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The short- and long-term effects of family-friendly policies on women's employment

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The short- and long-term effects of family-friendly policies on women's employment[1*]

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Abstract: Countries often encourage part-time work among new parents as part of their family policies, aiming to foster mothers' attachment to the labor force. However, this well-intentioned approach may inadvertently impede women's long-term prospects in the labor market. We examine the impact of a 1999 Spanish reform allowing new parents to reduce working hours by up to a half while their youngest child is under age 6, along with job protection measures. Leveraging eligibility rules, we employ a regression kink design, comparing ineligible women to mothers with varying eligibility durations, and track women's subsequent work trajectories. We find that longer eligibility resulted in a modest increase in maternal part-time work during her child's early years. Mothers worked part time, on average, about one additional day for each extra month of eligibility. This rise in part-time work came at the expense of fewer days of unemployment, rather than fewer days of full-time work, and thus correlated with higher earnings. In the long term, we document slightly higher employment and earnings for those with extended eligibility after aging out of the program. The long-term effects remain modest. In conclusion, we find that the policy had minimal impact on the labor supply and earnings of women with children, both in the short and longer term.

Keywords: Worktime reduction, maternity, childcare policies.

JEL classification : J08, J13, J16, J18.

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1. Introduction

The participation of women in the labor force has witnessed a significant surge globally in recent decades, particularly among married women with children. Family policies, encompassing initiatives such as cash transfers to households with children, subsidies for parental leave, and affordable childcare options, aim to bolster households with children while empowering parents to harmonize their work and family responsibilities. A rich literature has extensively explored the impact of these policies on the short- and long-term outcomes of maternal participation in the labor market (Bartel, 2018, and Olivetti and Petrongolo, 2016).

Many women with children work part-time, and some countries have policies that actively encourage part-time work among parents. In 2018, 27 percent of workers in the EU reported having adjusted working hours because of childcare responsibilities, and 82 percent of those were women[2]. In Spain, almost 15 percent of working parents with children aged 17 or younger had a part-time arrangement in 2020. Approximately 27 percent of them cited family care responsibilities, such as caring for children or disabled, as the primary reason, and notably 94 percent of them were women[3].

An influential study by Kleven et al. (2019) in Denmark points at the decrease in mothers' working hours after giving birth to their first child as one of the key drivers of the so-called child penalty in earnings, that is, the proportion of the gender wage gap linked to motherhood. In Spain, women's earnings have been shown to fall by 11 percent on the first year after birth, reaching a child penalty of 28 percent in the long run (De

[2] European Union Labor Force Survey (EU-LFS), 2018. *Ad hoc* module "Reconciliation between work and family life". According to EU-LFS 2018 estimates, Finland, Iceland, and Norway have the lowest rate of women working short hours because of childcare responsibilities (about 60%), while this figure exceeds 90% in Cyprus, Lithuania, and Czech Republic.
[3] Spanish Labor Force Survey (in Spanish, EPA), Instituto Nacional de Estadística.

Quinto et al., 2021). De Quinto et al. (2021) also show that women are 40 percent more likely to adopt part-time work the year after giving birth to their first child, a phenomenon that persists even 10 years following birth.

Apace with this trend, governments have invested in family-friendly policies to facilitate the reconciliation of work and care commitments, such as parental leave policies, access to affordable and quality childcare, financial support for children, and policies promoting or allowing part-time work. Regarding the latter, some descriptive analyses claim that a greater availability of part-time jobs could also foster women's employment in countries with notoriously low female labor market participation (Thévenon, 2013). However, empirical evidence for the idea that part-time work could causally increase employment remains unclear (OECD, 2010; Boeri et al., 2005).

In this paper, we examine whether a policy facilitating part-time employment to parents with young children increases mothers' inclusion in the labor market during childbearing years. For that purpose, we exploit the Spanish *Law to Promote the Reconciliation of Work and Family Life*, passed on November 1999, which granted all workers the right to request workweek reduction until their children turned 6 years while also protecting them against layoff. We draw our data on personal and employment characteristics of working mothers from the Spanish Social Security records; specifically, we use the 2010 wave of the Continuous Sample of Working Histories (*Muestra Continua de Vidas Laborales, MCVL*), from which we construct backwards exhaustive work histories from 1980 to 2010.

Our main empirical strategy relies on a Regression Kink Design (RKD) to identify the impact on women's long-term labor market outcomes, given that the eligibility duration (i.e., the number of months a mother is granted with workweek reduction until her children turns 6 years old) depends directly on the birthdates of the children. We are

able to estimate changes in women's labor outcomes (days worked and earnings) because the progressivity in the eligibility function induces two kinks: one when mothers start to be eligible and another when they reach maximum eligibility.[4]

Our results show a significant and positive -though small- effect of the policy on mothers' labor market outcomes in the period when the child is younger than 6 years old, both in the number of days worked -part-time and full-time- and in labor income. On average, mothers eligible for one additional month of work time reduction increase their part-time work by roughly one day when their child is less than 6 years old. Furthermore, during this period, their full-time work rises on average by 2.5 days, their total number of days worked by 3.5 days, and their labor income by 126 euros. The potential long-term benefits, when the child is between 6 and 10 years old, are more subdued: an additional month of eligibility to the policy lengthens part-time work by 0.7 days, on average. Additionally, they work on average 0.8 more days in case of full-time arrangements, and 1.5 additional days in total.

Two factors might be at play behind the nimble magnitude: on one hand, women with a short eligibility span might not have requested the workweek reduction; on the other, the lion's share of the effect could be concentrated in a specific subsample of working mothers.

Regarding the latter, the effect is noticeably larger for women with a permanent contract as they are protected *de facto* against job separation; however, this is not the case when other groupings are considered (firm size, sector of activity, education, occupation).

[4] Employees with children born in Dec'93 could benefit 1 month from workweek reduction given that the child was 5 years 11 months old when the law was adopted in Nov'99. Similarly, workers with children born from Nov'99 on were granted with a maximum of 72 months (6 years) workweek reduction.

Finally, the beneficial impact of the policy persists in the longer run, when children are between 6 and 10 years of age, with labor outcomes for mothers improving significantly.

We supplement the RKD analysis with a difference-in-differences design that compares mothers with a prolonged exposure to the policy (depending on the birth-date of their children) and those non-eligible. On average, mothers with children of the 1996 and 1997 cohorts worked part-time more days than those in the control group. However, the effect for the 1995 cohort is positive and significant, but much milder; this finding is consistent with the previously mentioned hypothesis of a lagging reaction to the policy.

In conclusion, our study suggests that the policy had a minimal impact on the labor supply and earnings of women with children, both in the short and longer term. In our specific context, the promotion of part-time work among mothers did not yield negative repercussions on participation, working hours, or earnings over time.

The remainder of this paper is organized as follows: Section 2 explores the related literature and frames our contribution in the main streams. Section 3 provides an overview of the Spanish labor market and the institutional setup. The dataset and the main empirical strategy (RKD) are detailed in Section 4 and the results are presented in Section 5. The alternative difference-in-differences design and results are covered in Section 6. Finally, Section 7 concludes.

2. Related literature

Previous studies of family-friendly policies have focused almost exclusively on the duration of maternity leave and its effects on mothers' labor market outcomes and fertility: a non-exhaustive list of influential references is Ruhm (1998), Schönberg and Ludsteck (2007), Lalive and Zweimüller (2009), Olivetti and Petrongolo (2017), Rossin-Slater (2018). However, parental leave schemes – whether paid or unpaid- only comprise

a short time span immediately after the child is born. In contrast, working time reductions may last for a much longer period; in our case, they may be taken right after mandatory parental leave until the child is 6 years old. Therefore, the effect of these initiatives on mothers' employment careers is potentially larger and more persistent.

In this sense, our paper contributes to the growing literature exploring the effects of promoting part-time arrangements among parents on women's long-term labor market outcomes. In France, Joseph et al. (2013) use a difference-in-differences model and propensity score matching to estimate the impact of short parental leave on mothers' employment status and wages. Importantly, they can differentiate between full- and part-time leave takers and hence conclude that short part-time leave has negative effects on wages but stimulates mothers' labor force participation. Baertsch and Sandner (2022) also use a difference-in-differences strategy to study a German policy that incentivizes new parents to reduce their working hours while receiving parental leave benefits during the two years following the childbirth. They find a rise in the labor market attachment as the reform encourages mothers to return to work earlier in the first two years after childbirth but has a negligible effect among those who (in absence of the policy) would have returned to their full-time jobs early anyway. This effect is especially strong among secondary earners. Furthermore, these mothers do not stick to part-time employment; on the contrary, they switch to full-time contracts after four years.

For the Spanish case, several articles have also exploited the introduction of the *Law to Promote the Reconciliation of Work and Family Life* in 1999 to evaluate the consequences of fostering part-time work on women, although they differ in the outcomes studied. For instance, Fernández-Kranz and Rodríguez-Planas (2020) find statistical discrimination among women in childbearing age: once the reform was adopted, employers were less likely to hire or promote them from fixed-term to permanent

contracts, and more prone to end their contracts, thus increasing female's non-employment. Furthermore, Bover et al. (2021) build a search-and-matching model to study the effects of family-friendly policies on fertility; they conclude that the introduction of this reform increased the fertility rate among working women with permanent contracts but decreased it among those who were non-employed or working under temporary contracts. Moreover, they found a strong reaction of firms to the reform, in line with the previously mentioned results. Lastly, Domínguez-Folgueras et al. (2021) identify the negative association between benefitting from unpaid leave for family care reasons and earnings; this effect is increasing in the length of the leave.

3. Institutional background

3.1. Labor market

Parental leave policies must be understood in the context of the Spanish labor market, which is characterized by two main features: On one hand, a strong duality, with temporary contracts with low firing costs coexisting with highly protected permanent contracts. On the other hand, extraordinarily high fluctuations in the unemployment rate.

Both phenomena are especially visible for women as they are more likely to work under fixed-term and/or part-time contracts and exhibit higher unemployment rates. In 2021, 25 percent of employed women worked under a fixed-term contract –versus 19 percent for men-, accounting for 53 percent of all temporary contracts. As opposed to the trend by age groups observed in temporary work, the importance of part-time employment increases progressively after maternity and relates to the number of children. Moreover, 22 percent of female workers had part-time work arrangements –against 6 percent of men-, constituting 76 percent of all part-time contracts. This figure increases to 33 percent for temporary female workers –16 percent for men-. As regards the

unemployment gap between women and men, it narrowed considerably during the Great Recession but started widening again in 2013 along with the economic recovery, reaching 3.6 percentage points in 2021.

However, even when the Spanish female labor force participation lagged behind other European countries, it rapidly converged to -or even surpassed- peer country rates in the early 2000s. Since the late 1970s, women's labor force participation has followed a steep and persistent upward trend until the early 2010s, stalling thereafter at around 70 percent of working age population. On the other hand, men's labor force participation has declined in the aggregate, resulting in a markedly narrower gender gap in labor force participation, from 53.5 pp in 1980 to 8.3 pp in 2021. The growing number of women entering the labor market has led to dual-income households adopting the traditional specialization model, whereby women take on most of the childcare and housework tasks (Farré et al., 2021). Despite this convergence, women's median gross salary in Spain represented 80.5 percent of the male figure in 2019.

Last but not least, labor dynamics for women and their link to childbearing are crucially dependent upon fertility. Even in comparison to other advanced economies, Spain has experienced a dramatic decline in total fertility rates, which declined from 2.2 children per women in 1980 to 1.4 in 2020. Among the main drivers of this demographic transformation are job insecurity, long periods of high and persistent unemployment, women's increasing enrollment in college education, and other cultural and institutional factors (De la Rica and Iza, 2005; Adserà, 2011; Guner et al. 2019; Lopes 2020).

3.2. Family-friendly policies

Parental leave. Although initially conceptualized for women only, the right to parental leave was subsequently extended to men: as a family right in 1980, and as the father's personal entitlement in 1999. That year, mothers were entitled to six weeks of

compulsory, fully paid maternity leave, but fathers were granted only two days of paid job absence. The mother's right to assign part of her maternity leave to the father was acknowledged in 1989; since then, families were granted ten additional weeks of full-pay parental leave interchangeable between mother and father.

The paid and non-transferable paternity leave was instituted in 2007 with the goal of facilitating a more gender-equal sharing of care and related housework and supporting the mother's return to the labor market under similar circumstances than their partners. For the first time, fathers were granted 13 days of leave at full pay which could be taken at the same time or immediately after the maternity leave period. From then on, Spain has extended the paternity leave to four weeks in 2017, five weeks in 2018, eight weeks in 2019, twelve weeks in 2020, and sixteen weeks in 2021, catching up with the maternity leave in force since 1989[5].

Childcare leave. Additionally, after the paid leave period, either parent could resort to two additional, complementary mechanisms: unpaid leave for up to 3 years, with the right to return to the same job, or reducing the working hours until the child turned 6. However, in practice, very few fathers took paternity leave, made use of the unpaid leave, or reduced their working hours. This left most of the burden of childcare and housework to women, who cut back on employment outcomes (Farré and González, 2018).

As concerns the reduction of working hours, the *Law to Promote the Reconciliation of Work and Family Life*[6] was announced on November 5th, 1999 and entered into force the day after. The legislation allowed all workers (male and female) with children aged under 6 years or disabled family members to reduce their usual weekly working time by a

[5] In 2020, fathers were enforced to take leave the first four weeks after the childbirth, coinciding with the maternity leave, and the remaining eight weeks could be taken anytime within the first year. This enforcement was extended to six weeks in 2021.
[6] In Spanish, *Ley 39/1999 para promover la conciliación de la vida familiar y laboral de las personas trabajadoras.*

fraction between one-third and one-half, with a proportional salary downsizing[7], regardless of their partner's employment status, working time arrangement, or contract nature. Both parents may even request it simultaneously on the same eligible child, provided they do not work for the same company. Since 1999, several reforms have been passed: the child's age limit was raised to 8 years old in 2007, and to 12 in 2013; besides, the workweek reduction share was loosened from one-eighth to one-half in 2007. Furthermore, from 2012 onwards, such reduction started to be computed on a working-day instead of a weekly basis.

An important aspect is that the law explicitly bans the workers' dismissal had they previously requested the workweek reduction. Nevertheless, it should be noted that this term only protects *de facto* permanent workers because otherwise employers opposing the initiative will not renew the contract at the expiration date.

The application process is straightforward as it only requires a two-week written notice. The only documentation that the worker could be asked for is a proof confirming he or she has a child below the threshold age or a disabled family member. If the employer denies the request, the worker has 20 days to file a claim in court requesting the reduction, with the trial taking place within 5 days. The decision cannot be appealed and will grant the worker the reduction unless the hours requested fall outside the worker's usual schedule.

[7]The workweek reduction does not affect the worker's paid vacation days, unemployment insurance benefit and, during the first two years, retirement, disability, widow, or maternity/paternity benefits.

4. Main Empirical Strategy: Regression Kink Design

4.1. Data and sample design

For our analysis, we rely on administrative records from the 2010 wave of the Continuous Sample of Working Histories (in Spanish, *Muestra Continua de Vidas Laborales, MCVL*). Each year, the MCVL draws a 4 percent random sample of all affiliates and pensioners in the Social Security system *in that year*; therefore, in our setup we consider individuals that were working in 2010 or were not working but received social security benefits such as unemployment benefits, social assistance, disability, retirement or survivors' pensions, or parental leave. Additionally, the MCVL features historical information on the labor market going as far back as 1967 -though data on earnings is only complete from 1980 onwards-, thus allowing us to recover employment histories for each individual at monthly frequency.

These records are enriched with data from the Tax Bureau and the Municipal Census and include information on workers' personal characteristics (gender, birthdate, nationality and providence of birth, municipality of residence, and education level), employment features for each contract (start and end date, monthly earnings, reason of dismissal, time arrangement, type of contract, industry, sector, occupation, firm size, location, and Social Security regime), and household cohabitants (gender and birthdate of each cohabitant).

Our specification relies on a balanced panel of monthly spells containing personal and labor market information. Only in few cases individuals combine more than one job simultaneously (i.e., we observe more than one contract in a monthly spell) but, in such cases, we consider only the primary employment activity *for each month*: the one that exhibits greater number of days worked since the contract started and higher monthly earnings, prioritizing permanent contracts over fixed-term ones. Moreover, whether a

worker enters the labor market later than 1980 or stops working for some months and re-enters later, both situations are mapped onto career gaps with associated zero earnings and zero days worked during this period.

In this analysis, we concentrate on mothers as they make up for the largest share of this policy's uptake. Given the enactment date, mothers with all children born before or in November 1993 remain unexposed, as every child is older than 6 by the time the law was passed. If a child is born in December 1993 onwards, the mother becomes progressively exposed to the policy from 1 month up to a maximum exposition time of 72 months (6 years) in November 1999 and later. That is, these mothers can reduce their working hours for a number of months until their youngest child turns 6. In this respect, from this point on we will refer to the child due to which the mother benefits from the policy as the *reference child*. This gradual exposure arranges working mothers in three different groups: those who were never exposed to the policy or non-eligible (i.e. mothers with all children born before or in November 1993), partially exposed (i.e. mothers whose youngest child was born between December 1993 and October 1999), and fully exposed (i.e. mothers whose youngest child was born from November 1999 on).

4.2. Identification strategy: Regression Kink Design (RKD)

Our main objective is to identify the causal impact of promoting part-time work for parents on women's long-term labor market outcomes. This setup frames well into a regression kink design (RKD), where the policy variable of interest (number of months during which a mother can benefit from workweek reduction) it is determined by a known assignment rule (the date of birth of the reference child). The relationship between both variables induces two kinks (Figure 1), and we study the effects of both separately by defining two subsamples:

- The lower kink subsample comprises non-eligible and partially exposed working mothers with children born between January 1990 (by convention) and October 1999, which is the last month of partial exposition.
- The upper kink subsample includes partially and fully exposed working mothers with children born between December 1993 and December 2004. This notwithstanding, births taking place 9 months after law enactment (i.e., from July 2000 on) remain potentially affected by associated fertility effects.

[Figure 1 around here]

Given that the mother might adopt the part-time arrangement by involving any of her children aged 6 or less, she maximizes her exposure to the policy by requesting it on the basis of her youngest child (i.e., the reference child). Importantly, the reference child can be defined as the youngest child in the household born within the whole sample period (1990-2004), or as the youngest one born in each of the subsample period (1990-99 and 1993-2004). In the latter case, the reference child need not coincide in both subsamples: for instance, for a mother with three children born in Oct'93, Dec'98 and Feb'04, we will consider the one born in Dec'98 as the reference child for the lower kink sample (i.e., the youngest child before the law was passed) and, for the upper kink sample, the one born in Feb'04. Note that the mother falls within the partially exposed group in the lower kink sample and within the fully exposed group in the upper kink one.

In this paper, we focus on the lower kink alone due to the potential fertility effects which might distort the analysis of the upper one: women might bear more children following the introduction of the policy (Bover et al., 2021). Table 1 presents descriptive statistics on our balanced panel for this sample, which encompasses over 76,000 mothers aged 29

on average, who work part-time for 120 days (resp. 148) when their child is 0-6 years old (resp. 6-10).

[Table 1 around here]

Analytically, if M is our treatment variable (months eligible for workweek reduction) and B is the assignment variable (birthdate of reference child), the labor market outcome of interest L will be a function of both: L ≡ $l(M, B)$. The causal effect of the treatment of the outcome is represented by the derivative of L with respect to M at the kink point $B = b_0$:

$$E\left[\frac{\partial L}{\partial M}\right]_{B=b_0} = \frac{\lim\limits_{B\to b_0^+} \frac{\partial E[Y|B=b_0]}{\partial B} - \lim\limits_{B\to b_0^-} \frac{\partial E[Y|B=b_0]}{\partial B}}{\lim\limits_{B\to b_0^+} \frac{\partial M(B)}{\partial B} - \lim\limits_{B\to b_0^-} \frac{\partial M(B)}{\partial B}} \quad (1)$$

Equation (1) shows that the RKD estimator is a ratio of two terms: The numerator represents the variation in the slope of the relationship between the outcome L and B at the kink; the denominator is the change in the slope of the treatment variable M at b_0. In practice, estimation is achieved by running local non-parametric regressions at both sides of the kink:

$$Y_{it} = \alpha_0 + \alpha_1 m_t + \beta D_{it} \times m_t + \delta C_{it} + u_{it} \quad (2)$$

In this equation, Y_{it} represents the labor outcome of interest for woman i who had her youngest child in month t. We consider four labor market outcomes: Number of days worked part-time (main outcome), full-time and total; and labor income expressed in 2015 euros (secondary outcome). Our assignment variable m_t is the date of birth of the reference child expressed in months and normalized to zero in November 1993, when the policy entered into force. D_{it} is an indicator variable for the child being born after the

kink ($m = 0$) and C_{it} is a set of covariates including dummies for the birth year of the mother, her education level, the presence of older siblings in the household, the autonomous region of residence and municipality size. Finally, we employ heteroskedasticity-robust standard errors u_{it}.

Implementing an RKD requires us to set values for three parameters: the type of kernel, the order p of the polynomial in the regression and the bandwidth around the kink (h). We follow the literature (Card et al., 2015) and adopt a uniform kernel. For the polynomial, we use order 1 as our baseline. Finally, we choose a bandwidth of [-46,71] months in the base case, i.e., the span of the lower kink subsample (Jan 1990 to Oct 1999) normalized so that $m(\text{Nov. } 1993) = 0$. In our robustness checks, we will repeat the analysis with second-order polynomials and use narrower symmetrical bandwidths of $\pm$ 37 and 42 months.

4.3. Tests of Identifying Assumptions

For the treatment effects in our RKD to be properly identified, two assumptions must hold. Firstly, the density function of the assignment variable (date of birth of the reference child) should be smooth at the kink[8]; in other words, women have not chosen to belong to neither the eligible nor the non-eligible group. This assumption seems to hold in our case, as the policy was discussed in the public sphere only very shortly before it was enacted; Figure 2 confirms our intuition.

[Figure 2 around here]

In addition to the previous graphical evidence, we perform a battery of analytical tests to discard sorting through the assignment variable around the kink (see Table 2). The natural choice is a McCrary test, ubiquitous in the RDD literature (McCrary, 2008),

[8] This is often known as the "no sorting" assumption.

which checks for breaks in the density of the assignment variable at the kink. We also extend this exercise testing the first derivative of the density function, as proposed by Card et al. (2015). Finally, we report the estimates using local polynomials following Cattaneo et al. (2020).

[Table 2 around here]

Secondly, absent the policy of interest, the slope of the relationship between the labor market outcomes and the assignment variable should not change noticeably around the kink. This claim cannot be directly tested as we ignore the shape of such relationship had the policy not been in place; however, we are able to gauge the smoothness of our covariates in the vicinity of the kink. As shown in Figure 3, all variables evolve smoothly. To complement this evidence, Table A.1 in the Appendix presents the estimates of running local polynomial nonparametric regressions for each covariate around the kink, which are non-significant.

[Figure 3 around here]

5. Main Results

Figure 4 presents the average number of days worked part-time when the reference child was younger than 6 years old throughout a normalized variable of children's birthdates in monthly bins[9]. As can be seen, the slope of the linear trend changes precisely at the beginning of the eligibility span, thus asserting the existence of a kink and a non-negligible positive impact of the policy on the number of days worked part-time when the child is less than 6 years old. Additionally, we show similar plots in Figure 5 for the number of days worked full-time (Panel A), the total number of days worked (Panel B),

[9] For the graphical evidence, we use the full bandwidth from 46 months before to 71 months after the kink, which corresponds to October 1993. That is, the bandwidth coincides with the lower-kink subsample span (i.e. January 1990 to October 1999).

and related labor earnings (Panel C) in the same period. Our previous interpretation holds for all three secondary outcomes, as we find positive -though larger in magnitude- changes in the slope of the outcomes' trends.

[Figure 4 around here]

[Figure 5 around here]

To uphold and measure this graphical evidence, Table 3 presents the estimates of the RKD setup obtained by running separate local polynomial non-parametric regressions of order 1. The baseline specification spelled out in equation 2 includes the assignment variable -normalized birthdate of the reference child-, a dummy indicating whether the mother is eligible for workweek reduction, and a set of covariates such as the existence of older siblings in the household, the mother's birth year and education level, the autonomous region of residence, and the municipality size (column 2). The coefficient of interest – the interaction between the assignment variable and the eligibility indicator- captures the change in the number of days worked part-time (for the period in which the reference child is less than 6 years old) if the exposure to the policy increases by one additional month.

Throughout the specifications we use a balanced panel of mothers who had a child between January 1990 and October 1999, *unconditional* to the fact of giving birth to following children after that period (except column 3, as we will detail later), and hence the full bandwidth from 46 months before to 71 months after the kink, which corresponds to October 1993.

[Table 3 around here]

On average, mothers eligible for one additional month of work time reduction, increase by roughly one day the number of days worked part-time when their child is less

than 6 years old. The sign and magnitude of the effect prevails through different specifications: we start by excluding the covariates of the regression (column 1), then restrict the sample in three different ways according to the reference child definition and the mothers' contract type: firstly, we only consider mothers whose youngest child – the reference child- was born during the lower-kink sample period (i.e., from January 1990 to October 1999), *conditional* upon not having further children thereafter (column 3). Secondly, we restrict the sample to new mothers who were more prone to request workweek reduction, that is, those working under a full-time and a permanent contract one month before giving birth to the reference child (columns 4 and 5, respectively).

On the one hand, the conditional sample yields very similar results in terms of sign and magnitude. On the other, while the effect among full-time working mothers is positive but much flatter, we find a strong positive impact of the policy among permanent workers: an additional eligibility month is associated to an increase of 1.66 days in the number of days worked part-time when the child is less than 6 years old.

Table 4 shows the estimates of the baseline specification (equation 2) for three alternative outcome variables – total number of days worked, number of days worked under a full-time arrangement, and associated labor earnings– for the period when the reference child is less than 6 years old. If mothers' exposure to the policy increases by one month, their number of days worked full-time for this period rises by 2.5 on average (column 1). Similarly, mothers extend 3.5 days their total number of days worked (column 3) and earn additional labor income of 126 euros (column 5).

[Table 4 around here]

Secondly, concentrating on mothers who had a permanent contract one month before giving birth to the reference child, we find a non-significant effect on the number of days worked full-time and a significant but much milder impact on the total number of

days worked, increasing by almost 2 days on average. The earnings effect is 152 euros, slightly higher than in the aggregate case.

All in all, the previous two tables show that the policy had a positive direct effect insofar a) women are more attached to the labor market in the years following childbirth, as the total number of days worked increases, whether part-time or full-time schedules; and b) permanent female workers - which are protected *de facto* against job separations (see Section 3.2) - increase more markedly the number of days worked part-time, but the effect on full-time days is not statistically significant.

We now turn our attention to the potential long-term benefits of the policy. Table 5 shows the results of running the specifications in Table 3, but for the number of days worked part-time referring to the period *when the child is between 6 and 10 years old*. The first finding is that the coefficient of interest is positive and significant in the baseline regression (column 2), but considerably smaller than in the period when the child is 0-6: an additional month of eligibility to the policy lengthens part-time work by 0.7 days on average. Moreover, the findings are robust to the removal of controls and the use of the conditional sample as well.

[Table 5 around here]

Finally, in Table 6 we explore how the secondary outcomes evolve in this longer-term perspective. Again, the effectiveness of the policy is still visible, albeit with a more tepid magnitude. Mothers eligible to reduce their weekly schedule an additional month work 1.5 more days on average (column 3), and 0.8 in the case of full-time arrangements (column 1). A graphical illustration of the results for the 6-10 period is displayed in Figure 6. Strikingly, for the number of days worked -whether part-time or full-time-, significance does not hold for women with permanent contracts one month before giving birth to the reference child, contrarily to what we observed for the period when the child is 0-6.

[Table 6 around here]

[Figure 6 around here]

We also perform a number of robustness checks for the baseline specification in the Appendix. Overall, our design is robust to the choice of different, narrower bandwidths[10], but not to higher-order polynomial terms.

The magnitude of the estimated effect might seem small. Nevertheless, several aspects should be taken into account: Firstly, the analysis includes *all* women with children born between Jan. 1990 and Oct. 1999, i.e. we're estimating intent-to-treat effects. Secondly, one might expect that the impact is stronger for specific subgroups that were more responsive to the policy. Thirdly, mothers with a short eligibility span might not have reacted to the reform, so that the effect may be larger among women who benefitted from the workweek reduction for a certain number of months. Our RKD estimates compare ineligible women with those who were eligible for the policy for a very short period, i.e. who had a child close to turning 6 when the reform was passed. To test for the possibility that the effect was larger for women who were eligible for longer periods, we perform a supplementary difference-in-differences analysis in the next section, where we compare non-eligible women to others who were eligible for the policy for at least one year.

[Table 7 around here]

6. Alternative Identification Strategy: Difference-in-differences

In addition to our RKD exercise, we implement a difference-in-differences design that compares mothers differentially exposed to the policy (depending on the cohort of birth of their children). The control group comprises a subset of non-eligible mothers (i.e. those

[10] We choose symmetric bandwidths of 37 and 42 months around the kink.

whose reference child was older than 6 when the policy was enacted) with children born between Nov. 1992 and Oct. 1993. For the treatment group, we consider three different subsets of partially exposed mothers as a function of the birthdate of the reference child:

1- 1995 cohort: Reference children born between Nov. 1994 and Oct. 1995. These mothers qualified for 1 to 2 years of workweek reduction, as their children were 4 to 5 years old when the law entered into force.
2- 1996 cohort: Reference children born between Nov. 1995 and Oct. 1996. Similarly, these mothers qualified for 2 to 3 years (i.e. their children were 3 to 4 years old when the reform was passed).
3- 1997 cohort: Reference children born between Nov. 1996 and Oct. 1997. These mothers qualified for 3 to 4 years (i.e. their children were 2 to 3 years old when the reform was passed).

We design our analysis at quarterly frequency to have enough granularity for all the treatment groups. Moreover, we use a balanced panel of mothers who had their reference child in the different cohorts, *unconditional* to the fact of giving birth to subsequent children after that period.

Firstly, we compare the number of days worked part-time in each quarter for the non-eligible mothers (control group) and the partially exposed mothers (either the 1995, 1996 or 1997 cohort treatment group). To this end, we regress the following specification separately for each quarter q, from 12 quarters before to 24 quarters after the birth event:

$$Y_{it} = \alpha + \gamma T_i + v_{it}, \forall q \in [-12, 24] \quad (3)$$

Where Y_{it} represents the outcome of interest for mother i with her reference child born in quarter t, and T_i is an indicator whether the mother is in the treatment group (either in the 1995, 1996, or 1997 cohort group).

[Figure 7 around here]

Figure 7 shows the estimates of the coefficient γ in Equation (3) for the different treatment groups: the presence of an effect is unclear, due to strong pre-trends. Therefore, we further estimate our main outcome – number of days worked part-time when the child is 0 to 6 years old–through the following regression:

$$Y_{it} = \alpha + \sum_{q=L}^{U} \delta_q I_{it}^q + \gamma T_i + \beta T_i \times P_{it} + v_{it} \quad (4)$$

Y_{it} represents the outcome of interest for mother i with her reference child born in quarter t, observed in quarter q relative to childbirth. I_{it}^q is an event study indicator for each quarter relative to the childbirth (from $L = -12$ quarters before to $U = 24$ quarters after the event), T_i is an indicator whether the mother is in the treatment group (either in the 1995, 1996, or 1997 cohort group), and P_{it} is an indicator for the quarters in which treated mothers (i.e. partially exposed) could actually benefit from the policy. For the 1995 cohort group, the mothers qualified for 2 to 3 years, hence $P_{it} = 1$ for quarters 16 to 24. Similarly, for the 1996 cohort group, $P_{it} = 1$ for quarters 12 to 24, and for the 1997 cohort group, for quarters 8 to 24. The coefficient of interest – the interaction between the eligibility T_i and P_{it} indicators – captures the difference in the number of days worked part-time for the period in which the reference child is less than 6 years old between mothers in the treatment and control groups.

[Table 8 around here]

On average, mothers with children born between Nov. 1996 and Oct. 1997 (i.e. the 1997 cohort) worked part-time 1.5 more days than non-eligible mothers per quarter (or 0.5 day per month), in the eligibility period (i.e. after the reform and while their children were younger than 6). This result prevails for different restrictions: we start by

excluding the pre-birth quarters from the analysis (column 2), then account for mothers susceptible to request workweek reduction, those working under a full-time and a permanent contract one quarter before giving birth (columns 3 and 4, respectively). For the 1996 cohort, the sign and magnitude of this effect are preserved (see Table A.8. columns 5 to 8). Furthermore, the estimate for the 1995 cohort is significant, but much milder: these mothers worked part-time 0.27 more days on average than non-eligible mothers, although statistical significance vanishes for the different window and sample restrictions (see Table A.8 columns 1 to 4).

The nuanced magnitude of the observed effects could stem from those women with a brief eligibility span who might not have actively pursued a reduction in their workweek or, alternatively, from a concentration within a specific subset of working mothers. Notably, the impact is notably more pronounced for women with a permanent contract, benefiting *de facto* from protection against job separation. However, this pattern does not hold when considering other grouping, such as firm size, sector of activity, education, occupation.

Another plausible explanation for the nuanced impact lies in the varying awareness and understanding of the policy among mothers with children of different ages. It is conceivable that mothers with older children may not have been fully aware of the policy or its implications regarding part-time work, which was introduced in 1999. The understanding of this initiative could have gradually increased over the years, potentially contributing to the divergent effects observed across different cohorts of mothers.

7. Conclusions

We evaluate whether policies promoting part-time work among new parents affect women's long-term labor market outcomes. The discussion is pertinent given that most frequently women take up part-time working arrangements, especially after maternity, as

a solution to better concile family and work. In this regard, we contribute to the existing literature about unintended effects of part-time work on statistical discrimination or fertility, and the relationship between unpaid leave length and earnings. For that purpose, we exploit a Spanish reform passed in 1999 that granted mothers and fathers to reduce their weekly working time until their children turned 6 years old, with the corresponding downward wage adjustment. We use Social Security administrative records and resort to a regression kink design setup.

Our results suggest that the policy had a positive direct effect, preventing mothers to leave the labor market during the childrearing years. Mothers that could benefit of worktime reduction for an additional month, increased the number of days worked part-time when their child was less than 6 years old. Moreover, such rise did not involve a decrease in the number of working days, not even under a full-time arrangement. In fact, we find that greater exposure to the policy is associated to higher earnings. In addition, the beneficial effects of this measure persist even when their child is 10 years old. Interestingly, the reform explicitly prohibits laying off workers that had previously requested workweek reduction, but only permanent workers are *de facto* protected. Precisely for these workers, we find similar but stronger effects.

The findings in our study confirm the increasing relevance of gauging the impact of family-friendly policies, which help mothers to attach to the labor market. Nevertheless, our study has limitations as the main results do not hold under some alternative specifications, thus suggesting that further research on the methodology is guaranteed.

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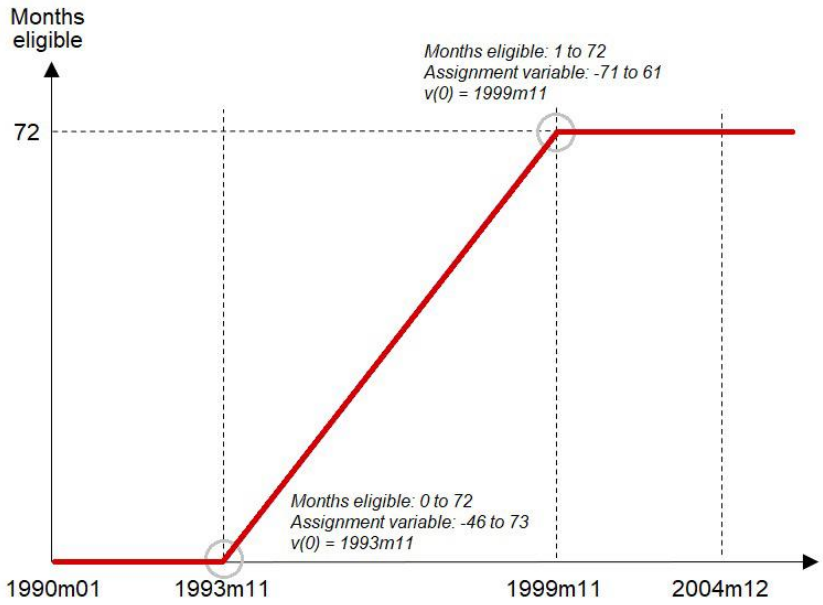
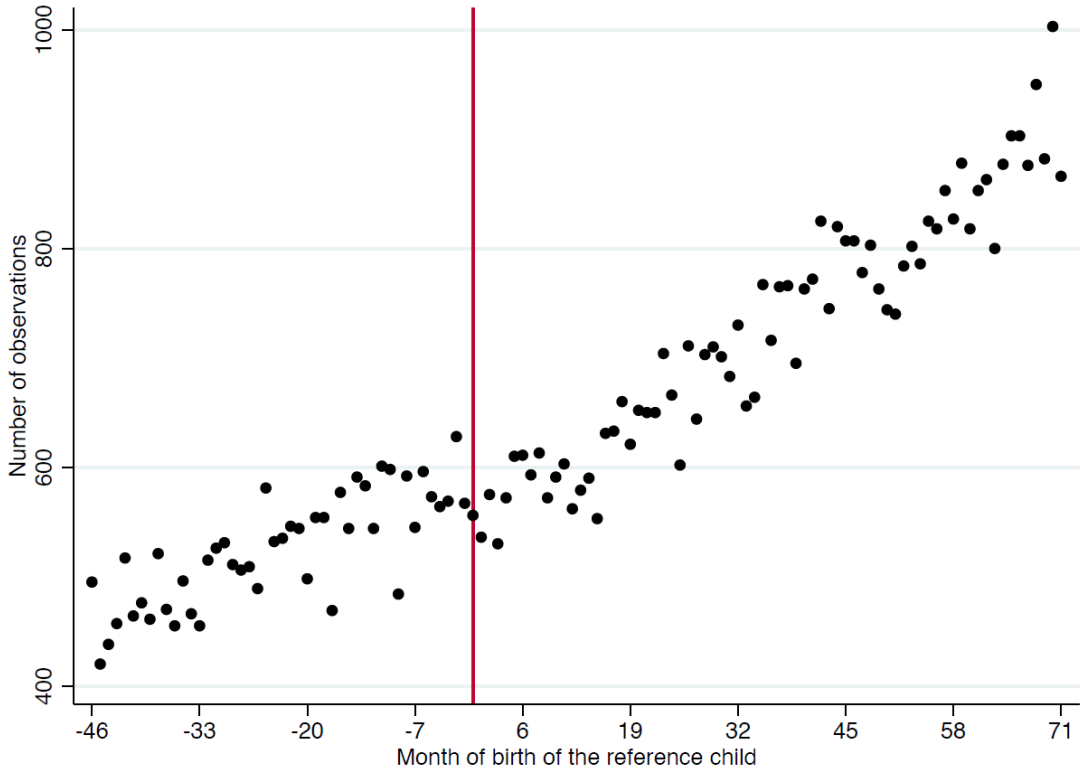
Figures and tables

Figure 1. Kinks induced by the policy of interest.



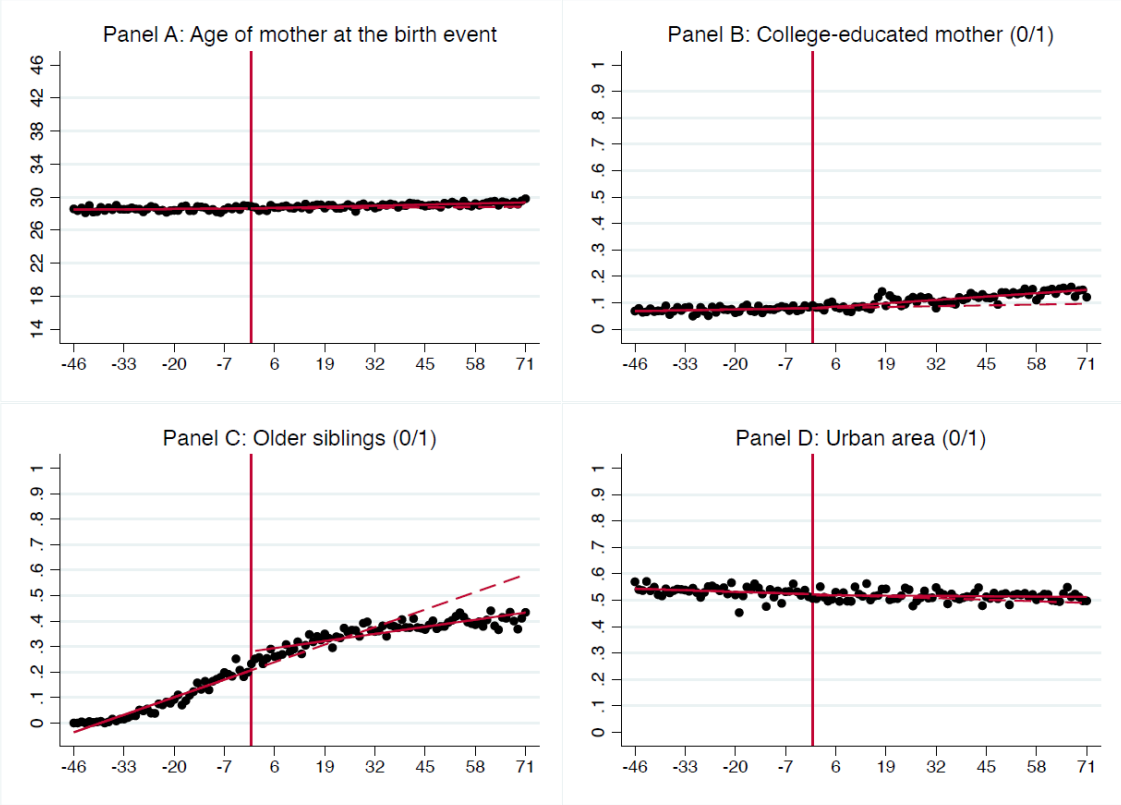
Notes: Own elaboration from *Ley 39/1999 para promover la conciliación de la vida familiar y laboral de las personas trabajadoras*.

Figure 2. Identifying assumptions: no sorting.



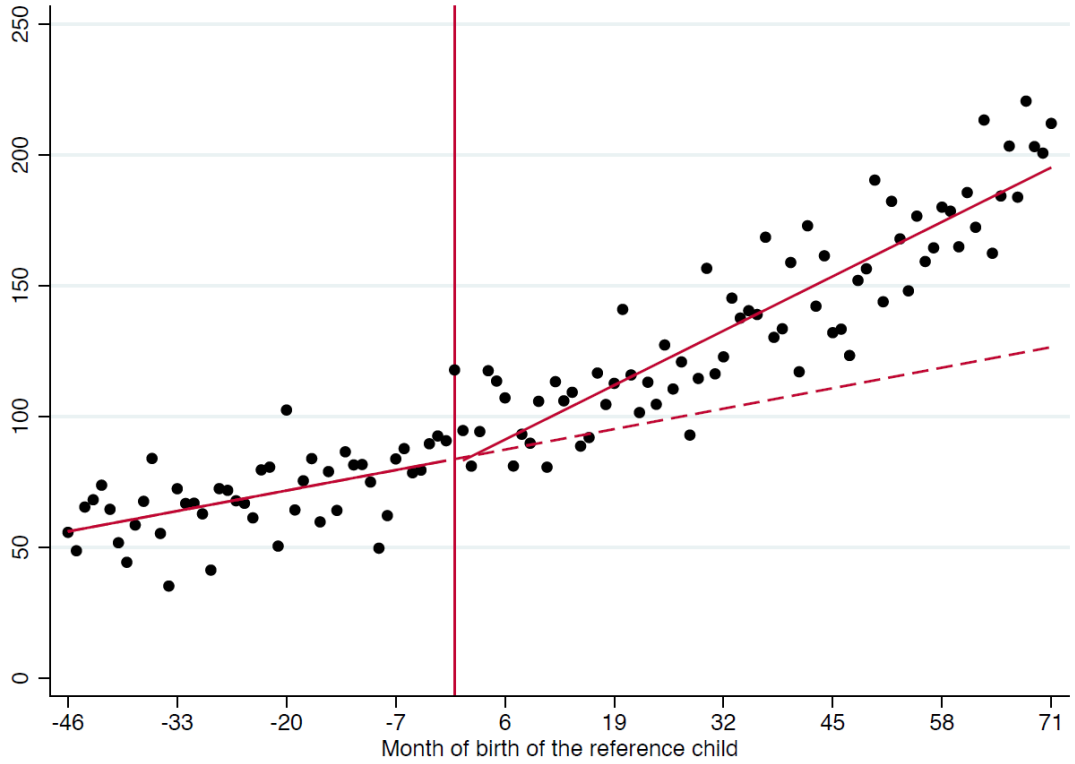
Notes: The graph evaluates the validity of the "no sorting" assumption, which implies that the density of the assignment variable (in this case, the normalized birthdate of the reference child) evolves smoothly at the kink. This graph shows the frequency distribution of the assignment variable in one-month bins over the full bandwidth from 46 months before to 71 months after the kink.

Figure 3. Identifying assumptions: smoothness.



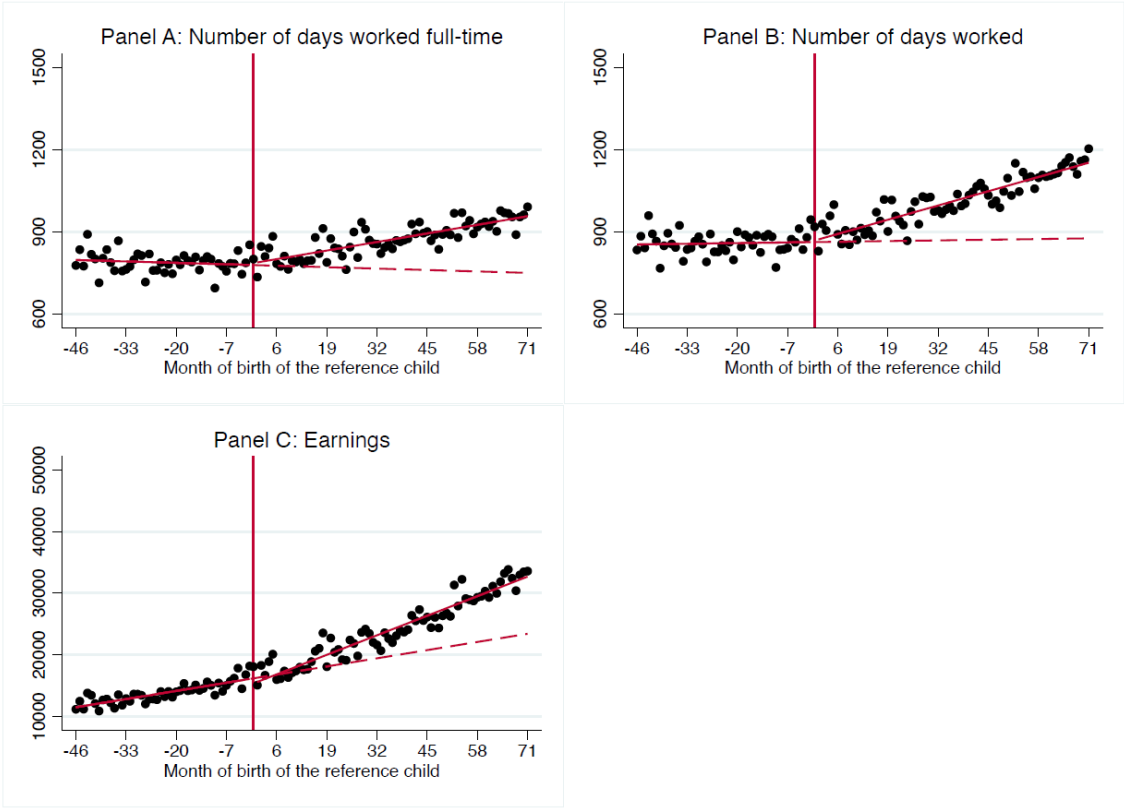
Notes: These graphs provide intuition for the "smoothness" assumption by testing whether the slope of the pre-determined covariates does not change around the kink. For that purpose, we plot the mean values of these pre-determined covariates for each bin of the assignment variable (we set one-month bins over the full bandwidth from 46 months before to 71 months after the kink).

Figure 4. Lower kink - Main outcome: No. of days worked part-time when child is 0-6.



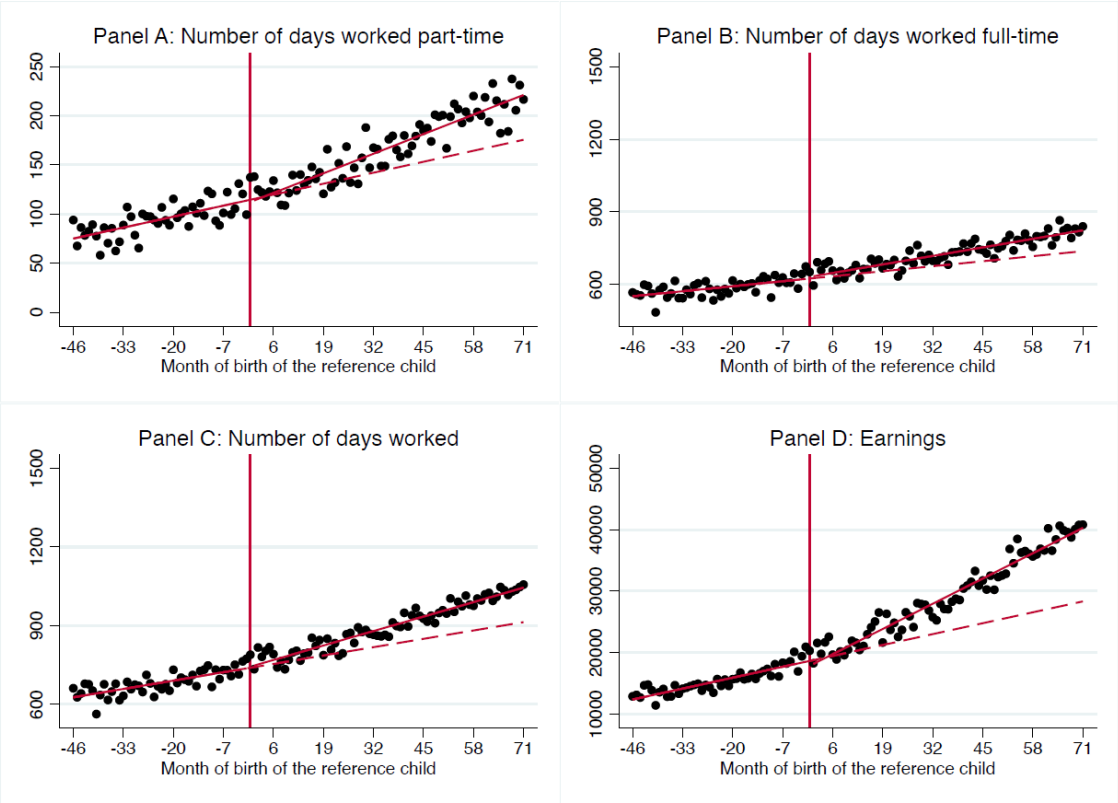
Notes: This figure plots the mean of the outcome for each bin of the assignment variable, defined as the normalized birthdate of the reference child relative to the kink. In this case, we set one-month bins over the full bandwidth from 46 months before to 71 months after the kink. The linear fit shows the underlying linear relationship in both sides of the kink, which is estimated using local nonparametric regressions.

Figure 5. Lower kink – Secondary outcomes.



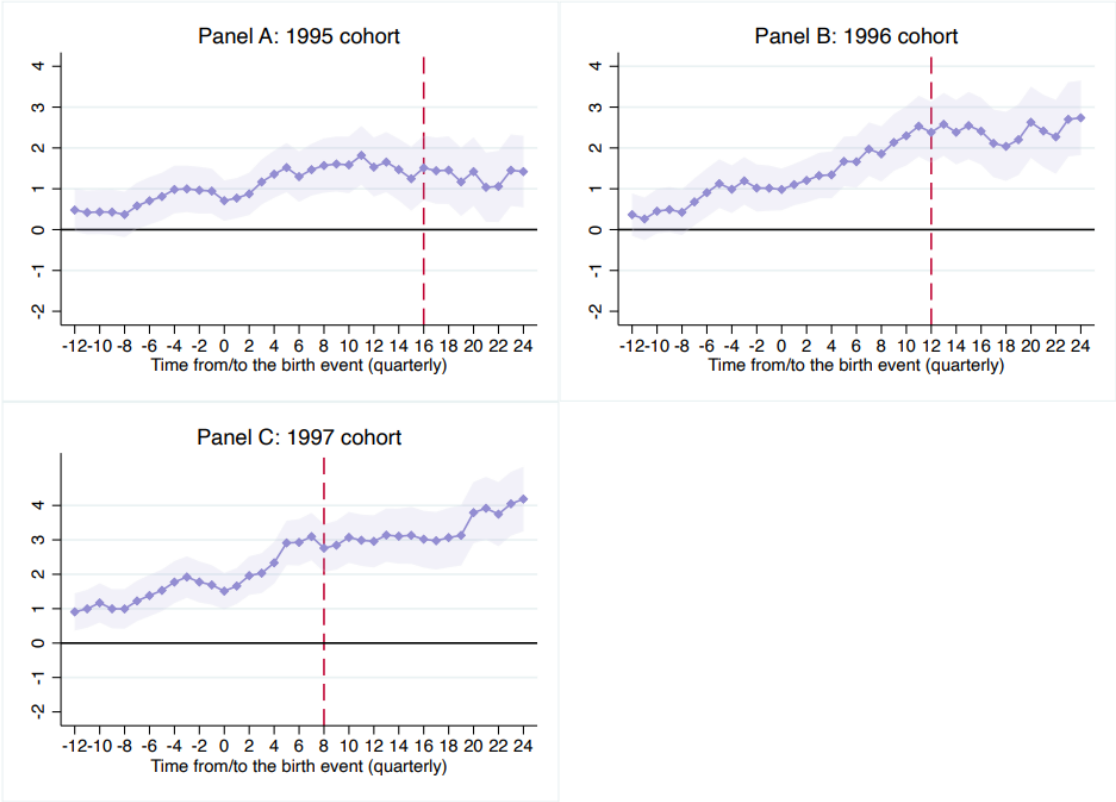
Notes: This figure plots the mean of the outcome for each bin of the assignment variable, defined as the normalized birthdate of the reference child relative to the kink. In this case, we set one-month bins over the full bandwidth from 46 months before to 71 months after the kink. The linear fit shows the underlying linear relationship in both sides of the kink, which is estimated using local nonparametric regressions.

Figure 6. Lower kink – All outcomes when the child is 6-10 years old.



Notes: This figure plots the mean of the outcome for each bin of the assignment variable, defined as the normalized birthdate of the reference child relative to the kink. In this case, we set one-month bins over the full bandwidth from 46 months before to 71 months after the kink. The linear fit shows the underlying linear relationship in both sides of the kink, which is estimated using local nonparametric regressions.

Figure 7. DiD specification - Main outcome: No. of days worked part-time when the child is 0-6.



Notes: The graph shows the estimates of a DiD specification obtained by regressing the number of days worked part-time in each quarter while the child is 0 to 6 on an indicator of eligibility. The regression is repeated for each quarter ranging 3 years before to 6 years after childbirth. We consider three different definitions of eligibility:

- 1995 cohort: mothers whose reference child was born between Nov. 1994 and Oct. 1995.
- 1996 cohort: mothers whose reference child was born between Nov. 1995 and Oct. 1996.
- 1997 cohort: mothers whose reference child was born between Nov. 1996 and Oct. 1997.

In contrast to the RKD design, the time units are quarters instead of months.

Table 1

Descriptive statistics

	Mean	s.d.	Min	p25	Median	p75	Max	N
*The child is **0 to 6** years old (0 to 72 months old)*								
Number of **days working part-time**	120	347	0	0	0	0	2223	76307
Number of **days working full-time**	849	871	0	0	549	1764	2223	76307
Number of **days worked**	970	880	0	0	823	1912	2223	76307
Labor income (in 2010 euros)	21359,1	28646,8	0,0	0,0	9954,5	30812,1	165900,7	76307
*The child is **6 to 10** years old (73 to 120 months old)*								
Number of **days working part-time**	148	344	0	0	0	59	1461	76307
Number of **days working full-time**	690	610	0	0	609	1431	1461	76307
Number of **days worked**	838	589	0	175	983	1461	1461	76307
Labor income (in 2010 euros)	25483,5	28558,8	0,0	2357,0	17939,3	35122,7	136254,2	76307
Months eligible	26	25	0	0	23	49	71	76307
Assignment variable	19	34	-46	-9	23	49	71	76307
Mother's age at birth event	29	6	14	25	29	33	45	76307
Dummy: College education	0,10	0,30						76307
Dummy: Older siblings in the household	0,28	0,45						76307
Dummy: Urban area	0,52	0,50						76307

Notes: Descriptive statistics of a balanced panel of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to the following children afterwards.

Table 2
Manipulation tests

McCrary test: discontinuity estimate (log difference in height)	0.086
	(0.021)
1st. derivative of the pdf	-0,096
	(-0.188)
RD manipulation test using local polynomial density estimation	T = -0.373
	P > |T| = 0.709

Notes: This table includes three different analytical manipulation tests that complement the graphical evidence shown in Figure 2. Firstly, we display the standard McCrary test (McCrary, 2008) that checks for a "jump" in the p.d.f. of the assignment variable. Secondly, we follow the extension of Card et al. (2015) to test that the first derivative of the p.d.f. is also continuous at the kink. For that purpose, we regress the number of individuals in each bin (each month) on a second-order polynomial of the assignment variable interacted with a dummy for being in the partially-treated group (above the kink). We report the coefficients and standard errors of these two tests. Lastly, we include a novel manipulation test proposed by Cattaneo et al. (2020) that uses local polynomials for the estimation, which is reported with the corresponding p-value. These formal tests suggest that the density of children born around the kink (Nov. 1993) evolves smoothly and hence manipulation can be discarded.

Table 3

Main outcome: Number of days worked part-time when the child is **0-6** years old (MCVL, 2010)

	(1)	(2)	(3)	(4)	(5)
Eligible	-6.320	-6.780	-9.987*	-21.170***	-35.622***
	(4.710)	(4.704)	(5.415)	(6.074)	(11.074)
Assignment variable	0.704***	0.748***	0.653***	0.706***	0.671**
	(0.126)	(0.130)	(0.142)	(0.159)	(0.288)
Eligible × assignment var	0.928***	1.011***	1.040***	0.320*	1.658***
(Kink)	(0.150)	(0.152)	(0.174)	(0.190)	(0.346)
N	76,307	76,307	53,294	28,351	16,361
Window (n.months)	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71
Controls	N	Y	Y	Y	Y
Unconditional	Y	Y	N	Y	Y
Sample	Full	Full	Full	Restricted: **Full-time** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)
Order of polynomial	1	1	1	1	1

*Notes: This tabl e shows the estimates of the RKD especification (Equation 2). These results are obtained running separate local polynomial nonparametric regressions of order 1 (linear), using the full bandwidth from 46 months before to 71 months after the kink (i.e., the kink corresponds to Oct. 1993). The coefficient of interest (Kink) captures the change in the number of days worked part-time (for the period in which the child is 0 to 6 years old) if the exposure to the policy increases by one month (i.e. a mother may benefit from childcare leave one additional month). The analysis uses a balanced panel of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after (columns 1 and 2); and three different sample restrictions (columns 3, 4, and 5, respectively): conditioning on mothers who did not give birth to further children after Oct. 1999 (i.e. mothers that would never be fully exposed to the policy), and mothers working under a full-time contract or a permanent contract one month before giving birth to their child (i.e. mothers that are de facto protected against layoff). The controls used in specifications 2 to 5 are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table 4

Secondary outcomes when the child is **0-6** years old (MCVL, 2010)

	Number of days worked *full-time*		Number of days worked		Labor income (in euros of 2010)	
	(1)	(2)	(3)	(4)	(5)	(6)
Eligible	10.289	191.608***	3.924	157.421***	-1,113.409***	2,300.156***
	(12.676)	(23.757)	(12.763)	(21.588)	(331.015)	(859.723)
Assignment variable	2.295***	0.154	3.034***	0.813	181.201***	305.268***
	(0.392)	(0.749)	(0.396)	(0.706)	(8.975)	(24.449)
Eligible × assignment var	2.527***	0.340	3.538***	1.986***	125.814***	152.209***
(Kink)	(0.428)	(0.808)	(0.431)	(0.748)	(10.607)	(27.758)
N	76,307	16,361	76,307	16,361	76,307	16,361
Window (n.months)	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71
Controls	Y	Y	Y	Y	Y	Y
Unconditional	Y	Y	Y	Y	Y	Y
Sample	Full	Restricted: **Permanent** contract (1 month before birth event)	Full	Restricted: **Permanent** contract (1 month before birth event)	Full	Restricted: **Permanent** contract (1 month before birth event)
Order of polynomial	1	1	1	1	1	1

*Notes: This table shows the estimates of the RKD especification (Equation 2) . These results are obtained running separate local polynomial nonparametric regressions of order 1 (linear), using the full bandwidth from 46 months before to 71 months after the kink (i.e., the kink corresponds to Oct. 1993). The coefficient of interest (Kink) captures the change when the exposure to the policy increases by one month (i.e. a mother may benefit from childcare leave one additional month). The analysis uses the full sample of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after (columns 1, 3, and 5) and a restricted sample of mothers working under a permanent contract one month before giving birth to their child (columns 2, 4, and 6). The controls used in all specifications are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table 5

Main outcome: Number of days worked part-time when the child is **6-10** years old (MCVL, 2010)

	(1)	(2)	(3)	(4)	(5)
Eligible	-4.653	-5.084	-6.207	-17.922**	-25.185**
	(4.772)	(4.767)	(5.525)	(7.377)	(10.516)
Assignment variable	0.923***	0.855***	0.828***	0.801***	1.010***
	(0.129)	(0.131)	(0.145)	(0.200)	(0.290)
Eligible × assignment var	0.619***	0.698***	0.514***	0.045	0.378
(Kink)	(0.151)	(0.152)	(0.174)	(0.230)	(0.331)
N	76,307	76,307	53,294	28,351	16,361
Window (n.months)	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71
Controls	N	Y	Y	Y	Y
Unconditional	Y	Y	N	Y	Y
Sample	Full	Full	Full	Restricted: **Full-time** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)
Order of polynomial	1	1	1	1	1

*Notes: This table shows the estimates of the RKD especification (Equation 2) . These results are obtained running separate local polynomial nonparametric regressions of order 1 (linear), using the full bandwidth from 46 months before to 71 months after the kink (i.e., the kink corresponds to Oct. 1993). The coefficient of interest (Kink) captures the change in the number of days worked part-time (for the period in which the child is 6 to 10 years old) if the exposure to the policy increases by one month (i.e. a mother may benefit from childcare leave one additional month). The analysis uses a balanced panel of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after (columns 1 and 2); and three different sample restrictions (columns 3, 4, and 5, respectively): conditioning on mothers who did not give birth to further children after Oct. 1999 (i.e. mothers that would never be fully exposed to the policy), and mothers working under a full-time contract or a permanent contract one month before giving birth to their child (i.e. mothers that are de facto protected against layoff). The controls used in specifications 2 to 5 are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table 6

Secondary outcomes when the child is **6-10** years old (MCVL, 2010)

	Number of days worked *full-time*		Number of days worked		Labor income (in Euros of 2010)	
	(1)	(2)	(3)	(4)	(5)	(6)
Eligible	4.718	104.843***	-0.524	79.029***	-1,203.600***	2,468.737***
	(9.073)	(18.139)	(8.906)	(15.846)	(322.379)	(814.149)
Assignment variable	2.655***	0.713	3.508***	1.735***	190.515***	261.621***
	(0.283)	(0.599)	(0.282)	(0.549)	(8.967)	(23.660)
Eligible × assignment var	0.828***	-0.072	1.527***	0.291	160.082***	187.538***
(Kink)	(0.308)	(0.641)	(0.303)	(0.577)	(10.478)	(26.861)
N	76,307	16,361	76,307	16,361	76,307	16,361
Window (n.months)	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71
Controls	Y	Y	Y	Y	Y	Y
Unconditional	Y	Y	Y	Y	Y	Y
Sample	Full	Restricted: **Permanent** contract (1 month before birth event)	Full	Restricted: **Permanent** contract (1 month before birth event)	Full	Restricted: **Permanent** contract (1 month before birth event)
Order of polynomial	1	1	1	1	1	1

*Notes: This table shows the estimates of the RKD especification (Equation 2). These results are obtained running separate local polynomial nonparametric regressions of order 1 (linear), using the full bandwidth from 46 months before to 71 months after the kink (i.e., the kink corresponds to Oct. 1993). The coefficient of interest (Kink) captures the change when the exposure to the policy increases by one month (i.e. a mother may benefit from childcare leave one additional month). The analysis uses the full sample of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after (columns 1, 3, and 5) and a restricted sample of mothers working under a permanent contract one month before giving birth to their child (columns 2, 4, and 6). The controls used in all specifications are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table 7

Heterogeneous effects: Number of days worked part-time

	When the child is **0-6** years old				When the child is **6-10** years old			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Eligible	20.740	-49.738	-1.930	-8.920	-11.058	-15.882	-9.056*	16.773
	(16.980)	(33.794)	(5.504)	(19.475)	(16.289)	(23.313)	(5.468)	(16.848)
Assignment variable	0.980**	1.674	1.395***	0.782	1.123**	1.154*	1.241***	-0.095
	(0.465)	(1.029)	(0.429)	(1.469)	(0.473)	(0.682)	(0.423)	(1.278)
Eligible × assignment var	0.329	0.817	0.778***	1.293*	-0.141	0.740	0.904***	0.916
(Kink)	(0.546)	(1.103)	(0.175)	(0.660)	(0.531)	(0.751)	(0.177)	(0.574)
N	9,475	6,385	67,844	7,897	9,475	6,385	67,844	7,897
Window (n.months)	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71	-46/+71
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Unconditional	Y	Y	Y	Y	Y	Y	Y	Y
Sample	Restricted: **Large firms** (1 month before giving birth)	Restricted: **Small and medium firms** (1 month before giving birth)	Restricted: **Non-college educated**	Restricted: **College educated**	Restricted: **Large firms** (1 month before giving birth)	Restricted: **Small and medium firms** (1 month before giving birth)	Restricted: **Non-college educated**	Restricted: **College educated**
Order of polynomial	1	1	1	1	1	1	1	1

*Notes: This table shows the estimates of the RKD especification (Equation 2) when accounting for potential within-sample heterogeneity in education and firm size. We estimate the effect on the main outcome - number of days worked part-time when the child is 0 to 6 years old / 6 to 10 years old- for a restricted sample of mothers working in large firms (i.e. more than 250 workers) or, alternatively, small and medium firms (i.e. less than 250 workers) the month before giving birth. Additionally, the analysis uses a restricted sample of college and non-college mothers. These results are obtained running separate local polynomial nonparametric regressions of order 1 (linear), using the full bandwidth from 46 months before to 71 months after the kink. Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table 8

Main outcome (DiD analysis): Number of days worked part-time when the child is **0-6** years old (MCVL, 2010)

	(1)	(2)	(4)	(5)
Eligible × *post*	1.548***	0.983***	1.602***	1.557***
	(0.123)	(0.149)	(0.164)	(0.238)
N	412,476	278,700	182,928	107,559
Window (n.quarters)	-12/+24	0/+24	-12/+24	-12/+24
Controls	N	N	N	N
Eligibility cohort	1997	1997	1997	1997
Sample	Full	Full	Restricted: **Full-time** contract (1 quarter before birth event)	Restricted: **Permanent** contract (1 quarter before birth event)

Notes: This table shows the estimates of the DiD specification (Equation 3). These results are obtained by regressing the main outcome - number of days worked part-time when the child is 0 to 6- on: 1- Indicators for each quarter from 3 years before to 6 years after the childbirth; 2- an indicator of eligibility (i.e. mothers whose reference child was born between Nov. 1996 and Oct. 1997); and 3- the interaction of eligibility and post, *which is our coefficient of interest.* Post *refers to the quarters in which eligible mothers actually benefitted from the policy (i.e. it takes value 1 for the quarters 8 to 24 and 0 otherwise). The analysis uses a balanced panel of mothers who had a child between Nov. 1992 and Oct. 1997 and two different sample restrictions (columns 3 and 4, respectively): mothers working under a full-time contract or a permanent contract one month before giving birth to their child. Additionally, we replicate the analysis by discarding pre-birth quarters. Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Appendix

Table A.1
Predetermined covariates (at the birth event)

	Coeff./s.e.	N
Mother's age at birth event	-0.017	14385
	(0.027)	
Dummy : College education	-0.010	14385
	(0.009)	
Dummy : Older siblings in the household	-0.006	14385
	(0.007)	
Dummy : Urban area	-0.002	14385
	(0.006)	

*Notes: This formal analysis validates the smoothness assumption, thus complementing the graphical evidence in Figure 3. We run separate local polynomial nonparametric regressions of order 1 (linear) for each covariate, using a symmetric bandwidth of 24 months around the kink. All the coefficients are insignificant, meaning that the slope of the predetermined covariates does not change next to the kink. This analysis uses a balanced panel of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after. Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table A.2

Robustness checks (Main outcome: Number of days worked part-time when child is **0-6** years old)

	(1)	(2)	(3)	(4)	(5)
Eligible	-2.006	-1.825	5.969	3.239	0.522
	(5.849)	(5.466)	(9.055)	(8.423)	(7.147)
Assignment variable	0.856***	0.797***	1.977***	1.795***	1.622***
	(0.179)	(0.149)	(0.722)	(0.596)	(0.516)
Assignment variable²			0.031*	0.024*	0.019*
			(0.019)	(0.014)	(0.011)
Eligible × assignment var	0.671**	0.764***	-2.615**	-1.770*	-0.917
(Kink)	(0.274)	(0.226)	(1.114)	(0.913)	(0.609)
Eligible × assignment var²			0.025	0.011	-0.005
			(0.029)	(0.021)	(0.012)
N	44,063	50,323	44,063	50,323	76,307
Window (n.months)	+/- 37	+/- 42	+/- 37	+/- 42	-46/+71
Controls	Y	Y	Y	Y	Y
Unconditional	Y	Y	Y	Y	Y
Sample	Full	Full	Full	Full	Full
Order of polynomial	1	1	2	2	2

*Notes: This table reports the estimates using alternative specifications for the main outcome: we run local polynomial nonparametric regressions of order 1 (linear) and order 2 (quadratic) for the main outcome, using in each case two different symmetric bandwidths - 37 and 42 months- around the kink. Additionally, we show the estimates of the quadratic nonparametric regression using the full bandwidth from 46 months before to 71 months after the kink. For this analysis we rely on the full sample of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after. The controls used in all specifications are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table A.3

Robustness checks (Secondary outcomes when the child is **0-6** years old)

	Number of days worked *full-time*			Number of days worked			Labor income (in euros of 2010)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Eligible	5.390	6.531	-4.389	3.630	5.090	-3.545	-414.798	-420.444	-562.352
	(15.784)	(14.783)	(18.950)	(15.907)	(14.898)	(19.092)	(402.637)	(378.902)	(493.748)
Assignment variable	2.924***	2.729***	4.828***	3.776***	3.516***	6.446***	191.007***	183.380***	261.576***
	(0.533)	(0.445)	(1.489)	(0.538)	(0.450)	(1.504)	(12.241)	(10.196)	(34.804)
Assignment variable²			0.056*			0.075**			1.782**
			(0.032)			(0.032)			(0.710)
Eligible × assignment var	1.902***	2.171***	-0.295	2.577***	2.940***	-1.211	64.389***	79.927***	-42.202
(Kink)	(0.728)	(0.601)	(1.660)	(0.733)	(0.605)	(1.674)	(18.595)	(15.511)	(41.378)
Eligible × assignment var²			-0.052			-0.058*			-0.605
			(0.033)			(0.033)			(0.775)
N	44,063	50,323	76,307	44,063	50,323	76,307	44,063	50,323	76,307
Window (n.months)	+/- 37	+/- 42	-46/+71	+/- 37	+/- 42	-46/+71	+/- 37	+/- 42	-46/+71
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Unconditional	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sample	Full	Full	Full	Full	Full	Full	Full	Full	Full
Order of polynomial	1	1	2	1	1	2	1	1	2

*Notes: This table reports the estimates using alternative specifications for the secondary outcomes: we run local polynomial nonparametric regressions of order 1 (linear) with two alternative symmetric bandwidths - 37 and 42 months- and of order 2 (quadratic) with the full bandwidth from 46 months before to 71 months after the kink. For this analysis we rely on the full sample of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after. The controls used in all specifications are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table A.4

Robustness checks (Main outcome: Number of days worked part-time when the child is **6-10** years old)

	(1)	(2)	(3)
Eligible	-3.417	-2.486	-5.514
	(5.925)	(5.542)	(7.171)
Assignment variable	0.981***	0.940***	1.289**
	(0.179)	(0.149)	(0.517)
Assignment variable²			0.010
			(0.011)
Eligible × assignment var	0.390	0.409*	0.055
(Kink)	(0.273)	(0.224)	(0.606)
Eligible × assignment var²			-0.007
			(0.012)
N	44,063	50,323	76,307
Window (n.months)	+/- 37	+/- 42	-46/+71
Controls	Y	Y	Y
Unconditional	Y	Y	Y
Sample	Full	Full	Full
Order of polynomial	1	1	2

*Notes: This table reports the estimates using alternative specifications: we run local polynomial nonparametric regressions of order 1 (linear) with two alternative symmetric bandwidths - 37 and 42 months- and of order 2 (quadratic) with the full bandwidth from 46 months before to 71 months after the kink. For this analysis we rely on the full sample of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after. The controls used in all specifications are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table A.5

Robustness checks (Secondary outcomes when the child is **6-10** years old)

	Number of days worked *full-time*			Number of days worked			Labor income (in Euros of 2010)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Eligible	8.302	5.701	-0.599	4.760	3.036	-6.230	-234.365	-317.034	-668.354
	(11.298)	(10.584)	(13.540)	(11.124)	(10.409)	(13.290)	(392.557)	(369.660)	(478.577)
Assignment variable	3.223***	3.065***	4.738***	4.200***	4.004***	6.015***	210.857***	200.447***	305.473***
	(0.384)	(0.321)	(1.071)	(0.383)	(0.320)	(1.064)	(12.110)	(10.132)	(34.244)
Assignment variable²			0.046**			0.055**			2.548***
			(0.023)			(0.023)			(0.710)
Eligible × assignment var	-0.036	0.423	-2.014*	0.356	0.833**	-1.945*	74.319***	100.141***	-60.707
(Kink)	(0.523)	(0.432)	(1.191)	(0.514)	(0.423)	(1.173)	(18.335)	(15.312)	(40.569)
Eligible × assignment var²			-0.036			-0.042*			-1.126
			(0.024)			(0.024)			(0.771)
N	44,063	50,323	76,307	44,063	50,323	76,307	44,063	50,323	76,307
Window (n.months)	+/- 37	+/- 42	-46/+71	+/- 37	+/- 42	-46/+71	+/- 37	+/- 42	-46/+71
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y
Unconditional	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sample	Full	Full	Full	Full	Full	Full	Full	Full	Full
Order of polynomial	1	1	2	1	1	2	1	1	2

*Notes: This table reports the estimates using alternative specifications for the secondary outcomes: we run local polynomial nonparametric regressions of order 1 (linear) with two alternative symmetric bandwidths - 37 and 42 months- and of order 2 (quadratic) with the full bandwidth from 46 months before to 71 months after the kink. For this analysis we rely on the full sample of mothers who had a child between Jan. 1990 and Oct. 1999, unconditional to the fact of giving birth to following children after. The controls used in all specifications are the presence of older siblings in the household, mother's birthyear and education level, autonomous region and municipality size (all defined as dummies). Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table A.6

Robustness checks: sample restricted to permanent contracts (All outcomes when the child is **0-6** years old)

	Number of days worked *part-time*			Number of days worked *full-time*			Number of days worked			Labor income (in euros of 2010)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Eligible	-1.094	-4.913	23.980	91.793***	108.358***	9.481	91.607***	104.636***	35.229	1,307.834	1,771.353*	-1,068.632
	(14.937)	(13.988)	(17.975)	(29.058)	(27.073)	(34.450)	(26.254)	(24.449)	(30.987)	(1,036.124)	(967.647)	(1,241.069)
Assignment variable	0.686	0.732**	-0.318	1.697*	1.267	10.912***	2.369**	1.983**	10.514***	364.642***	344.129***	627.511***
	(0.442)	(0.372)	(1.300)	(0.998)	(0.834)	(2.742)	(0.932)	(0.779)	(2.539)	(32.900)	(26.961)	(89.906)
Assignment variable²			-0.023			0.233***			0.209***			6.865***
			(0.028)			(0.059)			(0.055)			(1.867)
Eligible × assignment var	-0.098	0.092	-1.563	3.189**	2.877***	-2.519	3.126***	2.986***	-4.011	140.167***	146.301***	-71.962
(Kink)	(0.682)	(0.560)	(1.539)	(1.324)	(1.082)	(3.016)	(1.187)	(0.969)	(2.738)	(47.746)	(38.899)	(103.970)
Eligible × assignment var²			0.080***			-0.334***			-0.252***			-7.977***
			(0.030)			(0.061)			(0.056)			(1.995)
N	9,095	10,494	17,312	9,095	10,494	17,312	9,095	10,494	17,312	9,095	10,494	17,312
Window (n.months)	+/- 37	+/- 42	-46/+71	+/- 37	+/- 42	-46/+71	+/- 37	+/- 42	-46/+71	+/- 37	+/- 42	-46/+71
Controls	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Unconditional	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sample	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)	Restricted: **Permanent** contract (1 month before birth event)
Order of polynomial	1	1	2	1	1	2	1	1	2	1	1	2

*Notes: This table reports the estimates using alternative specifications and a restricted sample of mothers working under a permanent contract the month before giving birth. We run local polynomial nonparametric regressions of order 1 (linear) with two alternative symmetric bandwidths - 37 and 42 months- and of order 2 (quadratic) with the full bandwidth from 46 months before to 71 months after the kink. Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*

Table A.7

Main outcome (DiD analysis): Number of days worked part-time when the child is **0-6** years old (MCVL, 2010)

	(1)	(2)	(4)	(5)	(6)	(7)	(8)	(9)
Eligible × *post*	0.267*	-0.023	-0.119	-0.377	1.208***	0.743***	0.849***	1.083***
	(0.155)	(0.165)	(0.211)	(0.300)	(0.134)	(0.151)	(0.182)	(0.263)
N	400,451	270,575	178,007	99,863	401,302	271,150	177,119	100,529
Window (n.quarters)	-12/+24	0/+24	-12/+24	-12/+24	-12/+24	0/+24	-12/+24	-12/+24
Controls	N	N	N	N	N	N	N	N
Eligibility cohort	1995	1995	1995	1995	1996	1996	1996	1996
Sample	Full	Full	Restricted: **Full-time** contract (1 quarter before birth event)	Restricted: **Permanent** contract (1 quarter before birth event)	Full	Full	Restricted: **Full-time** contract (1 quarter before birth event)	Restricted: **Permanent** contract (1 quarter before birth event)

Notes: This table shows the estimates of the DiD specification using alternative eligibility definitions: The 1995 (resp. 1996) cohort comprises mothers whose reference child was born between Nov. 1994 and Oct. 1995 (resp. Nov. 1995 - Oct. 1996). These results are obtained by regressing the main outcome - number of days worked part-time when the child is 0 to 6- on: 1- Indicators for each quarter from 3 years before to 6 years after the childbirth; 2- an indicator of eligibility; and 3- the interaction of eligibility and post, *which is our coefficient of interest.* Post *refers to the quarters in which eligible mothers actually benefitted from the policy (i.e. it takes value 1 for the quarters 16 to 24 for the 1995 cohort and quarters 12 to 24 for the 1996 cohort; and 0 otherwise). The analysis uses a balanced panel of mothers who had a child between Nov. 1992 and Oct. 1997 and two different sample restrictions (columns 3 and 4, respectively): mothers working under a full-time contract or a permanent contract one month before giving birth to their child. Additionally, we replicate the analysis by discarding pre-birth quarters. Heterokedasticity-robust standard errors are displayed in parentheses. Significance levels: *** p<0.01; ** p<0.05, * p<0.1.*