](#) for the Austrian reform in 1991, a context with an extension of parental leave with low payments. This comparison suggests that effects of family leave might be highly non-linear with respect to duration.

Third, our analysis offers empirical evidence on some complementarity between a maternity leave mandate and the availability of child care for very young children. In cantons with higher child care availability, the mandate had significant effects on cumulative earnings and subsequent fertility. We also estimate a small, positive impact on employment and earnings in the medium run after birth in high-child care cantons, yet these effects are not statistically significant. Our findings on the complementarity between paid maternity leave and availability of formal child care, in particular

for subsequent fertility, are similar to those found by [Danzer et al. \(2020\)](#) for an Austrian reform and suggest that these two important family policy tools should not be analysed and implemented separately.<sup>51</sup> This result warrants further attention both from researchers as well as policy makers to improve the work-life balance of families around the globe.

Finally, our novel findings reveal large and significant trickle down effects of the mandate where it supersedes prior employer-provided maternity leave insurance. Firms with prior leave benefited from reduced labor and insurance costs and passed some of these savings on to their female workers by extending leave beyond the mandated minimum level and hiring replacement workers. Women employed in firms with pre-mandate leave have higher job continuity and subsequent fertility as a result of the mandate (but only moderately additional financial means). While women without prior access to paid leave work more intensively upon returning from leave, which results in a very large overall financial gain after the mandate comes into effect. Our results suggest that the marginal value of augmenting a short paid maternity leave is very high: the trickle down effects in firms with prior leave can be just as consequential as the effects of introducing the paid leave for women working in firms without prior leave. Other universal paid maternity leave mandates have been found to support the disadvantaged (e.g. low-income) women more ([Olivetti and Petrongolo \(2017\)](#); [Broadway et al. \(2020\)](#)), whereas in our context, all women were positively affected by the mandate - but along different dimensions. Understanding the importance of trickle down effects is also particularly relevant in a context like the U.S., where the introduction of a federal paid family leave mandate is currently being debated and where some employers already offer some form of paid leave ([Bartel et al. \(2021\)](#)).

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<sup>51</sup>Our results stand in contrast to those of [Kleven et al. \(2020\)](#) for Austria where the authors cannot find any interaction effects between parental leave and child care provision in Austria on gender earnings gaps. [Malkova \(2018\)](#) finds large fertility effects of paid maternity leave in Soviet Russia and discusses the availability of widespread and affordable preschool care for children of all ages at the same time as a reason for this finding.

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# A Further Descriptive Evidence

## Appendix A.A Descriptive Evidence on Changes in Marital Status

Figure A.1 presents the cumulative share of women (and its 95% confidence interval) who had been single one year prior to birth and were married in month  $t$  relative to the birth of their first child. The difference in marriage rates prior to birth observed between the pre-reform and post-reform mothers in 2005 are also apparent for the 2004 cohort. This suggest the presence of strong seasonal effects.

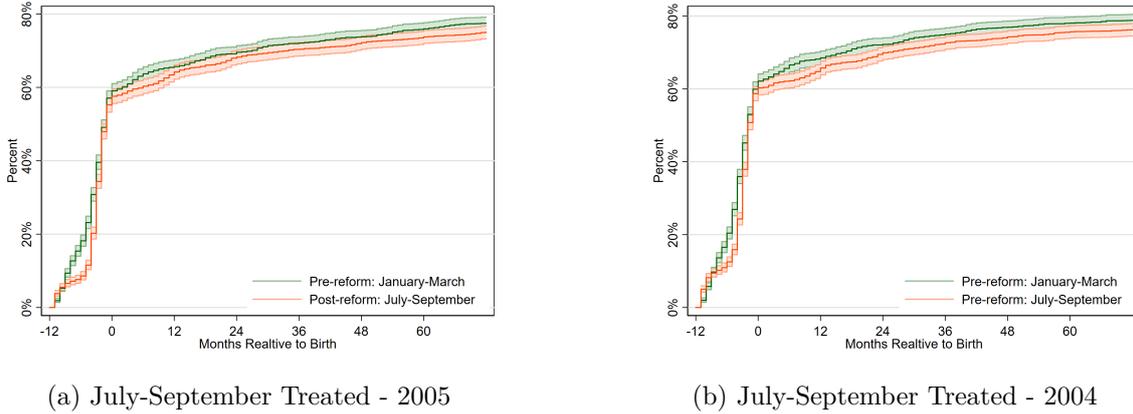


Figure A.1: Single one year before birth to married

## Appendix A.B Stability in Demographic Composition of Groups

Figure A.1 shows the results from the same DiD regression specification as used for the main results where the dependent variable is age at first birth and marital status (i.e. an indicator for being married) one year prior to birth and at birth. The interaction coefficient of  $Reform_i$  and  $Months_i$  is not statistically significant at any conventional level for these regressions. These results suggest that the demographic composition of our sample of women was not affected by the mandate during the period studied.

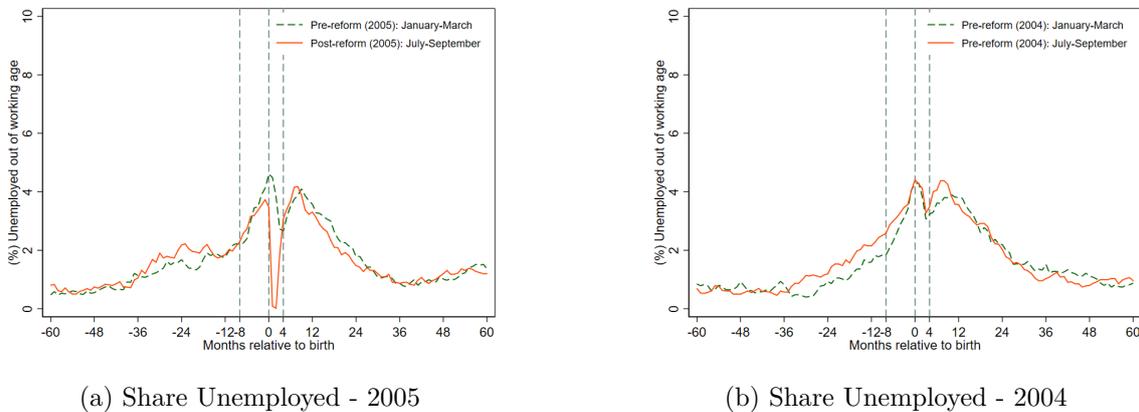
Table A.1: Diff-in-Diff on demographic control variables

	Age		Marital status			
	at birth		12m prior birth	at birth		
DiD coefficient	-0.055 (0.137)	-0.075 (0.115)	0.007 (0.014)	0.008 (0.014)	0.015 (0.011)	0.010 (0.011)
Controls		✓		✓		✓

Notes: Treatment effects identified by our DiD model for all Swiss women in our sample (excl. Geneva) where the dependent variable is age at birth of first child or the marital status (i.e. indicator of being married) one year prior to birth and at birth. Regression columns with controls include mothers' characteristics such as age at first birth (only for marital status regressions), indicator of marital status one year prior to birth (only for age at first birth regression), cumulative work experience and cumulative income from six to one year prior to first birth of first child. Robust standard errors are in parentheses. In each regression there are 21,146 observations.

## Appendix A.C Descriptive Evidence on Unemployment

Figure A.2 provides descriptive evidence on the dynamics of unemployment in a 10-year window around the birth of the first child. It plots unemployment of pre-reform (dashed line) and post-reform women (bold line). The first column shows the outcomes for pre- and post-reform women who had a child in year 2005. The second column shows the same outcomes for women who had a child in the same two three-month periods in year 2004.



Notes: The figures of unemployment include all Swiss women. Monthly earnings are computed using the sample of employed Swiss women only. Women on paid maternity leave are classified as employed. Women on unpaid maternity leave are classified as out of the labour force.

Source: Authors' calculations using the merged data set.

Figure A.2: Unemployment - All Swiss women in sample

Figures A.2a and A.2b reveal hump-shaped unemployment rates around the time of giving birth both in 2004 and 2005. Generally, unemployment increases until birth (doubling from below 2 per cent 12 months prior to birth), plateaus until 12 months after birth and then decreases within another 12 months almost to its pre-birth level. For post-reform women in 2005 we observe virtually no unemployment in the four months following birth, a direct result of the implementation of the federal maternity leave mandate which also covers unemployed women as long as they are fulfilling the labour force eligibility criteria. For these women the difference is insofar important as paid maternity leave comes without obligations and does not require a minimum number of applications to remain eligible in contrast to unemployment insurance.

## Appendix A.D Descriptive Statistics by Child Care Availability

Table A.2 presents descriptive statistics on first-time mothers living in low- and high-child care availability cantons before and after the mandate came into effect. Low-child care availability cantons offered below 10 places per 100 children aged 0 to 3 in year 2002, while high child care cantons offered 10 places and more per 100 children.

Table A.2: Descriptive Statistics by Child Care Availability

	High child care availability			Low child care availability		
	Jan-March05	Jul-Sept05	Mean Difference	Jan-March05	Jul-Sept05	Mean Difference
<b>A. Demographics</b>						
Age at First Birth	30.771 (0.101)	30.193 (0.096)	-0.578 (0.139)	30.212 (0.099)	29.813 (0.096)	-0.398 (0.138)
Age First Observed	18.865 (0.048)	18.846 (0.048)	-0.019 (0.068)	18.647 (0.042)	18.574 (0.036)	-0.073 (0.055)
Married	0.762 (0.008)	0.785 (0.008)	0.023 (0.012)	0.766 (0.008)	0.767 (0.008)	0.000 (0.012)
<b>B. Labor market history</b>						
In LF 12 months prior to birth	0.903 (0.006)	0.909 (0.005)	0.006 (0.008)	0.903 (0.006)	0.914 (0.005)	0.012 (0.008)
Employed 12 months prior to birth	0.979 (0.003)	0.979 (0.003)	0.000 (0.004)	0.982 (0.003)	0.980 (0.003)	-0.002 (0.004)
Monthly income from employment (CHF) 12m prior to first birth	5502.620 (65.417)	5447.484 (61.798)	-55.136 (89.938)	4939.287 (47.488)	5018.345 (53.797)	79.058 (71.975)
Cum. experience (months) from 6y to 12m prior to first birth	50.386 (0.333)	50.622 (0.317)	0.236 (0.459)	51.012 (0.324)	51.512 (0.315)	0.500 (0.452)
<b>C. Eligibility and treatment</b>						
Eligible	0.847 (0.007)	0.849 (0.007)	0.002 (0.010)	0.835 (0.007)	0.856 (0.007)	0.021 (0.010)
Received federal paid maternity leave	0.000 (0.000)	0.799 (0.008)	0.799 (0.008)	0.000 (0.000)	0.817 (0.007)	0.817 (0.008)
Received federal paid maternity leave among eligible	0.000 (0.000)	0.890 (0.007)	0.890 (0.007)	0.000 (0.000)	0.903 (0.006)	0.903 (0.006)
Share with 50% of pre-birth income 1m to 3m after birth	0.604 (0.010)	0.861 (0.007)	0.257 (0.012)	0.501 (0.010)	0.839 (0.007)	0.338 (0.012)
Observations	2,529	2,740		2,590	2,672	

Mothers who had their first child between January and March in 2005 were not affected by the mandate and those who had their first child between July-September in 2005 are classified as after the mandate (excl. Geneva). Standard errors are in parentheses. We distinguish women by their canton of residence. Low child care availability cantons offered below 10 places per 100 children aged 0 to 3 in year 2002, while high child care cantons offered 10 places and more per 100 children.

## Appendix A.E Descriptive Statistics by Firm Type (with and without prior maternity leave)

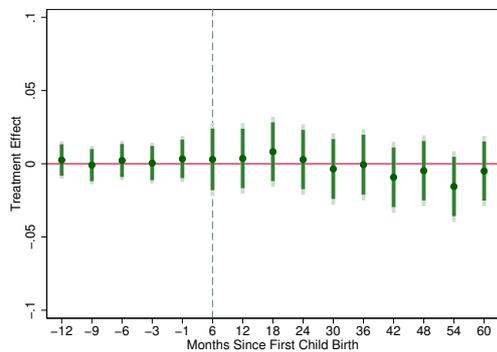
Table A.3: Descriptive statistics by type of firm (with or without pre-mandate leave)

	Firm with Prior Paid Leave			Other Firm		
	Jan-March05	Jul-Sept05	Mean Difference	Jan-March05	Jul-Sept05	Mean Difference
<b>A. Demographics</b>						
Age at First Birth	31.107 (0.086)	30.574 (0.080)	-0.533 (0.117)	29.808 (0.137)	29.393 (0.138)	-0.415 (0.194)
Age First Observed	18.769 (0.037)	18.741 (0.036)	-0.028 (0.052)	18.552 (0.061)	18.507 (0.053)	-0.045 (0.080)
Married	0.768 (0.008)	0.784 (0.007)	0.016 (0.010)	0.771 (0.012)	0.781 (0.012)	0.010 (0.017)
<b>B. Labor market history</b>						
In LF 12 months prior to birth	0.983 (0.002)	0.987 (0.002)	0.004 (0.003)	0.983 (0.004)	0.993 (0.002)	0.009 (0.004)
Employed 12 months prior to birth	0.981 (0.002)	0.977 (0.003)	-0.004 (0.004)	0.980 (0.004)	0.985 (0.004)	0.004 (0.005)
Monthly income from employment (CHF) 12m prior to first birth	5542.664 (51.387)	5486.471 (49.445)	-56.193 (71.331)	4413.376 (66.074)	4523.605 (83.922)	110.229 (106.531)
Cum. experience (months) from 6y to 12m prior to first birth	53.476 (0.233)	53.893 (0.213)	0.417 (0.315)	52.883 (0.384)	53.428 (0.372)	0.545 (0.535)
<b>C. Eligibility and treatment</b>						
Eligible	0.921 (0.005)	0.925 (0.004)	0.004 (0.007)	0.859 (0.010)	0.870 (0.010)	0.011 (0.014)
Received federal paid maternity leave	0.000 (0.000)	0.860 (0.006)	0.860 (0.006)	0.000 (0.000)	0.842 (0.011)	0.842 (0.010)
Received federal paid maternity leave among eligible	0.000 (0.000)	0.892 (0.005)	0.892 (0.006)	0.000 (0.000)	0.918 (0.009)	0.918 (0.008)
Share with 50% of pre-birth income 1m to 3m after birth	0.689 (0.008)	0.916 (0.005)	0.227 (0.009)	0.302 (0.013)	0.826 (0.011)	0.524 (0.017)
Observations	3,259	3,452		1,247	1,201	

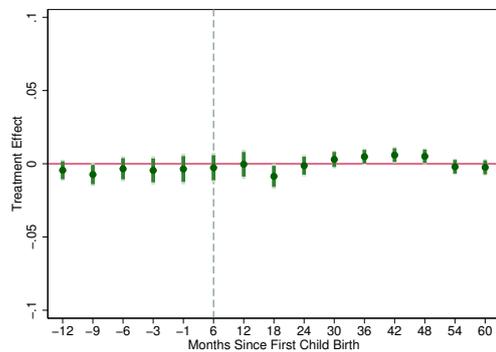
Mothers who had their first child between January and March in 2005 were not affected by the mandate and those who had their first child between July-September in 2005 are classified as after the mandate (excl. Geneva). Standard errors are in parentheses. We distinguish employed women by whether they worked in firm which had a high likelihood of offering paid maternity leave prior to the mandate or another firm. To do so, we predict the likelihood of employed mothers in the control group receiving paid maternity leave prior to the mandate based on her firm's characteristics (firm size, labour market region and social security fund as a proxy for the industry). Firms with a predicted likelihood above 50% are classified as "firms with prior paid leave" and all other firms are classified as "other firms". See main text for more details.

## **B Additional estimation results**

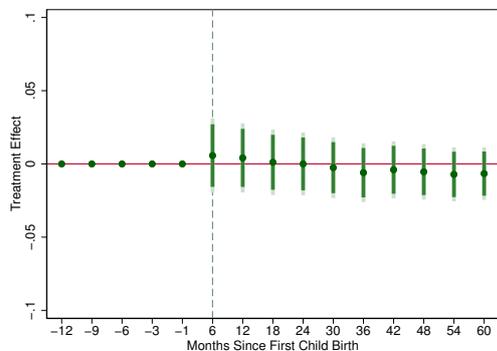
This section presents additional estimation results on contemporaneous and cumulative outcomes which have not been included in the main text.



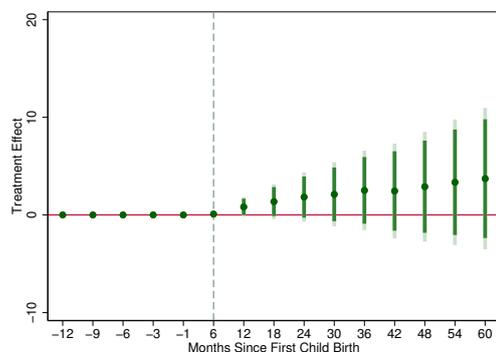
(a) Labor Force



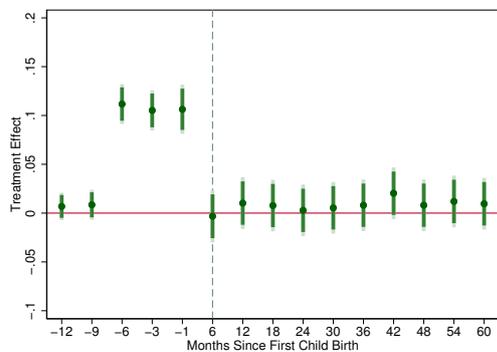
(b) Share Unemployed



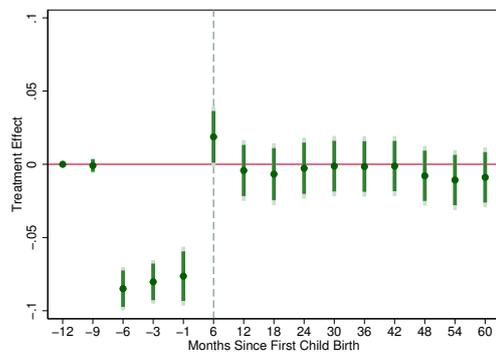
(c) Ever Returned to Employment Post-Birth



(d) Cumulative Employment Earnings Post-Birth (in 1000s CHF)



(e) Share Working Full-time (more than 80%)

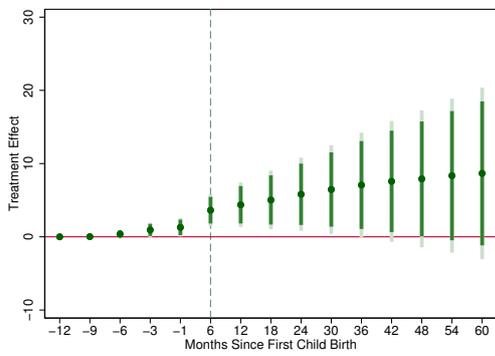


(f) Share Working High Part-time (50 to 80%)

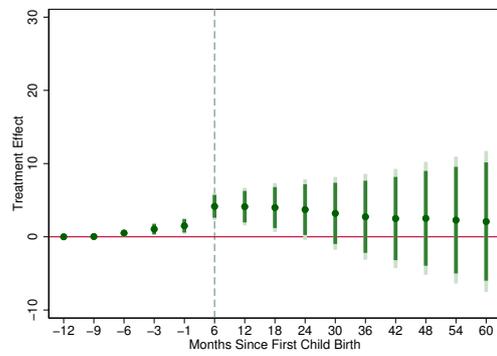
Notes: Treatment effects identified by our DiD model for all Swiss women in our sample. Subfigures (a) and (b) show the effects of the federal mandate on the share of women in the labor force and unemployment at various points in time pre- and post-birth. Subfigures (c) and (d) show the effects of the federal mandate on the share of women who ever returned to employment after birth and cumulative real employment earnings of employed women since 6 months after the first birth. Subfigures (e) and (f) show the effects of the federal mandate on the share of women working full-time (measured as earning at least 80% of earnings 12 months prior to the first child's birth) and on the share of women working a high part-time (measured as earning 50 to 80% of pre-birth earnings). Light vertical lines indicate the 95 per cent confidence intervals, the dark vertical lines indicate the 90 per cent confidence intervals. The dashed vertical line separates the time horizon into a pre-birth and post-birth period. Robust standard errors are used.

Figure B.1: Further Results on Labor Market Outcomes

Column A. High Child Care Availability



Column B. Low Child Care Availability



(a) Cumulative Total Earnings Since 9 Months Pre-Birth (in 1000s CHF)      (b) Cumulative Total Earnings Since 9 Months Pre-Birth (in 1000s CHF)

Notes: This figure shows the treatment effects for women according to the availability of childcare places for children aged 0 to 3 years in the canton of residence. We distinguish cantons by whether they offer above (Figures in left column, Panel A) or below median (Figures in right column, Panel B) number of childcare places in the year 2002 (i.e., 10 places and more per 100 children corresponds to above-median, below 10 places per 100 children corresponds to below-median childcare availability). Light vertical lines indicate the 95% confidence intervals, the dark vertical lines indicate the 90% confidence intervals. The dashed vertical line separates the time horizon into a pre-birth and post-birth period. Robust standard errors are used.

Figure B.2: Heterogeneity by Child Care Availability: Cumulative Effects

## C Tables with Regression Results

Table C.1: Results on labour market outcomes and financial impact

	-12	-9	-6	-3	-1	6	12	18	24	30	36	42	48	54	60
Employed	0.007	0.006	0.006	0.005	0.007	0.006	0.004	0.017	0.004	-0.007	-0.005	-0.015	-0.010	-0.013	-0.003
Ste	0.007	0.007	0.008	0.008	0.009	0.013	0.013	0.012	0.012	0.013	0.013	0.012	0.012	0.012	0.012
P-value	0.327	0.385	0.460	0.538	0.440	0.661	0.751	0.177	0.738	0.603	0.664	0.224	0.429	0.277	0.836
Income	0.025	0.044	0.237	0.200	0.222	0.087	0.055	0.055	-0.012	0.004	0.072	0.064	0.095	0.074	-0.001
Ste	0.045	0.046	0.051	0.051	0.064	0.085	0.078	0.076	0.079	0.089	0.094	0.087	0.097	0.092	0.106
P-value	0.577	0.336	0.000	0.000	0.000	0.306	0.483	0.473	0.877	0.963	0.442	0.463	0.326	0.419	0.994
Same Employer	0.000	0.007	0.018	0.017	0.007	-0.001	0.022	-0.014	0.032	0.062	0.015	0.036	0.015	-0.005	0.005
Ste	.	0.007	0.010	0.011	0.012	0.016	0.017	0.016	0.016	0.016	0.016	0.015	0.015	0.015	0.015
P-value	.	0.323	0.087	0.103	0.533	0.959	0.193	0.382	0.053	0.000	0.349	0.019	0.340	0.712	0.753
Cum. Income	0.000	0.032	0.452	1.015	1.424	3.965	4.343	4.640	4.923	5.027	5.145	5.313	5.541	5.684	5.793
Ste	.	0.048	0.195	0.331	0.424	0.731	1.020	1.337	1.662	2.009	2.372	2.738	3.109	3.496	3.890
P-value	.	0.513	0.020	0.002	0.001	0.000	0.000	0.001	0.003	0.012	0.030	0.052	0.075	0.104	0.136
FT Employed	0.007	0.009	0.112	0.105	0.106	-0.003	0.010	0.008	0.003	0.005	0.008	0.020	0.008	0.012	0.010
Ste	0.007	0.008	0.010	0.011	0.013	0.014	0.014	0.013	0.013	0.013	0.014	0.014	0.014	0.014	0.014
P-value	0.337	0.275	0.000	0.000	0.000	0.814	0.449	0.565	0.835	0.688	0.551	0.132	0.550	0.377	0.478
High PT Employed	0.000	-0.001	-0.085	-0.080	-0.076	0.019	-0.004	-0.007	-0.003	-0.001	-0.002	-0.001	-0.008	-0.011	-0.009
Ste	.	0.003	0.008	0.008	0.010	0.011	0.011	0.011	0.011	0.010	0.011	0.010	0.010	0.010	0.010
P-value	.	0.741	0.000	0.000	0.000	0.081	0.690	0.533	0.800	0.906	0.885	0.908	0.452	0.304	0.395
FT & child<2	0.000	0.000	0.000	0.000	0.000	-0.003	0.010	0.008	-0.004	0.016	0.022	0.027	0.017	-0.001	-0.006
Ste	.	.	.	.	.	0.014	0.014	0.013	0.008	0.010	0.011	0.011	0.011	0.010	0.009
P-value	.	.	.	.	.	0.814	0.449	0.565	0.640	0.120	0.049	0.019	0.102	0.893	0.496

Notes: Treatment effects identified by a DiD model for all Swiss women in the sample (excl. Geneva). All regressions control for mothers' characteristics such as age at first birth, marital status, cumulative work experience and cumulative income over 6 to 1 years prior to first childbirth. The table shows the effects of the federal mandate on the share of women in employment (*employed*) at various points in time pre- and post-birth. The line denoted *Income* shows the effects on real earnings from employment on employed women and *Same employer* the effects on the share of employed women returning to their pre-birth employer (i.e., the main employer 12 months prior to birth). Line *Cum. Income* presents the effects on the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since 9 months prior to the first birth. All earnings are adjusted for inflation using the CPI (with base year 2010). Line *FT Employed* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth), line *High PT Employed* presents the effects on the share working a high part-time (i.e. earning between 50% and 80% compared to 1 year prior to birth). Line *FT & child<2* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth) whose youngest child is less than 2 years old. Robust standard errors and p-values of individual significance test are reported below each estimate.

Table C.2: Heterogeneous Effects by Child Care Availability: A. High Care Availability

	-12	-9	-6	-3	-1	6	12	18	24	30	36	42	48	54	60
Employed	0.003	0.005	0.004	0.005	0.005	0.012	0.005	0.017	0.024	-0.001	-0.004	-0.015	-0.003	-0.007	0.005
Ste	0.010	0.011	0.011	0.012	0.013	0.018	0.018	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
P-value	0.741	0.629	0.722	0.683	0.715	0.502	0.785	0.326	0.171	0.964	0.816	0.385	0.854	0.670	0.784
Income	0.048	0.037	0.216	0.202	0.173	0.085	0.128	0.145	0.035	0.050	0.147	0.095	0.115	0.152	-0.005
Ste	0.069	0.070	0.079	0.077	0.097	0.131	0.119	0.115	0.118	0.136	0.149	0.130	0.140	0.140	0.170
P-value	0.485	0.593	0.006	0.009	0.073	0.518	0.280	0.207	0.768	0.712	0.323	0.466	0.411	0.276	0.977
Same Employer	0.000	0.014	0.015	0.018	0.021	0.020	0.011	-0.019	0.014	0.043	0.012	0.038	0.018	-0.005	-0.011
Ste	.	0.010	0.015	0.015	0.017	0.023	0.023	0.023	0.023	0.023	0.023	0.022	0.022	0.022	0.021
P-value	.	0.170	0.305	0.236	0.199	0.375	0.635	0.400	0.542	0.061	0.598	0.093	0.414	0.829	0.613
Cum. Income	0.000	0.023	0.378	0.938	1.292	3.634	4.373	5.032	5.808	6.458	7.075	7.573	7.911	8.348	8.662
Ste	.	0.074	0.301	0.501	0.641	1.106	1.553	2.043	2.547	3.085	3.647	4.209	4.767	5.362	5.975
P-value	.	0.757	0.210	0.061	0.044	0.001	0.005	0.014	0.023	0.036	0.052	0.072	0.097	0.120	0.147
FT Employed	0.003	0.007	0.095	0.092	0.086	-0.023	0.012	0.005	-0.010	-0.005	-0.003	0.016	0.002	0.009	0.007
Ste	0.010	0.011	0.015	0.015	0.018	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019
P-value	0.751	0.506	0.000	0.000	0.000	0.228	0.519	0.786	0.613	0.811	0.883	0.403	0.913	0.624	0.726
High PT Employed	0.000	-0.004	-0.079	-0.074	-0.075	0.027	-0.005	-0.010	-0.007	0.007	0.015	0.002	-0.011	-0.008	-0.003
Ste	.	0.004	0.011	0.011	0.015	0.016	0.016	0.016	0.016	0.015	0.015	0.015	0.015	0.015	0.015
P-value	.	0.302	0.000	0.000	0.000	0.084	0.738	0.531	0.671	0.639	0.321	0.893	0.488	0.608	0.847
FT & Child<2	0.000	0.000	0.000	0.000	0.000	-0.023	0.012	0.005	-0.009	0.012	0.015	0.027	0.019	-0.007	-0.010
Ste	.	.	.	.	.	0.019	0.019	0.019	0.012	0.015	0.016	0.016	0.015	0.014	0.013
P-value	.	.	.	.	.	0.228	0.519	0.786	0.458	0.409	0.353	0.102	0.214	0.619	0.452

Notes: Treatment effects identified by a DiD model for all Swiss women (excl. Geneva). Panel A presents estimates for mothers residing in cantons with high child care availability, Panel B presents the corresponding estimates for those in low child care availability cantons. Panel C presents the difference in estimates between Panels A and B. All regressions control for mothers' characteristics such as age at first birth, marital status, cumulative work experience and cumulative income over 6 to 1 years prior to first childbirth. The table shows the effects of the federal mandate on the share of women in employment (*employed*) at various points in time pre- and post-birth. *Income* shows the effects on real earnings from employment of employed women and *Same employer* the effects on the share of employed women working for their pre-birth employer. *Cum. Income* presents the effects on the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since 9 months prior to the first birth. All earnings are adjusted for inflation using the CPI (with base year 2010). Line *FT Employed* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth), line *High PT Employed* presents the effects on the share working a high part-time (i.e. earning between 50% and 80% compared to 1 year prior to birth). Line *FT & child<2* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth) whose youngest child is less than 2 years old. Robust standard errors and p-values of individual significance test are reported below each estimate.

Table C.3: Heterogeneous Effects by Child Care Availability: B. Low Care Availability

	-12	-9	-6	-3	-1	6	12	18	24	30	36	42	48	54	60
Employed	0.010	0.007	0.008	0.005	0.009	-0.003	0.001	0.015	-0.017	-0.014	-0.009	-0.017	-0.018	-0.021	-0.011
Ste	0.010	0.010	0.011	0.011	0.013	0.019	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018	0.018
P-value	0.310	0.467	0.458	0.640	0.493	0.891	0.937	0.399	0.348	0.437	0.625	0.336	0.302	0.231	0.524
Income	0.000	0.046	0.248	0.189	0.262	0.074	-0.025	-0.044	-0.079	-0.061	-0.015	0.018	0.058	-0.019	-0.008
Ste	0.058	0.059	0.066	0.066	0.083	0.105	0.100	0.098	0.103	0.111	0.110	0.111	0.131	0.115	0.116
P-value	1.000	0.435	0.000	0.004	0.002	0.486	0.803	0.651	0.445	0.587	0.892	0.874	0.656	0.869	0.948
Same Employer	0.000	-0.000	0.019	0.016	-0.007	-0.027	0.030	-0.012	0.047	0.080	0.015	0.030	0.009	-0.008	0.017
Ste	.	0.010	0.014	0.015	0.017	0.024	0.024	0.023	0.023	0.023	0.022	0.021	0.021	0.020	0.020
P-value	.	0.971	0.186	0.287	0.663	0.264	0.205	0.602	0.044	0.000	0.497	0.156	0.670	0.694	0.380
Cum. Income	0.000	0.036	0.509	1.052	1.497	4.158	4.118	3.995	3.718	3.203	2.737	2.494	2.522	2.278	2.086
Ste	.	0.063	0.245	0.429	0.551	0.947	1.306	1.700	2.107	2.539	2.993	3.455	3.933	4.425	4.911
P-value	.	0.568	0.037	0.014	0.007	0.000	0.002	0.019	0.078	0.207	0.360	0.470	0.521	0.607	0.671
FT Employed	0.010	0.009	0.126	0.116	0.125	0.016	0.008	0.010	0.015	0.015	0.019	0.024	0.014	0.014	0.011
Ste	0.010	0.011	0.015	0.015	0.018	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019	0.019
P-value	0.317	0.410	0.000	0.000	0.000	0.397	0.662	0.585	0.417	0.425	0.325	0.197	0.467	0.466	0.549
High PT Employed	0.000	0.002	-0.089	-0.086	-0.077	0.009	-0.004	-0.005	-0.000	-0.011	-0.019	-0.006	-0.006	-0.014	-0.015
Ste	.	0.004	0.011	0.011	0.014	0.015	0.014	0.015	0.014	0.014	0.014	0.014	0.014	0.014	0.014
P-value	.	0.528	0.000	0.000	0.000	0.519	0.771	0.732	0.978	0.455	0.186	0.689	0.662	0.313	0.290
FT & child<2	0.000	0.000	0.000	0.000	0.000	0.016	0.008	0.010	0.001	0.021	0.030	0.028	0.017	0.005	-0.003
Ste	.	.	.	.	.	0.019	0.019	0.019	0.012	0.015	0.016	0.016	0.015	0.014	0.013
P-value	.	.	.	.	.	0.397	0.662	0.585	0.929	0.165	0.059	0.082	0.264	0.744	0.821

Notes: Treatment effects identified by a DiD model for all Swiss women (excl. Geneva). Panel A presents estimates for mothers residing in cantons with high child care availability, Panel B presents the corresponding estimates for those in low child care availability cantons. Panel C presents the difference in estimates between Panels A and B. All regressions control for mothers' characteristics such as age at first birth, marital status, cumulative work experience and cumulative income over 6 to 1 years prior to first childbirth. The table shows the effects of the federal mandate on the share of women in employment (*employed*) at various points in time pre- and post-birth. *Income* shows the effects on real earnings from employment of employed women and *Same employer* the effects on the share of employed women working for their pre-birth employer. *Cum. Income* presents the effects on the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since 9 months prior to the first birth. All earnings are adjusted for inflation using the CPI (with base year 2010). Line *FT Employed* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth), line *High PT Employed* presents the effects on the share working a high part-time (i.e. earning between 50% and 80% compared to 1 year prior to birth). Line *FT & child<2* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth) whose youngest child is less than 2 years old. Robust standard errors and p-values of individual significance test are reported below each estimate.

Table C.4: Heterogeneous Effects by Child Care Availability: C. Difference in Care Availability

	-12	-9	-6	-3	-1	6	12	18	24	30	36	42	48	54	60
Employed	-0.007	-0.002	-0.004	-0.001	-0.004	0.015	0.003	0.002	0.040	0.013	0.005	0.002	0.015	0.014	0.016
Ste	0.014	0.015	0.015	0.016	0.018	0.026	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
P-value	0.643	0.876	0.801	0.970	0.819	0.570	0.895	0.942	0.104	0.598	0.850	0.930	0.540	0.572	0.516
Income	0.048	-0.008	-0.032	0.013	-0.089	0.011	0.153	0.190	0.114	0.111	0.162	0.077	0.056	0.171	0.003
Ste	0.090	0.091	0.102	0.101	0.128	0.168	0.155	0.151	0.157	0.176	0.185	0.171	0.191	0.181	0.206
P-value	0.592	0.928	0.755	0.901	0.485	0.948	0.324	0.210	0.469	0.528	0.381	0.653	0.768	0.343	0.990
Same Employer	0.000	0.014	-0.004	0.002	0.029	0.047	-0.019	-0.007	-0.033	-0.037	-0.003	0.007	0.009	0.003	-0.028
Ste	.	0.014	0.021	0.021	0.024	0.033	0.033	0.033	0.033	0.032	0.032	0.031	0.030	0.030	0.029
P-value	.	0.318	0.847	0.917	0.223	0.155	0.559	0.829	0.314	0.244	0.927	0.809	0.761	0.911	0.333
Cum. Income	0.000	-0.013	-0.132	-0.114	-0.205	-0.524	0.255	1.037	2.089	3.255	4.338	5.079	5.390	6.070	6.576
Ste	.	0.097	0.388	0.660	0.845	1.456	2.029	2.658	3.305	3.995	4.718	5.445	6.180	6.951	7.734
P-value	.	0.893	0.734	0.863	0.808	0.719	0.900	0.696	0.527	0.415	0.358	0.351	0.383	0.383	0.395
FT Employed	-0.007	-0.001	-0.031	-0.024	-0.040	-0.040	0.004	-0.005	-0.025	-0.020	-0.021	-0.008	-0.012	-0.004	-0.005
Ste	0.014	0.016	0.021	0.021	0.026	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
P-value	0.644	0.926	0.140	0.255	0.123	0.146	0.879	0.850	0.352	0.466	0.427	0.760	0.667	0.873	0.865
High PT Employed	0.000	-0.006	0.010	0.012	0.001	0.018	-0.001	-0.005	-0.006	0.018	0.034	0.008	-0.004	0.007	0.012
Ste	.	0.005	0.015	0.015	0.021	0.021	0.021	0.022	0.021	0.021	0.021	0.021	0.021	0.021	0.021
P-value	.	0.237	0.501	0.437	0.947	0.414	0.962	0.820	0.769	0.394	0.104	0.711	0.836	0.750	0.558
FT & Child<2	0.000	0.000	0.000	0.000	0.000	-0.040	0.004	-0.005	-0.010	-0.009	-0.016	-0.002	0.002	-0.011	-0.007
Ste	.	.	.	.	.	0.027	0.027	0.027	0.017	0.021	0.023	0.023	0.021	0.020	0.018
P-value	.	.	.	.	.	0.146	0.879	0.850	0.568	0.680	0.490	0.943	0.920	0.560	0.705

Notes: Treatment effects identified by a DiD model for all Swiss women (excl. Geneva). Panel A presents estimates for mothers residing in cantons with high child care availability, Panel B presents the corresponding estimates for those in low child care availability cantons. Panel C presents the difference in estimates between Panels A and B. All regressions control for mothers' characteristics such as age at first birth, marital status, cumulative work experience and cumulative income over 6 to 1 years prior to first childbirth. The table shows the effects of the federal mandate on the share of women in employment (*employed*) at various points in time pre- and post-birth. *Income* shows the effects on real earnings from employment of employed women and *Same employer* the effects on the share of employed women working for their pre-birth employer. *Cum. Income* presents the effects on the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since 9 months prior to the first birth. All earnings are adjusted for inflation using the CPI (with base year 2010). Line *FT Employed* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth), line *High PT Employed* presents the effects on the share working a high part-time (i.e. earning between 50% and 80% compared to 1 year prior to birth). Line *FT & child<2* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth) whose youngest child is less than 2 years old. Robust standard errors and p-values of individual significance test are reported below each estimate.

Table C.5: Heterogeneous Effects by Firms Size: A. Large firms

	-12	-9	-6	-3	-1	6	12	18	24	30	36	42	48	54	60
Employed	0.006	0.014	0.011	0.011	0.014	0.027	0.015	0.034	0.004	-0.017	-0.013	-0.016	-0.006	-0.011	-0.000
Ste	0.006	0.007	0.008	0.009	0.010	0.016	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015	0.015
P-value	0.346	0.054	0.171	0.182	0.131	0.088	0.337	0.023	0.805	0.264	0.390	0.288	0.691	0.447	0.985
Income	0.054	0.054	0.257	0.216	0.206	-0.080	-0.003	-0.008	-0.060	-0.059	0.090	-0.013	0.094	-0.007	-0.082
Ste	0.056	0.057	0.063	0.062	0.079	0.097	0.096	0.095	0.099	0.111	0.108	0.106	0.121	0.113	0.142
P-value	0.333	0.338	0.000	0.001	0.009	0.412	0.972	0.931	0.542	0.595	0.405	0.902	0.437	0.950	0.566
Same Employer	0.000	0.012	0.039	0.039	0.024	-0.005	0.040	-0.003	0.047	0.076	0.035	0.063	0.038	0.006	0.015
Ste	.	0.007	0.012	0.012	0.014	0.019	0.020	0.020	0.020	0.020	0.020	0.020	0.019	0.019	0.019
P-value	.	0.095	0.001	0.002	0.081	0.796	0.044	0.897	0.020	0.000	0.080	0.001	0.048	0.765	0.421
Cum. Income	0.000	0.062	0.547	1.228	1.681	3.415	3.777	4.210	4.576	4.560	4.486	4.675	4.839	4.873	4.744
Ste	.	0.058	0.240	0.402	0.517	0.903	1.286	1.716	2.166	2.641	3.129	3.617	4.105	4.618	5.149
P-value	.	0.286	0.023	0.002	0.001	0.000	0.003	0.014	0.035	0.084	0.152	0.196	0.239	0.291	0.357
FT Employed	0.006	0.011	0.117	0.111	0.105	-0.031	0.007	-0.011	-0.002	0.003	0.006	0.016	0.012	0.013	0.013
Ste	0.006	0.007	0.012	0.012	0.016	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017
P-value	0.346	0.154	0.000	0.000	0.000	0.072	0.692	0.532	0.885	0.882	0.707	0.342	0.491	0.454	0.451
High PT Employed	0.000	-0.001	-0.094	-0.088	-0.081	0.028	-0.015	-0.015	-0.015	-0.011	-0.012	-0.004	-0.012	-0.024	-0.020
Ste	.	0.003	0.010	0.010	0.014	0.015	0.015	0.015	0.015	0.015	0.015	0.014	0.014	0.014	0.014
P-value	.	0.696	0.000	0.000	0.000	0.063	0.323	0.312	0.325	0.462	0.414	0.786	0.396	0.088	0.155
FT & Child<2	0.000	0.000	0.000	0.000	0.000	-0.031	0.007	-0.011	-0.001	0.015	0.026	0.026	0.026	0.010	-0.005
Ste	.	.	.	.	.	0.017	0.017	0.017	0.010	0.013	0.014	0.015	0.014	0.013	0.012
P-value	.	.	.	.	.	0.072	0.692	0.532	0.906	0.250	0.067	0.076	0.065	0.450	0.659

Notes: Treatment effects identified by a DiD model for all Swiss women (excl. Geneva and unless otherwise noted). Panel A presents estimates for mothers working in large firms, Panel B presents the corresponding estimates for those in small firms. Panel C presents the difference in estimates between Panels A and B. All regressions control for mothers' characteristics such as age at first birth, marital status, cumulative work experience and cumulative income over 6 to 1 years prior to first childbirth. The table shows the effects of the federal mandate on the share of women in employment (*employed*) at various points in time pre- and post-birth. *Income* shows the effects on real earnings from employment of employed women and *Same employer* the effects on the share of employed women working for their pre-birth employer. *Cum. Income* presents the effects on the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since 9 months prior to the first birth. All earnings are adjusted for inflation using the CPI (with base year 2010). Line *FT Employed* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth), line *High PT Employed* presents the effects on the share working a high part-time (i.e. earning between 50% and 80% compared to 1 year prior to birth). Line *FT & child<2* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth) whose youngest child is less than 2 years old. Robust standard errors and p-values of individual significance test are reported below each estimate.

Table C.6: Heterogeneous Effects by Firms Size: B. Small firms

	-12	-9	-6	-3	-1	6	12	18	24	30	36	42	48	54	60
Employed	0.024	0.017	0.015	0.016	0.018	-0.011	0.005	0.024	0.037	0.026	0.028	-0.004	-0.001	0.002	-0.001
Ste	0.009	0.013	0.015	0.017	0.020	0.028	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027	0.027
P-value	0.009	0.196	0.310	0.345	0.368	0.684	0.863	0.384	0.171	0.344	0.307	0.875	0.977	0.955	0.962
Income	0.031	0.037	0.206	0.192	0.211	0.482	0.282	0.156	0.162	0.288	0.280	0.309	0.172	0.360	0.255
Ste	0.081	0.082	0.092	0.093	0.120	0.201	0.147	0.140	0.146	0.167	0.174	0.182	0.181	0.171	0.158
P-value	0.706	0.655	0.026	0.040	0.079	0.017	0.055	0.267	0.267	0.084	0.108	0.090	0.343	0.035	0.106
Same Employer	0.000	-0.010	-0.025	-0.028	-0.033	0.004	-0.003	-0.028	0.020	0.076	0.002	-0.006	-0.018	-0.018	-0.003
Ste	.	0.015	0.020	0.021	0.023	0.038	0.036	0.035	0.034	0.033	0.032	0.031	0.031	0.030	0.029
P-value	.	0.512	0.223	0.174	0.152	0.909	0.943	0.424	0.569	0.023	0.963	0.856	0.554	0.542	0.911
Cum. Income	0.000	0.085	0.681	1.354	1.855	7.441	8.605	9.442	10.302	11.301	12.434	13.391	14.223	15.206	16.274
Ste	.	0.086	0.334	0.596	0.770	1.297	1.764	2.273	2.779	3.336	3.960	4.616	5.289	5.955	6.593
P-value	.	0.322	0.042	0.023	0.016	0.000	0.000	0.000	0.000	0.001	0.002	0.004	0.007	0.011	0.014
FT Employed	0.024	0.022	0.133	0.125	0.127	0.053	0.022	0.032	-0.001	0.010	0.016	0.039	0.018	0.029	0.021
Ste	0.009	0.013	0.021	0.021	0.027	0.027	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028	0.028
P-value	0.009	0.079	0.000	0.000	0.000	0.055	0.426	0.247	0.965	0.721	0.552	0.163	0.526	0.299	0.445
High PT Employed	0.000	-0.001	-0.078	-0.076	-0.059	0.012	0.024	0.027	0.041	0.029	0.026	0.009	-0.003	0.010	0.009
Ste	.	0.006	0.017	0.017	0.022	0.018	0.018	0.018	0.018	0.018	0.019	0.019	0.019	0.019	0.019
P-value	.	0.931	0.000	0.000	0.006	0.519	0.182	0.133	0.025	0.107	0.165	0.636	0.867	0.596	0.643
FT & Child<2	0.000	0.000	0.000	0.000	0.000	0.053	0.022	0.032	-0.013	0.019	0.007	0.016	-0.020	-0.044	-0.021
Ste	.	.	.	.	.	0.027	0.028	0.028	0.020	0.024	0.025	0.025	0.023	0.021	0.020
P-value	.	.	.	.	.	0.055	0.426	0.247	0.516	0.424	0.770	0.513	0.389	0.040	0.279

Notes: Treatment effects identified by a DiD model for all Swiss women (excl. Geneva and unless otherwise noted). Panel A presents estimates for mothers working in large firms, Panel B presents the corresponding estimates for those in small firms. Panel C presents the difference in estimates between Panels A and B. All regressions control for mothers' characteristics such as age at first birth, marital status, cumulative work experience and cumulative income over 6 to 1 years prior to first childbirth. The table shows the effects of the federal mandate on the share of women in employment (*employed*) at various points in time pre- and post-birth. *Income* shows the effects on real earnings from employment of employed women and *Same employer* the effects on the share of employed women working for their pre-birth employer. *Cum. Income* presents the effects on the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since 9 months prior to the first birth. All earnings are adjusted for inflation using the CPI (with base year 2010). Line *FT Employed* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth), line *High PT Employed* presents the effects on the share working a high part-time (i.e. earning between 50% and 80% compared to 1 year prior to birth). Line *FT & child<2* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth) whose youngest child is less than 2 years old. Robust standard errors and p-values of individual significance test are reported below each estimate.

Table C.7: Heterogeneous Effects by Firms Size: C. Difference by firm size

	-12	-9	-6	-3	-1	6	12	18	24	30	36	42	48	54	60
Employed	-0.018	-0.003	-0.005	-0.004	-0.004	0.038	0.010	0.011	-0.033	-0.042	-0.041	-0.012	-0.005	-0.013	0.001
Ste	0.011	0.015	0.017	0.019	0.022	0.032	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031	0.031
P-value	0.097	0.850	0.790	0.813	0.869	0.229	0.748	0.729	0.282	0.171	0.190	0.701	0.864	0.672	0.974
Income	0.024	0.018	0.051	0.024	-0.005	-0.561	-0.286	-0.164	-0.222	-0.346	-0.190	-0.322	-0.078	-0.367	-0.337
Ste	0.099	0.099	0.112	0.112	0.144	0.223	0.175	0.169	0.176	0.200	0.205	0.211	0.218	0.205	0.213
P-value	0.809	0.858	0.648	0.832	0.973	0.012	0.104	0.333	0.207	0.083	0.353	0.127	0.721	0.073	0.113
Same Employer	0.000	0.022	0.063	0.067	0.057	-0.009	0.043	0.025	0.027	-0.000	0.033	0.069	0.057	0.024	0.018
Ste	.	0.016	0.023	0.024	0.027	0.042	0.041	0.040	0.040	0.039	0.038	0.037	0.036	0.035	0.035
P-value	.	0.183	0.007	0.005	0.033	0.827	0.302	0.528	0.496	0.992	0.379	0.061	0.119	0.500	0.597
Cum. Income	0.000	-0.023	-0.133	-0.127	-0.174	-4.026	-4.828	-5.231	-5.726	-6.741	-7.948	-8.716	-9.384	-10.334	-11.530
Ste	.	0.104	0.411	0.719	0.927	1.580	2.183	2.848	3.523	4.254	5.047	5.865	6.695	7.536	8.365
P-value	.	0.821	0.746	0.860	0.851	0.011	0.027	0.066	0.104	0.113	0.115	0.137	0.161	0.170	0.168
FT Employed	-0.018	-0.011	-0.015	-0.014	-0.022	-0.084	-0.015	-0.043	-0.001	-0.007	-0.010	-0.022	-0.006	-0.016	-0.008
Ste	0.011	0.015	0.024	0.024	0.031	0.033	0.033	0.032	0.033	0.033	0.033	0.033	0.033	0.033	0.033
P-value	0.097	0.430	0.520	0.563	0.486	0.010	0.641	0.189	0.969	0.823	0.759	0.496	0.862	0.629	0.803
High PT Employed	0.000	-0.001	-0.015	-0.012	-0.022	0.016	-0.038	-0.043	-0.055	-0.040	-0.038	-0.013	-0.009	-0.034	-0.029
Ste	.	0.007	0.020	0.020	0.026	0.023	0.023	0.024	0.023	0.023	0.024	0.024	0.024	0.023	0.024
P-value	.	0.910	0.436	0.562	0.378	0.485	0.097	0.071	0.018	0.085	0.110	0.589	0.702	0.144	0.217
FT & Child<2	0.000	0.000	0.000	0.000	0.000	-0.084	-0.015	-0.043	0.012	-0.004	0.019	0.010	0.046	0.053	0.016
Ste	.	.	.	.	.	0.033	0.033	0.032	0.023	0.027	0.029	0.029	0.027	0.025	0.023
P-value	.	.	.	.	.	0.010	0.641	0.189	0.600	0.889	0.510	0.739	0.090	0.031	0.476

Notes: Treatment effects identified by a DiD model for all Swiss women (excl. Geneva and unless otherwise noted). Panel A presents estimates for mothers working in large firms, Panel B presents the corresponding estimates for those in small firms. Panel C presents the difference in estimates between Panels A and B. All regressions control for mothers' characteristics such as age at first birth, marital status, cumulative work experience and cumulative income over 6 to 1 years prior to first childbirth. The table shows the effects of the federal mandate on the share of women in employment (*employed*) at various points in time pre- and post-birth. *Income* shows the effects on real earnings from employment of employed women and *Same employer* the effects on the share of employed women working for their pre-birth employer. *Cum. Income* presents the effects on the cumulative total real earnings of all women (including earnings from employment, self-employment, maternity leave benefits, unemployment and other social insurance benefits) since 9 months prior to the first birth. All earnings are adjusted for inflation using the CPI (with base year 2010). Line *FT Employed* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth), line *High PT Employed* presents the effects on the share working a high part-time (i.e. earning between 50% and 80% compared to 1 year prior to birth). Line *FT & child<2* presents the effects on the share working full-time (i.e. earning at least 80% compared to 1 year prior to birth) whose youngest child is less than 2 years old. Robust standard errors and p-values of individual significance test are reported below each estimate.

Table C.8: Fertility results and heterogeneous effects by child care availability and firm size

	6	12	18	24	30	36	42	48	54	60	72	84	96	108
A. Overall	0.000	-0.000	-0.007	0.019	0.027	0.032	0.033	0.034	0.034	0.032	0.028	0.028	0.026	0.028
Ste	.	0.002	0.007	0.011	0.013	0.014	0.013	0.013	0.013	0.012	0.012	0.012	0.011	0.011
P-value	.	0.995	0.326	0.101	0.045	0.018	0.013	0.008	0.007	0.009	0.019	0.016	0.022	0.014
B. High Ccare	0.000	0.001	-0.003	0.028	0.043	0.045	0.041	0.041	0.041	0.037	0.040	0.038	0.037	0.035
Ste	.	0.002	0.009	0.016	0.019	0.019	0.019	0.019	0.018	0.018	0.017	0.017	0.017	0.016
P-value	.	0.553	0.763	0.082	0.024	0.019	0.032	0.026	0.022	0.035	0.022	0.023	0.027	0.030
C. Low Ccare	0.000	-0.001	-0.010	0.011	0.011	0.020	0.026	0.029	0.027	0.028	0.017	0.019	0.017	0.021
Ste	.	0.002	0.010	0.016	0.019	0.019	0.018	0.018	0.017	0.017	0.016	0.016	0.016	0.016
P-value	.	0.622	0.286	0.514	0.547	0.292	0.157	0.110	0.118	0.101	0.292	0.246	0.286	0.185
D. Diff Ccare	0.000	0.002	0.008	0.017	0.031	0.025	0.015	0.013	0.014	0.009	0.022	0.020	0.020	0.015
Ste	.	0.003	0.013	0.023	0.027	0.027	0.027	0.026	0.025	0.025	0.024	0.023	0.023	0.023
P-value	.	0.444	0.572	0.458	0.239	0.351	0.582	0.624	0.570	0.700	0.350	0.400	0.391	0.515
E. Pre mandate Firm	0.000	0.001	0.000	0.036	0.044	0.056	0.052	0.056	0.053	0.050	0.043	0.043	0.039	0.039
Ste	.	0.002	0.008	0.014	0.017	0.017	0.017	0.016	0.016	0.016	0.015	0.015	0.015	0.014
P-value	.	0.740	0.992	0.012	0.009	0.001	0.002	0.001	0.001	0.001	0.005	0.003	0.008	0.006
F. no pre mandate Firm	0.000	0.004	-0.021	-0.001	0.026	0.008	0.018	0.006	-0.002	-0.004	-0.001	0.005	0.015	0.013
Ste	.	0.004	0.015	0.025	0.027	0.027	0.027	0.026	0.025	0.024	0.023	0.023	0.023	0.022
P-value	.	0.264	0.145	0.970	0.345	0.758	0.489	0.825	0.947	0.862	0.963	0.818	0.516	0.560
G. Diff Firm size	0.000	-0.003	0.021	0.037	0.018	0.047	0.033	0.051	0.054	0.054	0.044	0.038	0.024	0.026
Ste	.	0.004	0.017	0.029	0.032	0.032	0.031	0.030	0.030	0.029	0.028	0.027	0.027	0.026
P-value	.	0.388	0.204	0.195	0.567	0.145	0.289	0.096	0.066	0.061	0.115	0.162	0.368	0.321

Notes: Treatment effects on likelihood of having a second child identified by a DiD model for all Swiss women at various points in time after the first childbirth (excl. Geneva). Panel A presents overall estimates, Panel B and C split the sample by child care availability in mothers' canton of residence at first childbirth and panel D reports the corresponding difference by child care availability. Panels E and F report estimates split by firm size and panel G reports the corresponding difference. Robust standard errors and p-values of individual significance test are reported below each estimate.