

Online Appendices to *Causal Effects of Paternity Leave on  
Children and Parents*

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**Abstract**

This note provides supplementary material to “Causal Effects of Paternity Leave on Children and Parents” (henceforth referred to as CFK). In Appendix B we describe in detail the data used in our analyses. This section includes supplementary descriptive statistics and tests for covariate balance. In Appendix C we document how the 1993 parental leave reform affected the timing of births in time windows closely bracketing April 1. Additional sensitivity checks of our main results are also included in this section. Finally, we characterize families whose behavior was affected by the 1993 paternal reform in Appendix D.

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## Appendix B: Data

### *Parental leave*

Data on parental leave comes from Statistics Norways' FD-trygd register. Data on individual parents' leave-taking is available from 1992 onwards. Our key variable is the number of compensated leave days. Mostly, we will convert this to weeks (as there is wage compensation only for working days, each week is five leave days) for a clearer presentation in the text and better correspondence with Table A1 of CFK. Table B1 gives the average amount of paternity and maternity leave before the introduction of the 1992 and 1993 reforms. Furthermore, the table shows how leave taking changed with the introduction of the reforms, and how the changes differed from 1993 to 1992.

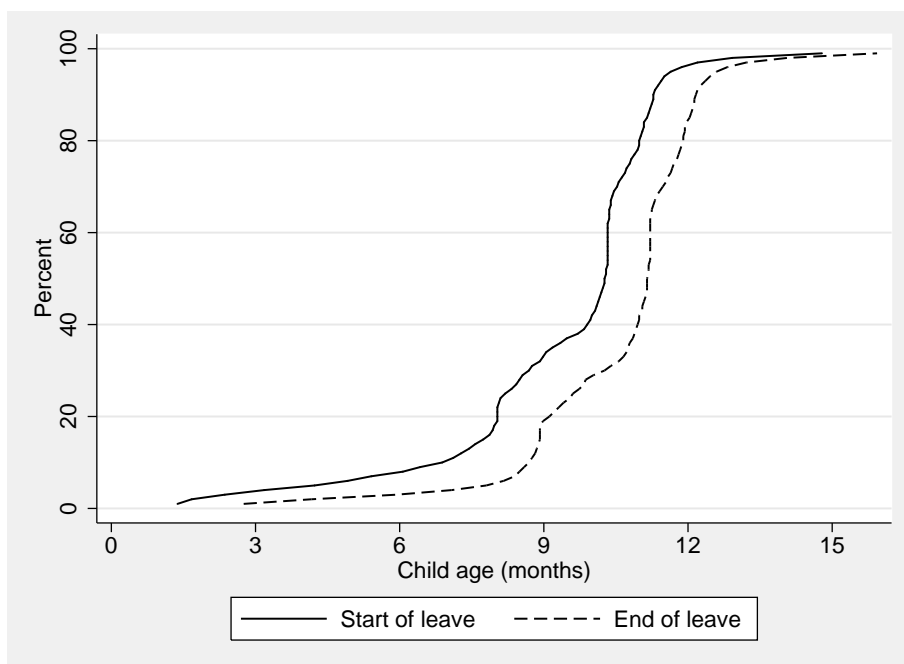
Table B1: Summary statistics and change in parental leave.

	(1)	(2)	(3)	(4)	(5)
	Base 93	Diff 93	Base 92	Diff 92	DiD 93vs92
Father takes leave	0.039 (0.193)	0.364** (0.007)	0.028 (0.164)	0.006** (0.003)	0.359** (0.007)
Father's leave days	2.033 (12.831)	8.204** (0.288)	1.349 (9.600)	0.630** (0.195)	7.587** (0.347)
Mother takes leave	0.878 (0.328)	0.065** (0.005)	0.871 (0.335)	-0.012** (0.006)	0.077** (0.008)
Mother's leave days	174.427 (73.251)	25.066** (1.276)	153.470 (65.792)	14.075** (1.221)	10.860** (1.767)
Mother's leave $\geq$ 25 weeks	0.859 (0.348)	0.005 (0.006)	0.835 (0.371)	-0.005 (0.006)	0.009 (0.009)
80 % compensation	0.635 (0.481)	0.063** (0.009)	0.536 (0.499)	0.064** (0.009)	-0.002 (0.012)
<i>N</i>	6489	13366	6709	13522	23985

Note: Columns (1) and (3) show the average leave-taking behavior for the parents of children born in January-March in 1993 and 1992, respectively. Column (2) shows the difference in leave-taking behavior from January-March to April-June in 1993 and 1992. Column (5) presents the difference-in-difference estimate obtained by subtracting column (4) from column (2). One week of leave corresponds to five (working) days. The sample used is all children born during the first six months of the years 1992 and 1993, excluding those born in the two weeks before and after April 1, whose parents are eligible for parental leave (see CFK Section III for details). In columns (1) and (3) standard deviations are given in parentheses. In columns (2), (4) and (5) estimated standard errors of are presented. Stars indicate significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ .

Figure B1 shows the age of the child at the beginning and the end of the father's leave. The sample in the figure is restricted to post-reform fathers who took some leave at least.

Figure B1: Cumulative distribution of child's age at the beginning and end of father's leave.



Note: The graphs shows the cumulative distribution of child's age at the beginning and end of their fathers' leave, calculated as the leave at percentiles 1-99. Sample is restricted to post-reform fathers that did take leave and excludes fathers of children born within two weeks of April 1. (See CFK Section III for details.)

### *Child outcomes*

In Norway, primary and lower secondary school (in total 10 years of schooling) are mandatory. At the end of lower secondary school students are graded. These grades matter for admission to upper secondary schools. Most grades are set by the student's own teachers; however, every student is also required to take a written exam, which is anonymous and graded by teachers from another school. To get an unbiased measure of student ability, e.g. to avoid problems with relative grading, we focus on exam scores. The exam subject is chosen randomly from the core subjects Norwegian, English and mathematics. Grades take integer values from one to six. For ease of interpretation grades are demeaned and measured in units of standard deviations within each year.

The school performance sample is not identical to the samples for parental and family outcomes. This is because in the school sample, the unit of observation is each student completing compulsory schooling, while in the other samples, the unit is the family. We have exam scores for about 96% of the total relevant cohorts of 16 years olds. The two samples are similar in terms

of observables, both in terms of distribution and in terms of change around the introduction of the paternal quota.

### *Labor market outcomes*

Statistics Norway provides data on yearly “personal income” going back to 1967 for the entire Norwegian population. The personal income consists of wages, pensions and entrepreneurial income. In our analyses, earnings are given in constant 1998 NOK, and are truncated above the 99th percentile. Data on employment status are obtained from Statistics Norway *Employment register* (“Arbeidstakerregisteret”), which contains data on all Norwegian employees.<sup>1</sup> This time series starts in 1993. Work hours are only reported in three broad categories: 1-19 hours, 20-29 hours and 30 or more hours. To measure labor supply we construct dummy variables capturing whether the individual is registered with at least 20 hours (which we classify as part-time) or at least 30 hours (which we classify as full-time) of employment per week. The dummy variables are set to zero otherwise. Due to imperfect observability, the analysis does not take working hours for the self-employed into account.<sup>2</sup>

To facilitate interpretation we rely on averages of labor market outcomes based on earnings and labor supply for multiple years. Such aggregation is also useful since it improves statistical power to detect effects that go in the same direction within a domain, without increasing the probability of a Type I error (Kling et al. (2007), Deming (2009), Almond and Currie (2010)). We construct the aggregated outcomes by averaging all outcomes over the years when the child is 2 to 5 years old. We do not use data from when the child is one year old, since most parents will be taking part of their leave at this age. For families with children born in 1993 (1992) the outcomes are thus averaged over the years 1995 through 1998 (1994 through 1997). We have previously also used other classifications of labor market outcomes according to the child’s age (6-9 year old and 10-14 year old), but this added little extra information. For details, see Cools et al. (2011).

Table B2 shows the variation in the labor market data in our sample. Earnings are normal-

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<sup>1</sup>This data set is used in several previous studies of the Norwegian labor market. Bratsberg and Raaum (2012), for example, use this data set to analyze how immigrant employment affect wages in the construction sector.

<sup>2</sup>Working hours will therefore on average be somewhat underestimated. This is not a problem for our analysis as long as self-employment status does not depend on being treated by the reform. We have studied the impact of the reform on two different measures of self-employment, and we find a positive but generally not statistically significant effect on both mothers’ and fathers’ probability of being classified as self-employed. Our results on working hours are robust to excluding the self-employed thus defined from the analysis.

Table B2: Summary statistics, labor market and family outcomes.

	1991		1992		1993	
	Mean	SD	Mean	SD	Mean	SD
<i>Fathers' labor market outcomes</i>						
- Earnings	283.1	(122.1)	291.4	(126.0)	299.9	(126.1)
- Full time	0.77	(0.36)	0.77	(0.35)	0.78	(0.34)
- Part time	0.79	(0.35)	0.79	(0.34)	0.80	(0.33)
- Employed	0.81	(0.33)	0.81	(0.33)	0.82	(0.31)
<i>Mothers' labor market outcomes</i>						
- Earnings	153.3	(78.1)	156.6	(79.4)	161.7	(81.3)
- Full time	0.41	(0.42)	0.41	(0.42)	0.42	(0.41)
- Part time	0.56	(0.41)	0.56	(0.41)	0.57	(0.40)
- Employed	0.70	(0.36)	0.70	(0.36)	0.71	(0.35)
<i>Family outcomes</i>						
- Mother's parity (child age 14)	2.51	(0.85)	2.51	(0.85)	2.51	(0.84)
- Father's parity (child age 14)	2.62	(0.94)	2.62	(0.94)	2.62	(0.93)
- Child spacing (years)	3.62	(1.89)	3.55	(1.82)	3.52	(1.81)
- Married (child age 14)	0.76	(0.42)	0.76	(0.43)	0.75	(0.43)
N	13285		13338		13184	

Note: Sample is children born during the six months surrounding April 1, either in 1991, 1992 or 1993, excluding two weeks before and after April 1. Earnings are given in constant 1998 NOK and are measured in 1000s. 30 hours of employment or more per week is classified as part time, 20 hours or more is classified as full time, and 5 hours or more per week is classified as being employed. The labor market outcomes are averages over the years when the child is 2-5 years old.

ized to have a zero mean and a standard deviation of one within the sample every year, before it is averaged over the years when the child is 2 to 5.

The fathers earn on average 75% more than the mothers in our sample. 77% of fathers work full time, and an additional 3% work part time or less. 20% are not registered with employment in our data, meaning they are either self-employed or unemployed. Mothers work significantly less: 45% work full time, while an additional 15% work part time. 13% are employed less than 20 hours per week. 27% of the mothers in our sample are without registered employment.

### *Family outcomes*

Data on marriage and parity come from Statistics Norway's family and demography files. We investigate the impact of paternity leave on the following family outcomes: parents' total number of children 14 years after the reform (2007), the distance in years to the next child (conditional on the parents having another child together) and parents' probability of being married to each other when the child is 14. The four last rows in Table B2 gives descriptive statistics.

Fathers in our sample on average end up having .1 more children on average than the mothers, reflecting a higher tendency among men to form new families. Among couples who do have another child together, the average child spacing is about 3.5 years. 75% of the couples in our sample are married when the child is 14 years old. The 25% non-married are either parents who never got married– and who either stayed together or separated–or parents who are divorced. The size of this group points to the possibility of fathers’ involvement in their children also occurring outside a union with the child’s mother.

### *Control variables*

Table B3 gives descriptive statistics for pre-birth characteristics for eligible parents whose children were born within a six month window around April 1, excluding two weeks before and after April 1, for the years 1991-1993. Columns (1) and (4) show the average values of the respective child and parental characteristics for children born in January-March 1993 and 1992, respectively. Column (2) shows the average difference in characteristics between children born April-June and January-March 1993. Column (3) shows the difference-in-differences in characteristics of children born in April-June and January-March in 1993 and 1991. I.e., this column subtracts the corresponding 1991 difference from column (2), to get differences corrected for seasonal patterns. Column (5) shows the corresponding estimates comparing 1992 differences to 1991 differences, and column (6) compares 1993 differences to 1992 differences.

We include control variables for parents’ age at the birth of their child, their level of education and annual income the year before the child’s birth, and the child’s birth order.<sup>3</sup> Education is measured on October 1 of the year before the child’s birth, and is divided into four mutually exclusive categories; lower secondary education or less, upper secondary education, higher education lower degree and higher education higher degree. Birth order is controlled for by dummies for the number of children each parent already has, with six categories ranging from zero to five or more.

There are few statistically significant differences in the pre-birth characteristics between the pre- and post-reform 1992 and 1993 cohorts. Furthermore, several of those differences that are significant seem to be seasonal patterns, that are matched in 1991 (and thus disappear when

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<sup>3</sup>The characteristics are the same as those we control for in the regression. However, in Table B3 the categories for number of alder children have been replaced with the number for ease of exposition.

Table B3: Descriptive statistics and sample balance tests

	(1)	(2)	(3)	(4)	(5)	(6)
	Base 93	Diff 93	DiD 93vs91	Base 92	DiD 92vs91	DiD 93vs92
Female	0.486 (0.500)	0.011 (0.009)	0.008 (0.012)	0.478 (0.500)	0.000 (0.012)	0.008 (0.012)
Subject=English	0.337 (0.473)	-0.005 (0.008)	0.009 (0.011)	0.319 (0.466)	0.023** (0.011)	-0.014 (0.011)
Subject=Math	0.350 (0.477)	0.007 (0.008)	-0.002 (0.011)	0.345 (0.475)	-0.028** (0.011)	0.025** (0.012)
<i>Mothers</i>						
- lower secondary education or less	0.385 (0.487)	-0.020** (0.008)	-0.011 (0.012)	0.398 (0.489)	0.003 (0.012)	-0.014 (0.012)
- upper secondary	0.305 (0.460)	0.013 (0.008)	0.008 (0.011)	0.300 (0.458)	-0.008 (0.011)	0.016 (0.011)
- higher ed. $\leq$ 4 yrs	0.272 (0.445)	0.008 (0.008)	0.005 (0.011)	0.266 (0.442)	0.003 (0.011)	0.002 (0.011)
- higher ed. $>$ 4 yrs	0.039 (0.194)	-0.001 (0.003)	-0.002 (0.005)	0.036 (0.186)	0.002 (0.005)	-0.004 (0.005)
- age $<$ 25	0.099 (0.299)	0.004 (0.005)	-0.005 (0.008)	0.117 (0.321)	-0.010 (0.008)	0.005 (0.008)
- age 25-29	0.389 (0.488)	0.017** (0.008)	0.015 (0.012)	0.408 (0.492)	-0.008 (0.012)	0.023* (0.012)
- age 30-34	0.343 (0.475)	-0.005 (0.008)	-0.004 (0.011)	0.327 (0.469)	0.009 (0.011)	-0.013 (0.012)
- age $>$ 34	0.168 (0.374)	-0.016** (0.006)	-0.006 (0.008)	0.148 (0.355)	0.009 (0.008)	-0.015* (0.009)
- log earnings	11.874 (0.340)	-0.003 (0.006)	0.001 (0.008)	11.806 (0.336)	0.011 (0.008)	-0.010 (0.008)
- number of children	1.844 (0.858)	0.018 (0.015)	0.020 (0.020)	1.790 (0.837)	0.050** (0.020)	-0.031 (0.021)
<i>Fathers</i>						
- lower secondary education or less	0.372 (0.483)	-0.009 (0.008)	0.009 (0.012)	0.384 (0.486)	0.015 (0.012)	-0.006 (0.012)
- upper secondary	0.351 (0.477)	-0.006 (0.008)	-0.022** (0.011)	0.334 (0.472)	-0.013 (0.011)	-0.009 (0.012)
- higher ed. $\leq$ 4 yrs	0.191 (0.393)	0.016** (0.007)	0.019** (0.009)	0.196 (0.397)	0.001 (0.009)	0.019* (0.010)
- higher ed. $>$ 4 yrs	0.087 (0.282)	-0.001 (0.005)	-0.006 (0.007)	0.087 (0.281)	-0.003 (0.007)	-0.003 (0.007)
- age $<$ 25	0.029 (0.168)	0.004 (0.003)	0.005 (0.005)	0.039 (0.193)	-0.001 (0.005)	0.007 (0.004)
- age 25-29	0.272 (0.445)	0.007 (0.008)	-0.015 (0.011)	0.281 (0.450)	-0.022** (0.011)	0.007 (0.011)
- age 30-34	0.367 (0.482)	0.017** (0.008)	0.026** (0.012)	0.371 (0.483)	0.016 (0.012)	0.010 (0.012)
- age $>$ 34	0.332 (0.471)	-0.028** (0.008)	-0.016 (0.011)	0.309 (0.462)	0.008 (0.011)	-0.024** (0.011)
- log earnings	12.223 (0.386)	-0.005 (0.007)	-0.010 (0.009)	12.174 (0.371)	0.004 (0.009)	-0.014 (0.009)
- number of children	1.920 (0.923)	0.011 (0.016)	0.002 (0.022)	1.870 (0.900)	0.041* (0.022)	-0.039* (0.022)
<i>N</i>	6489	13366	27991	6709	28147	26888
Joint test $\chi^2$			22.13		22.32	24.28
Joint test <i>p</i> -value			0.278		0.269	0.185

Note: Columns (1) and (4) show average values of child and parent characteristics for the sample of children born in January-March 1993 and 1992, respectively. Column (2) shows the average difference in characteristics between children born April-June and January-March 1993. Column (3) shows the difference-in-differences in characteristics of children born in April-June and January-March in 1993 and 1991. Column (5) shows the corresponding estimates comparing 1992 to 1991, and column (6) compares 1993 to 1991. The sample is all children born during the first six months of the years 1991-1993, excluding those born in the two weeks before and after April 1, whose parents are eligible for parental leave (see text for details). All observed characteristics are taken from the year before the child's birth. Age categories are based on parents' age at birth of the first child. In columns (1) and (4) standard deviations are given in parentheses. In columns (2), (3), (5) and (6) estimated standard errors are presented. Stars indicate significance: \*  $p < 0.10$ , \*\*  $p < 0.05$ . In columns (3), (5) and (6)  $\chi^2$  test statistics and *p*-values from joint tests of all diff-in-diff estimates being zero are reported at the bottom of the table.

we control for the 1991 difference). With many individual variables being tested, it is also not surprising that some turn out significant. The joint tests presented at the bottom of columns (3), (5) and (6), that test for all DiD coefficients being equal to zero, are not able to reject this hypothesis, neither for 1992 or 1993 compared to 1991 nor for 1993 compared to 1992. This suggests that differences in average control variables around the reforms do indeed reflect seasonal or random variation.



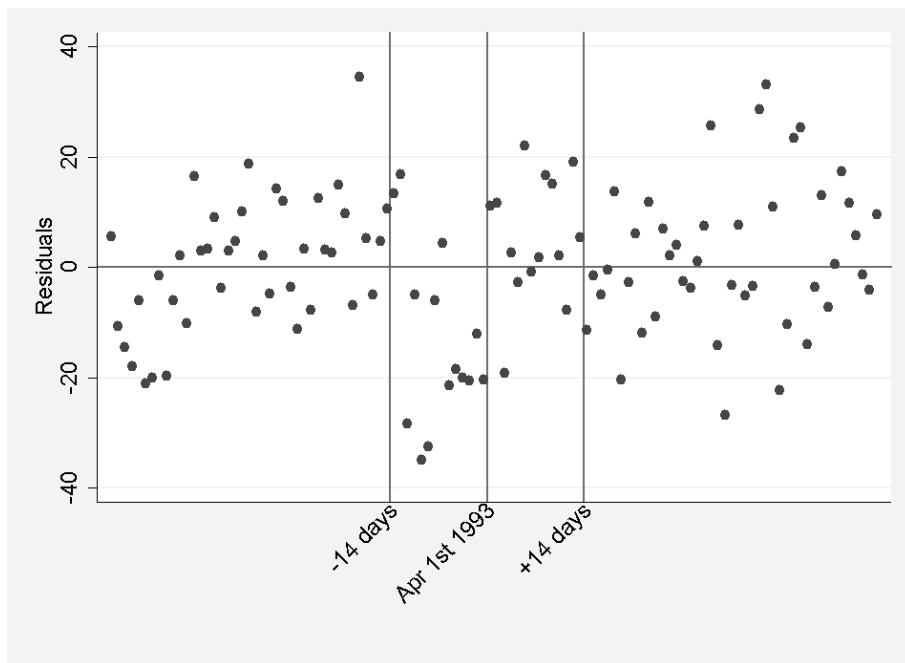
## Appendix C: Supplementary Analyses

Table C1: Birth rate effects

	(1)	(2)	(3)	(4)
	$\pm 1$ week	$\pm 2$ weeks	$\pm 3$ weeks	$\pm 4$ weeks
<i>Panel A: Dependent variable is daily number of births</i>				
Reform	18.0** (7.54)	19.5** (5.39)	9.00** (4.39)	6.41* (3.79)
Constant	192.7** (11.8)	202.6** (9.71)	179.4** (6.67)	181.7** (5.94)
<i>Number of births moved</i>	63	136.5	94.5	89.7
Observations	406	812	1218	1624
$R^2$	0.863	0.760	0.723	0.696
<i>Panel B: Dependent variable is <math>\ln(\text{daily number of births})</math></i>				
Reform	0.099** (0.043)	0.11** (0.031)	0.051** (0.025)	0.035 (0.022)
Constant	5.27** (0.067)	5.32** (0.055)	5.18** (0.038)	5.19** (0.034)
<i>Share of births moved</i>	5.1%	5.7%	2.6%	1.8%
Observations	406	812	1218	1624
$R^2$	0.866	0.766	0.730	0.706

Note: Sample is daily births within the relevant window (always centered around April 1), for the years 1975-2005. “Reform” is a dummy taking the value 1 for days in April 1993. We control for day of year fixed effects and for day of week fixed effects interacted with year fixed effects. In addition we add dummies for 10 days during Easter (in Norway, the Thursday and Friday before and Monday after Easter day are public holidays). Our sample is daily births during the relevant time window (surrounding April 1) for the period 1975-2005, excluding 1989 and 1992 when parental leave reforms were implemented on April 1. Following Gans and Leigh (2009), the total number of births moved is calculated by dividing daily number of births by two (as one birth moved means one birth less in March and one more in April) and then multiplying by the number of days in the window. Similarly, the share of births moved is calculated by dividing the coefficient by two before converting log points to percentage points. \*  $p < 0.10$ , \*\*  $p < 0.05$ .

Figure C1: Daily births residuals



Note: Daily births residuals for the eight weeks centered around April 1, 1993 from a specification including day of year fixed effects, day of week fixed effects interacted with year fixed effects, and dummies for 10 days during Easter. Sample is based on data from daily births during eight-week time windows around April 1 for the period 1975-2005 (excluding 1989 and 1992).

Table C2: School performance at age 16: Robustness to analysis sample

	(1)	(2)	(3)	(4)	(5)
	$\geq 25$ weeks	$< 25$ weeks	Transfer	No transfer	No transfer & $\geq 25$ weeks
<i>Panel A: Average effect</i>					
All students	0.057** (0.023)	-0.014 (0.056)	0.017 (0.029)	0.054** (0.022)	0.068** (0.025)
Controls	Yes	Yes	Yes	Yes	Yes
$R^2$	0.168	0.189	0.174	0.171	0.170
$N$	22780	4108	21677	25222	21114
<i>Panel B: Heterogeneous effects by parents' relative education</i>					
Father highest education	0.092** (0.039)	-0.036 (0.091)	0.010 (0.048)	0.086** (0.037)	0.114** (0.041)
Parents similar education	0.048 (0.045)	0.083 (0.105)	0.025 (0.054)	0.063 (0.043)	0.058 (0.047)
Mother highest education	0.029 (0.038)	-0.065 (0.098)	0.019 (0.048)	0.017 (0.037)	0.031 (0.040)
Controls	Yes	Yes	Yes	Yes	Yes
$R^2$	0.168	0.190	0.174	0.172	0.170
$N$	22780	4108	21677	25222	21114

Note: Panel A provides regression results for exam scores at the end of 10th grade. Each column provides ITT estimates from a regression based on Equation (1) in CFK. Column (1) includes children born in the two weeks before and after April 1. Column (2) restricts the sample to families where the mother took more than 124 days of leave, and column (3) to families where the mother took less than 125 days. Column (4) restricts the 1993-sample to families where the paternal quota seems to have been transferred to the mother, while column (5) restricts the 1993-sample to families where the paternal quota was not transferred to the mother. Otherwise, all columns correspond to column (6) of CFK Table 1, i.e., comparing the 1993 cohort to the 1992 and controlling for covariates. Robust standard errors are in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ .

Table C3: Fathers' labor market outcomes: Robustness to analysis sample

	(1)	(2)	(3)	(4)	(5)
	$\geq 25$ weeks	$< 25$ weeks	Transfer	No transfer	No transfer & $\geq 25$ weeks
Earnings	-0.016 (0.019)	-0.002 (0.045)	-0.018 (0.024)	-0.010 (0.018)	-0.011 (0.019)
Full time	-0.003 (0.009)	-0.003 (0.021)	-0.063** (0.012)	0.017** (0.008)	0.022** (0.009)
Part time	-0.002 (0.009)	-0.009 (0.021)	-0.065** (0.011)	0.017** (0.008)	0.023** (0.009)
Employed	0.001 (0.008)	-0.018 (0.020)	-0.059** (0.011)	0.016** (0.008)	0.024** (0.009)
Controls	Yes	Yes	Yes	Yes	Yes

Note: The outcomes are the same as in CFK Table 2, see note to that table for details. Columns correspond to Table C2, see note to that table for details. \*  $p < 0.10$ , \*\*  $p < 0.05$ .

Table C4: Mothers' labor market outcomes: Robustness to analysis sample

	(1)	(2)	(3)	(4)	(5)
	$\geq 25$ weeks	$< 25$ weeks	Transfer	No transfer	No transfer & $\geq 25$ weeks
Earnings	-0.068** (0.020)	0.003 (0.055)	-0.111** (0.025)	-0.035* (0.019)	-0.037* (0.021)
Full time	-0.013 (0.010)	-0.001 (0.024)	-0.044** (0.013)	0.002 (0.010)	0.000 (0.011)
Part time	-0.026** (0.010)	-0.024 (0.024)	-0.061** (0.013)	-0.011 (0.010)	-0.007 (0.011)
Employed	-0.031** (0.009)	0.018 (0.022)	-0.054** (0.012)	-0.011 (0.009)	-0.013 (0.009)
Controls	Yes	Yes	Yes	Yes	Yes

Note: The outcomes are the same as in CFK Table 3, see note to that table for details. Columns correspond to Table C2, see note to that table for details. \*  $p < 0.10$ , \*\*  $p < 0.05$ .

Table C5: Family outcomes: Robustness to analysis sample

	(1)	(2)	(3)	(4)	(5)
	$\geq 25$ weeks	$< 25$ weeks	Transfer	No transfer	No transfer & $\geq 25$ weeks
Mother's parity	0.010 (0.018)	-0.032 (0.047)	-0.010 (0.023)	0.007 (0.017)	0.014 (0.018)
Father's parity	0.007 (0.019)	-0.016 (0.049)	0.005 (0.024)	0.003 (0.018)	0.006 (0.019)
Sibling spacing	12.599 (24.147)	38.333 (58.338)	5.616 (30.888)	20.045 (22.971)	15.650 (25.138)
Parents married	0.002 (0.011)	-0.050* (0.027)	-0.032** (0.014)	0.003 (0.011)	0.014 (0.012)
Controls	Yes	Yes	Yes	Yes	Yes

Note: The outcomes are the same as in CFK Table 4, see note to that table for details. Columns correspond to Table C2, see note to that table for details. \*  $p < 0.10$ , \*\*  $p < 0.05$ .

## Appendix D: Characterizing Compliers

As not all fathers took leave after the reform, the effects may depend on which fathers did actually take leave. In order to assess to what extent our findings are representative for the larger population, it is useful to characterize families whose behavior was affected by the paternal quota reform—“compliers” in the terminology of Imbens and Angrist (1994). Table D1 presents the likelihood that a complier has a particular characteristic relative to the population of eligible families. These likelihoods are calculated as ratios of the first stage-effects, i.e., the effect of the paternal leave reform on leave taking. Following Angrist and Pischke (2009) and Angrist and Fernandez-Val (2010), we run regressions of the form

$$PaternityLeave_i = \rho Reform_i + \gamma_W Week_i + \gamma_Y Year_i + \nu_i \quad (1)$$

for the full sample and each subsample defined by a certain characteristic.

The coefficient  $\rho$  then captures change in paternal leave following the reform, adjusted for year and seasonal effects. From Table D1 we see that the the change in the overall sample is 0.362; about 36 percentage points.

The ratios in Table D1 indicate that both parents in the complier group tend to have somewhat higher education, income and age than the average in our sample. However, most differences are relatively small, such that the families where the fathers take leave do not differ much from other eligible families along most observable characteristics. Furthermore, no group is affected much more than the average, but the reform had a notably smaller effect on paternal leave in families where either parent is in the youngest age group, where the mother has very little education or low income, or where the father is self-employed.

Table D1: Complier characteristics ratios

Regression adjusted compliance rate	0.362	
<i>Parents' relative education:</i>		
- father highest educ ( $F > M$ )	0.923	
- equal educ ( $F = M$ )	1.052	
- mother highest educ ( $F < M$ )	1.041	
Families who had boys	1.014	
	<i>Father's</i>	<i>Mother's</i>
Lower sec. or less	0.901	0.796
Upper secondary	0.999	1.044
Higher ed., lower level	1.162	1.173
Higher ed., higher level	0.995	1.154
Age 20-24	0.724	0.775
Age 25-29	1.04	1.022
Age 30-34	1.018	1.008
Age 35-44	0.973	1.087
Income quartile 1	0.861	0.66
Income quartile 2	1.098	0.947
Income quartile 3	1.112	1.158
Income quartile 4	0.929	1.242
Self-employed	0.534	1.008

Note: The first row shows the effect of the reform on paternal leave taking in the entire sample, adjusted for year and seasonal effects. The following rows report the ratios of the (regression adjusted) compliance rates in subsamples defined by the specific characteristic to that in the first row. These ratios can be interpreted as the likelihood that the compliant subpopulation has a certain feature relative to the likelihood of that same feature among all eligible families. The sample is parents of children born in the six month period surrounding April 1 in 1992 and 1993, excluding the four weeks immediately around April 1, who were eligible for parental leave.

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