Deutsches Jugendinstitut

DJI Preprint

Christina Boll, Till Nikolka

The Impact of a Parental Leave Benefit Reform on Parents' Leave-taking, Labor Supply and Childcare Arrangements

Forschung zu Kindern, Jugendlichen und Familien an der Schnittstelle von Wissenschaft, Politik und Fachpraxis

Das Deutsche Jugendinstitut e.V. (DJI) ist eines der größten sozialwissenschaftlichen Forschungsinstitute Europas. Seit 60 Jahren erforscht es die Lebenslagen von Kindern, Jugendlichen und Familien, berät Bund, Länder und Gemeinden und liefert wichtige Impulse für die Fachpraxis.

Aktuell sind an den beiden Standorten München und Halle (Saale) etwa 470 Beschäftigte tätig, darunter rund 280 Wissenschaftlerinnen und Wissenschaftler.

Finanziert wird das DJI überwiegend aus Mitteln des Bundesministeriums für Familie, Senioren, Frauen und Jugend (BMFSFJ) und den Bundesländern. Weitere Zuwendungen erhält es im Rahmen von Projektförderungen u.a. vom Bundesministerium für Bildung und Forschung (BMBF), der Europäischen Kommission, Stiftungen und anderen Institutionen der Wissenschaftsförderung.

Impressum

Deutsches Jugendinstitut
Nockherstraße 2
81541 München

Datum der Veröffentlichung Juni 2024
DOI: 10.36189/DJI202430

Deutsches Jugendinstitut
Außenstelle Halle
Franckeplatz 1, Haus 12/13
06110 Halle

Ansprechpartner:
Till Nikolka
Telefon +49 89 62306-589
E-Mail **nikolka@dji.de**

Contents

Abstract:

We analyze the causal effects of a parental leave benefit reform on parents in Germany. The reform added new features to the existing scheme increasing flexibility for take-up and providing incentives for parents to work part-time during the parental leave phase. We exploit the quasi-experimental allocation of births around the eligibility date to estimate intent-to-treat-effects of the reform on parental leave take-up, parents' labor market involvement, intra-couple childcare division and institutional childcare demand. We find that average leave duration of college-educated fathers in the treatment group is higher than that in the control group. In these couples, mothers in the treatment group take fewer months of parental leave than those in the control group. Furthermore, college educated fathers in the treatment group reduce working hours but we do not observe any significant changes for mothers. However, mothers in the treatment group whose partners have a college degree report that they would like to work more hours when returning to the labor market compared to those in the control group. While we do not find effects on intra-couple childcare division, our analysis reveals higher demand for institutional childcare among parents in the treatment group in case the father holds a college degree. However, higher institutional childcare demand is not reflected by higher uptake. We suggest that parents' heterogeneity regarding their work arrangements and gender role orientations as well as constraints in public childcare provision might explain our findings.

Keywords: parental leave, labor force participation, childcare, causal inference

JEL Codes: H31, J13, J22

1 Introduction

Throughout countries, high expectations are attached to paid parental leave schemes. They are designed to secure financial stability for parents right after childbirth, and include leave components that incentivize leave sharing among the partners to stimulate a more egalitarian division of paid and unpaid work in the parental couple (Evertsson et al. 2018). International evidence on the achievements of these policies is mixed (for an overview, see Olivetti and Petrongolo 2017). In 2015, Germany implemented a reform of its parental leave benefit scheme Elterngeld adding new features to the existing scheme following the aforementioned policy goals. Germany is an interesting case to study in this context, since – despite developments during the recent decades and although German family policy supports a wide range of work-care arrangements ("optional familialism", Stahl and Schober 2018, p. 632) – the country still exhibits a markedly uneven gender division of paid and unpaid work, with men assuming the main responsibility as breadwinners and women as caregivers (BMFSFJ 2020, Trappe et al. 2015). Gender gaps also shape the uptake of parental leave: The share of fathers among all parents currently taking paid parental leave was still at only 26.1 % in 2022 (Statistisches Bundesamt 2023a). While mothers' average planned duration of paid leave in 2022 was 14.6 months, it was only 3.6 months for fathers (Table A1). These numbers have not changed much over the last years.

While a variety of papers have studied the effects of the introduction of Elterngeld in 2007 on different family and labor market outcomes (for an overview, see Samtleben et al. 2021), we are to the best of our knowledge the first to systematically evaluate the changes of the ElterngeldPlus reform that took effect on 1st July 2015. The reform ElterngeldPlus introduced additional components to the existing parental leave legislation for more flexibility of the benefit scheme targeting particularly parents who would like to work part-time during the parental leave phase. We exploit the fact that the eligibility for the new components of the benefit scheme depended on a child's birth date; more precisely, it concerned all parents with children born on July 1st 2015 or later. We analyze data from a large survey conducted by the German Youth Institute, the Kinderbetreuungsstudie (KiBS), and exploit the quasi-experimental allocation of parents around the eligibility date of childbirth to estimate an intent-to-treat (ITT) effect for the reform.

We pose four research questions. First, we ask whether treated parents are more likely to take-up leave, compared to parents in the control group. Although the official Elterngeldstatistik[1] documents increasing benefit take-up rates particularly

1 After the introduction of Elterngeld, a new administrative data set on benefit recipients in Germany was established for children born after 2009. The data provides information on the number of recipients by gender and year of childbirth, the benefit duration, and the amount of benefits received. These statistics only cover parental leave taken by benefit recipients; unpaid leave, i.e. Elternzeit without Elterngeld cannot be observed. The data includes benefit receipts within the first 18 months following childbirth.

for fathers since 2009[2], this might reflect an overall trend and does not detail the specific effects of the reform. Secondly, higher take-up rates should entail employment adjustments. Specifically, we want to know whether parents entitled to ElterngeldPlus change their working hours.[3] In line with Geyer and Krause (2016), we expect that changed incentives with ElterngeldPlus could lead to fathers working a longer period part-time when receiving ElterngeldPlus while mothers, on the other hand, reentry employment earlier after having a child and/or increase weekly working hours. Thirdly, we explore whether there are any adaptations regarding the division of childcare in the parental couple. Fourthly, we ask which role institutional childcare plays in this context. Geyer et al. (2015) and Chirkova (2019) argue that constraints in the provision of public childcare might weaken any effects of the availability of Elterngeld on labor market participation of mothers. Thus, access to childcare could spur and lacking access could impede a possible intra-couple shift towards a more egalitarian division of paid and unpaid work as it may be initiated by the leave benefit reform in 2015.

Our analysis contributes to the debate on the effects of parental leave policies on individual behavior and family outcomes in the short and medium run in the light of the goals expressed by policy makers. We find that average leave duration of college-educated fathers in the treatment group is higher than that in the control group. In these couples, mothers in the treatment group take fewer months of parental leave than those in the control group. Fathers in the treatment group reduce working hours but we do not observe any significant increases in mothers' labor force attachment or hours worked. However, mothers with a college-educated partner in the treatment group indicate that they would like to work more hours when returning to the labor market compared to those in the control group. In a second part of our analysis, we focus on potential implications of the reform on childcare arrangements. We do not find strong evidence for changing responsibilities in childcare of mothers and fathers between the treatment and the control group. However, respondents in the treatment group, again if the father has a college degree, indicate higher demand but not higher uptake of institutional childcare. We suggest that college-educated fathers' higher work flexibility, affordability of part-time work and more modern gender role attitudes might drive the effects of the reform in this group of parents. However, constraints regarding the availability of institutional childcare might be a reason why the reform incentives do not translate into more substantial changes in the division of labor among parents. The rest of the paper is organized as follows. Section 2 outlines the evolution of parental leave reforms in

2 Administrative data show that the number of parental leave benefit take-ups by birth year of the child has increased in particular for fathers but also for mothers since 2009 (except for a minor decline for mothers in 2019 the last available year, Table A2). Brehm et al. (2022) report that the share of fathers having taken paid parental leave for a child born in 2019 is 43 % and about twice as high as the corresponding share of fathers whose child was born ten years before, in 2009.

3 We thereby acknowledge that the major part of parents were gainfully employed in the pre-birth phase. For example, among parents who took paid leave in 2022, 76.9 % of mothers and 95.9 % of fathers had been in employment before the birth of their child (Statistisches Bundesamt, 2023b).

Germany and the empirical evidence gathered up to the reform introduced in 2015. Section 3 presents the empirical design, Section 4 the results and Section 5 concludes.

2 Parental Leave Reforms in Germany: Institutional Setting and Empirical Evidence

In Germany, three policy measures have been established to support and protect parents before and after childbirth on the labor market and to provide them with time and financial resources in the early phase with a newborn child (Huebener et al. 2022). First, mothers are entitled to paid maternity leave from six weeks before expected delivery to eight weeks after childbirth. Maternity benefits and job protection regulations have increased maternal employment after childbirth, as has been shown by Dustmann and Schoenberg (2012) for the late 1970s and following respective policy expansions in the 1980s and 1990s. In addition to paid maternity leave, there are two further policy measures targeting parents of newborn children in Germany: paid and unpaid parental leave. Parental leave, also called Elternzeit, allows parents by law to take a break from their job or work part-time and return to the previous or an equivalent job within 36 months after childbirth. For a part of this time period parents are entitled to parental leave benefits. During the last two decades, parental leave legislation in Germany has undergone significant changes. Until 2006, parental leave benefits were designed as a means tested transfer to financially support low income families with a newborn child. That so-called Erziehungsgeld has been replaced by the - for medium- and high-income groups - more generous Elterngeld in 2007. However, Elterngeld transfers were now limited to the first year after childbirth. The Elterngeld regime intended to secure the economic situation of parents in the year after childbirth and promote fathers' involvement in child rearing (Wrohlich et al 2012). It offers earnings contingent parental leave benefits replacing up to 67 % of prior monthly net earnings, at most 1,800 € but at least 300 €. Parents are eligible to receive these benefits for a maximum of 12 months when taking parental leave (Elternzeit). If both partners take up the benefits the total duration of paid parental leave available to the couple increases by up to two months so that a maximum of 14 months can be shared among the partners. (BMFSFJ 2011).[4] These additional two months were meant to increase parental leave take-up of fathers ("daddy-quota", Tamm, 2019). Part-time work (<30 hours per week) was allowed but reduced the amount of transfers received.

There is plenty of evidence on the effects of the Elterngeld reform 2007 on parents' labor market and family outcomes. Most analyses implement a quasi-experimental research design comparing parents with a child born just after the eligibility date for Elterngeld on January 1st 2007 (treatment group) with parents whose child were born just before that date (control group). Kluve and Tamm (2013) were the first to study changes on labor market outcomes in the period immediately after the introduction of Elterngeld. In the short run, the reform increased employment interruptions for mothers but also led to an earlier reentry thereafter. Due to the end of

4 Single parents were always eligible for up to 14 months of benefit receipt.

the eligibility period after one year, mothers' return to work decisions follow a clearer timing compared to the situation before the reform (Kluve and Schmitz 2018). Moreover, fathers' parental leave taking increased, mainly incentivized by the two "daddy months" needed to increase total paid parental leave from 12 to 14 months for the parents. Regarding labor supply of fathers, however, apart from a short break for benefit take up, no significant changes have been found in the short and medium term after the Elterngeld reform (Kluve and Tamm 2013). Other studies have confirmed these effects on labor market outcomes with different data sets (e.g. Bergemann and Riphahn 2010; Wrohlich et al. 2012, Frodermann et al. 2023b). The gendered division of leave take-up is particularly uneven among married couples (Frodermann et al. 2023a). The lacking medium-term effects on paternal employment might be related to the fact that a substantial share of fathers receiving Elterngeld opted for a leave combined with part time work and reduced Elterngeld benefits. Between 2008 and 2015, for example, this was the case for 13–16 % of male recipients (Statistisches Bundesamt 2020). Paternal childcare involvement – another major focus of the reform - has increased as various studies relying on different data sets confirm (Geisler and Kreyenfeld 2012, Bujard 2013, Trappe 2013, Reimer and Andernach 2015). With respect to maternal earnings in the long run, Frodermann et al. (2022b) find a positive effect of Elterngeld even seven to nine years after childbirth, which, according to the authors, could be motivated by fathers' higher childcare involvement. The reported reform effects differ across the population, e.g. with stronger effects for groups with higher income and education (Bujard 2013, Cygan-Rehm 2016; Boll et al. 2014, Frodermann et al. 2023b, Geisler and Kreyenfeld 2011).

The reform ElterngeldPlus, which came into force in 2015 aimed to stimulate a more even intra-couple distribution of paid and unpaid work and to provide parents with more flexibility to better integrate parental leave periods into their professional biographies (Beblo and Boll 2014). While the original Elterngeld scheme remained in place and is since then called Basiselterngeld, three new components have been introduced[5]:

First, the reform allowed parents to transform one month of Basiselterngeld into two months of ElterngeldPlus in which the recipient obtained only half of the benefits (at least 150 € and at most 900 €) but could now work part-time up to 30 hours per week earning additional labor income without cuts in transfer levels (32 hours if the child was born on 1 September, 2021 or later). ElterngeldPlus can be received until 32 months after childbirth.

Second, a bonus called Partnerschaftsbonus was introduced to grant parents four additional months of ElterngeldPlus if both partners work part-time between 25 and 30 hours per week (24-32 hours if the child was born on 1 September, 2021 or later).

5 For details on legal changes see Deutscher Bundestag (2018).

Third, the reform introduced more flexible Elternzeit rules which also apply if parents take parental leave for a longer period of time without receiving transfers. Parents could now postpone up to 24 months of leave from the child's third to her eighth birthday.

Official statistics show that parents make use of the new ElterngeldPlus option to a notable extent, despite the concern that conditions induced by the German tax system for married couples (so-called Ehegattensplitting) would reduce the attractiveness of the new scheme (Beblo and Boll 2014). Still the aforementioned gender gap in take-up persists according to the administrative statistics. In the third quarter of 2022, 18.9 % of fathers who were receiving Elterngeld chose ElterngeldPlus, compared to a corresponding share of 43.5 % for mothers.[6] Moreover, parents who took up ElterngeldPlus had a longer total duration of paid leave (including months with part-time work during the benefit receipt) compared to Basiselterngeld recipients. For example, planned average leave duration of fathers (mothers) who took up ElterngeldPlus was 7.9 (19.5) months in 2022, while it was 2.8 (11.6) months for fathers (mothers) who exclusively received Basiselterngeld (Table A1). We would expect that mothers start working earlier when receiving Elterngeld-Plus and fathers reduce working hours compared to the situation under the old benefit scheme.

6 Table A2 shows that take-ups follow a seasonal pattern, which is similar for mothers and for fathers and depends on the quarter of birth of the child. From births in the first quarter, over the second quarter, until the third quarter, the numbers of leave recipients generally increase, while they decrease from the third to the fourth quarter (Statistisches Bundesamt 2023c).

3 Empirical Analysis

3.1 Data description

To study short and medium term effects of the 2015 ElterngeldPlus policy reform, we use cross-section and panel data from the survey Kinderbetreuungsstudie (KiBS), which is carried out on a yearly basis by the German Youth Insititute (Alt et al., 2020; Aust et al., 2018). For our analysis we use waves 5 to 8 of the survey covering the years 2016 to 2019.

Data collection involved more than 30.000 interviews per wave and was conducted among reference persons – in most cases mothers – of children in the target population below the age of 15 living in 249 selected counties (out of a total of 401 counties) in Germany. For our analysis, we draw on key characteristics in the data including information on the child's birthdate, the household composition and parents' education levels and work situation. Most importantly, the survey contains information on the duration each parent has taken parental leave for a child. We restrict our analysis sample to children who are born between 1 January 2014 and 31 December 2016 and who live with both biological parents in the same household. Table 1 presents the numbers of observations per wave subject to those restrictions. Due to the panel structure of the data some observations are included in several waves but each subsequent wave also contains new observations that fulfil the sample restrictions stated above.

Table 1. Numbers of observations in KiBS per wave.

	Observations
Wave 5 (2016)	6,647
Wave 6 (2017)	4,513
Wave 7 (2018)	4,442
Wave 8 (2019)	4,123
Total	19,725

Source KiBS waves 5-8. Notes: Observations with children born between 1 Jan. 2014 and 31 Dec. 2016 and living with both biological parent in the same household.

3.2 Empirical strategy

Similar to the introduction of Elterngeld in 2007, the rules concerning eligibility for the new components introduced by the ElterngeldPlus reform allow the implementation of a quasi-experimental research design exploiting the birthdate of children with eligible and non-eligible parents as a key for identification of a reform effect.

More precisely, we combine a sharp regression discontinuity (RD) design with a differences-in-differences (DiD) analysis. A similar empirical strategy was already used in the literature analyzing the effects of the introduction of Elterngeld in 2007 (e.g. by Cygan-Rehm et al. 2018 and Frodermann et al. 2023b) or other reforms with birthdate-dependent eligibility rules (see e.g. Dustmann and Schönberg, 2012, for an analysis of the impact of an extended maternity leave protection in Germany). The changes induced by the 2015 reform applied to all parents of children born after July 1st 2015.

For the RD design, we restrict the sample to parents of children born between 1 January 2014 and 30 September 2015 and define an indicator TREAT|CONTR equal to one for all parents with children born between 1 April and 30 September 2015, i.e. three months before the reform, which is our control group, and three months after the reform, which is our treatment group. To identify the reform effect, we then define an indicator variable TREATMENT equal to one for parents of children born in the three months after the reform (1 July to 30 September 2015). For the DiD design we include controls for a time trend (birth year dummy) and birthdate seasonal effects (birth quarter dummies) which are identified by the additional inclusion of parents with a child born before April 1st 2015 in the analysis sample. We consider these controls of particular importance in light of the trend and seasonal effects of parental leave benefit take-up in Germany 2009-2014, which are reported in Table A2. To capture potentially confounding effects, we include dummy variables for the age of the child in months and for the month in which the interview took place. In additional robustness checks in the appendix we include further control variables.

We use different cross section waves and the (unbalanced) panel structure of the data to estimate the following empirical model for outcome $Y_{i,t}^{m,f}$ of child i at time (i.e. survey wave) t, separately for mothers, m, and fathers, f:[7]

$$Y_{i,t}^{m,f} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1} TREAMENT_i + \boldsymbol{\beta_2} TREAT|CONTR_i + \boldsymbol{\beta_3} Birthyear_i + \boldsymbol{\beta_4} Birthquarter_i + \boldsymbol{\beta_5} Interviewmonth_i + \boldsymbol{\beta_6} Childage\ (months)_i + \varepsilon_{i,t}$$

With our data, we cannot observe who of the parents actually took up the new benefits ElterngeldPlus or Parterschaftsbonus, i.e. we do not observe the compliers and cannot estimate an average treatment effect on the treated (ATT). Instead, we estimate the overall effect, the intention-to-treat-effect (ITT), for the population eligible to the new benefit scheme, which is $\boldsymbol{\beta_1}$ in the equation above.

7 In our main analysis, we include parents of children born between January 1st 2014 and September 30th 2015 in the sample. For some additional analyses and depending on which survey waves we use, we extend the time window for birth cohorts included in the analysis to December 31st 2016.

3.3 Descriptive statistics

Table 2 reports the numbers of observation in the treatment and control group. The control group includes all births that are part of the group described as TREAT|CONTR above but not part of the TREATMENT group. As in Table 1, the rows in Table 2 refer to repeated cross section data from the KiBS survey. Due to the panel structure, part of the children in each wave are also included in the subsequent wave(s). The data cover a time span from roughly one to four years after children in the treatment or control group were born. Parents surveyed in wave 5 (2016), wave 6 (2017) and – depending on the interview and birthdate of the child – also wave 7 (2018) are still eligible to receive ElterngeldPlus and Partnerschaftsbonus for children in the treatment group. Data collected in wave 8 (2019) refers to the situation after the end of the eligibility period to claim ElterngeldPlus and Partnerschaftsbonus with a maximum of 36 months after childbirth for parents with children born in the treatment group or earlier has been reached.

Table 2. Numbers of observations, treatment and control group in KiBS per wave.

	Control group	Treatment group
5th wave (2016)	990	1,061
6th wave (2017)	428	1,645
7th wave (2018)	554	977
8th wave (2019)	504	855

Source KiBS W5-W8. Notes: Included are children born between April 1st and Sept. 30th 2015 and living with both biological parents in the household. Control group includes children born in April, May or June in 2015. Treatment group includes children born in July, August or September in 2015.

Summary statistics in Table A3 show no systematic differences between treatment and control group for wave 5. In wave 6 the difference in means of mothers age is statistically significant between treatment and control group. In waves 7 and 8, the share of college educated mothers and fathers is statistically significantly higher in the treatment group. To address a potential bias associated with the education distribution in our sample, we control for education degree in our robustness checks and split the sample with respect to education.

4 Results

4.1 Parental leave take-up by fathers and mothers

The first part of our statistical analysis refers to differences of take up rates and duration of parental leave (Elternzeit) among parents in the treatment and control group. Table 3 presents data on parental leave taken by parents for the reference child in the KiBS survey until wave 8, for which data was collected in 2019.[8] Concerning the difference of take-up rates between mothers and fathers, the pattern in Table 3 reflects the gender pattern which the administrative statistics on Elterngeld (Table A2) reveal as well. However, as explained above, the administrative statistics only report parental leave time during which parents receive parental leave benefits. Table 3 shows that almost all mothers take parental leave while the respective share of fathers is substantially lower. It is 56.8 % in the control group and 65.9 % in the treatment group. Average duration of parental leave taken is also much higher for mothers (16.3 months in the control group and 15.5 months in the treatment group) than for fathers (3.3 months in the control group and 3.4 months in the treatment group). The majority of fathers taking parental leave only take the two months required to increase the total eligibility period for the couple to 14 months. However, Table 3 shows that take-up rates among fathers in the treatment group are about nine percentage points higher than in the control group.

8 Despite the possibility to take parental leave until the child has turned eight years, only a small fraction of parents actually takes up parental leave after age three of the child (Küpperer et al. 2022). Parental leave benefits can only be claimed until 36 months after childbirth (BMFSFJ 2021). Among the survey respondents none of those with a child born in the treatment or control group states in wave 8 that he or she would still plan to take parental leave for that child in the future. We thus consider reported parental leave take-up as completed for the considered child born between April and September 2015.

Table 3. Parental leave take-up in treatment and control group.

		Control group	Treatment group	Observations
Mothers	Parental leave take-up rate	96.8 %	98.3 %	1,269
	Average parental leave duration in months	16.3	15.5	
Fathers	Parental leave take-up rate	56.8 %	65.9 %	1,277
	Average parental leave duration in months	3.3	3.4	

Source KiBS W8. Notes: Included are children born between April 1st and Sept. 30th 2015 and living with both biological parents in the household. Control group includes children born in April, May or June in 2015. Treatment group includes children born in July, August or September in 2015. Average parental leave duration is only calculated for those parents who reported to have taken any parental leave.

Figure 1 now graphically reports estimation results from a simple linear regression model explaining whether a father or mother took up parental leave by the birth quarter of the child without including any further control variables. All coefficient estimates indicate a difference in percentage points relative to the reference category birth quarter 2/2015 before the reform (April, May, or June 2015). Results indicate that fathers of children born after Q2/2015 are more likely to take up parental leave. We don't observe any statistically significant effects for mothers.

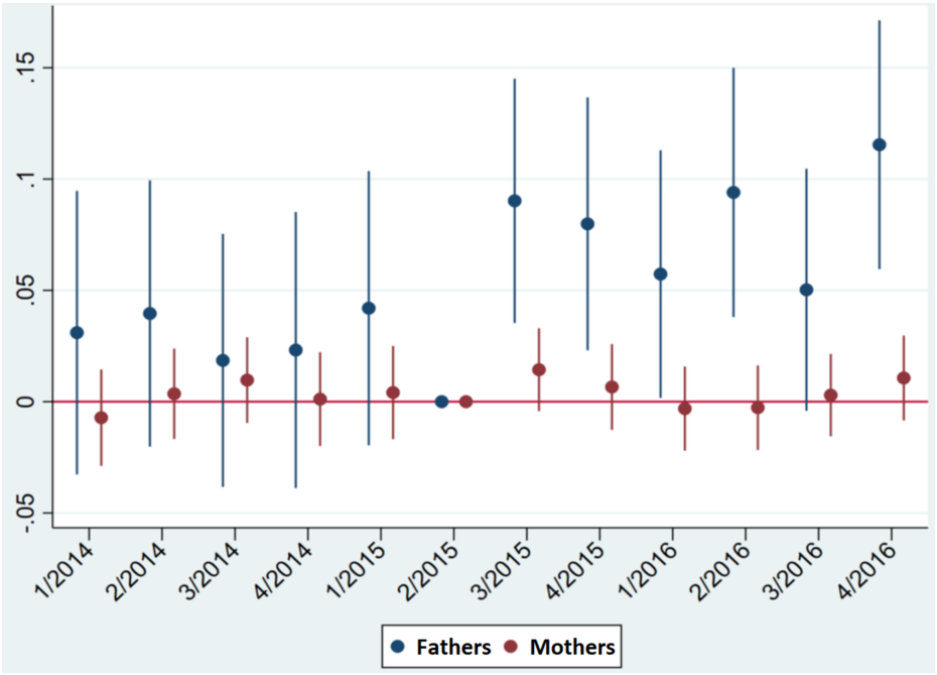
Table 4 presents regression results from the model described in Section 4.2 referring to the coefficient of interest, β_1, which captures the difference between treatment and control group, i.e. the estimated reform effect on the outcome variable.[9] We first estimate a linear probability model with a binary indicator as dependent variable, which is equal to one if the parent has taken up parental leave and zero otherwise (Columns 1 and 2). Second, we estimate a log-linear model with a continuous outcome variable which we define as the log of parental leave duration in months.[10] The results in the first row indicate that fathers in the treatment group are more

9 A detailed version of the regression results is presented in the appendix.

10 We include zeros in the estimation by adding "1" before calculating the logarithm.

likely to take parental leave. The results do not reveal any statistically significant effect for mothers.

Figure 1. Regression discontinuity estimation results for child birth quarters explaining otal parental leave take-up by mothers and fathers as measured in W8 (2019) – effects relative to birth quarter 2/2015.



Source: KiBS wave 8 (2019). Notes: Figure reports coefficient estimates and confidence intervals at 5 % significance level from a linear probability model with the dependent variable indicating whether mother or father took up parental leave. As explanatory variables dummy variables for birth quarter and year combinations are included (reference category Q2 2015). Included are children born between Jan 1st 2014 and Dec. 31st 2016 living with both biological parents in the household.

Table 4. Reform effect from regression discontinuity and difference-in-differences analysis – dependent variable: parental leave taken by mothers and fathers.

DV:	A: Parental leave uptake (yes/no)		B: Parental leave uptake (log months)	
	Mother	**Father**	**Mother**	**Father**
All parents	0.00201	0.154**	-0.0963	0.232**
	(0.0200)	(0.0615)	(0.0798)	(0.0946)
Observations	3,837	3,828	3,835	3,828
Father college	-0.0331	0.274***	-0.286***	0.355***
	(0.0263)	(0.0811)	(0.107)	(0.128)
Observations	1,958	1,953	1,956	1,953
Father no college	0.0261	-0.00966	0.0594	0.0653
	(0.0310)	(0.0928)	(0.122)	(0.141)
Observations	1,838	1,835	1,838	1,835

Source: KiBS wave 8 (2019). Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREAT|CONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREAT|CONTR group included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months and constant included in all models. DV: dependent variable. In Columns 3 and 4 zero duration values are included by adding "1" before the log transformation. Detailed regression table provided in the appendix.

We further split the sample by education level of the father presenting separate estimates for couples in which the father has a college degree (Hochschulabschluss) and for couples in which the father has no college degree. Results reveal that the overall effects are driven by couples in which the father is college educated. Moreover, results in Column 3 show that in those couples, mothers in the treatment group take less parental leave than mothers in the control group. There might be several reasons for these findings. First, it might be easier in college educated fathers' work arrangements to take parental leave and reduce work hours. At the same time, combining leave with part-time work could be a strategy to handle career concerns that would be associated with a complete time period off the job. Indeed, already before the reform, a substantial share of fathers worked part-time while being on parental leave before the reform despite benefit cuts (Geyer and Krause 2016. Moreover, the more highly educated are generally more likely to have the

possibility to work from home (Alipour et al. 2023), compared to their lower educated peers. Remote work facilitates the reconciliation of work and family by enabling a more flexible organization of work (Arntz et al. 2019). Thus, fewer labor market constraints and stronger bargaining positions might explain the higher engagement of high educated fathers (Duvander and Johansson 2014). Second, it might be more affordable for economically better-off couples to take up leave. Third, higher education may be related to more egalitarian gender role attitudes with a higher father involvement in family chores (Duvander and Johansson 2014).

4.2 Labor force participation and the division of childcare among fathers and mothers

In a next step of our analysis, we focus on labor market outcomes of mothers and fathers, who were affected by the reform. In Table 5, we report estimation results for the described RDD/DiD model on mother's and father's log transformed work hours as depended variables.[11] Now we separately estimate the regressions on data from the different survey waves 5 to 8, i.e. one to four years after childbirth. Results for fathers (Panel A) show a weakly statistically significant, negative coefficient estimate for the treatment group in the second and the fourth year. For mothers (Panel B) in the treatment group, we do not observe any statistically significant effects.

Table A5 reports corresponding coefficient estimates also for extensive margin labor supply as binary dependent variable. Those results do not reveal any effect of the reform on labor force participation status for affected parents in any of the analyzed years. That is, unlike the results retrieved by Frodermann et al. (2023a) for leave spells 2007-2013, we do not find that longer paternal leave corresponds to an earlier employment reentry of the mother. In detail, more leave taken and the somewhat higher leave duration in the group of treated fathers as shown in Table 4 does not translate into a higher labor supply of mothers in treated couples.

11 As in Table 4, Columns 3 and 4, we include zero values in the estimation by adding "1" before the log transformation.

Table 5. Regression discontinuity and difference-in-differences analysis: Reform effect on work hours of parents and on the division of childcare in the couple.

DV:	A: Father's work hours (log)			B: Mother's work hours (log)			C: Childcare mainly mother's responsibility		
	All	Father college	Father no college	All	Father college	Father no college	All	Father college	Father no college
W5 (2016)	-0.137	-0.178	-0.0919	0.0754	0.0276	0.0358	0.0233	-0.0148	0.0491
	(0.0978)	(0.132)	(0.135)	(0.154)	(0.230)	(0.215)	(0.0441)	(0.0649)	(0.0610)
Observations	6,431	3,016	3,249	6,468	3,031	3,258	6,359	3,061	3,298
W6 (2017)	-0.145*	-0.0804	-0.119	-0.176	-0.0829	-0.180	-0.0148	-0.0439	0.0251
	(0.0816)	(0.0880)	(0.132)	(0.148)	(0.204)	(0.221)	(0.0453)	(0.0620)	(0.0675)
Observations	4,456	2,303	2,082	4,463	2,311	2,082	4,412	2,318	2,094
W7 (2018)	0.0539	0.0329	0.110	-0.120	-0.0807	-0.223	0.0704	0.0261	0.110
	(0.0774)	(0.0938)	(0.119)	(0.150)	(0.210)	(0.218)	(0.0480)	(0.0659)	(0.0708)
Observations	4,296	2,183	2,058	4,308	2,185	2,062	4,282	2,201	2,081
W8 (2019)	-0.175*	-0.213**	-0.192	-0.0387	0.0383	-0.145	-0.0473	-0.153*	0.0788
	(0.0935)	(0.105)	(0.154)	(0.176)	(0.242)	(0.260)	(0.0600)	(0.0817)	(0.0890)
Observations	4,054	2,050	1,961	4,086	2,062	1,977	4,055	2,066	1,989

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREATCONTR included as well as additional control variables; constant included. DV: dependent variable; work hours measured as weekly actual work hours, all values +1 before log transformation to include zero values; childcare responsibility defined as binary variable equal to 1 if respondent answered that the mother (relative to the father) takes main responsibility for childcare in the couple. Detailed regression table in the appendix.

Thus, we observe fathers in the treatment group being more likely to take up parental leave and – at least during some of the considered survey years – reduce their working hours. This finding supports the notion that, in line with the intended reform effect, fathers reduce working hours to spend more time with their families. Interestingly, a study investigating motivations of ElterngeldPlus recipients reveals that ElterngeldPlus enabled fathers to reduce working hours and spend more time with their families than would have been possible under the standard benefit scheme (Allensbach 2018). However, egalitarian part-time work arrangements as incentivized particularly by the new component Partnerschaftsbonus are far from common among ElterngeldPlus recipients (Reich 2022).

We could expect that the reform also had an effect on the division of childcare in the couple. Table 5, Panel C, reports corresponding estimation results for childcare being mainly the responsibility of the mother (relative to the father) as a binary dependent variable. For simplicity, we estimate a linear regression model for this analysis. The comparison of mother's relative to father's childcare involvement between treatment and control group does not show any statistically significant difference in most of the analyzed cases. However, mothers in couples with a college educated father are slightly less likely to have the main responsibility for childcare in the treatment group four years after the reform. The effect is only statistically significant at the 10 percent level, though.

Generally, we would expect to see changes in partners' time allocations induced by the reform effects on parental leave taking if we assume changes in the partners' comparative advantage on the labor market (Becker 1965), their bargaining powers (McElroy/Horney 1981) or their preference, i.e. gender role attitudes (West/Zimmermann 1987). The absence of any significant empirical effect on the division of childcare can, of course, be due to small measurable effects on actual changes in labor market outcomes or due to the underlying survey question, which might not fine graded enough to capture minor shifts in the division of childcare responsibilities. On the other hand, it might be the case that higher parental leave take-up-rates and a short period of reduced working hours do not translate into corresponding changes in the division of childcare responsibilities in the couple. And compared with full-time parental leave, a parental leave "light" with part-time work might not serve as a sufficient paternal commitment and, consequently, would not be a game changer in the division of labor among parents.

Earlier literature has also shown that a more egalitarian division of paid work does not necessarily correspond to a more equal share of unpaid work (Stier and Lewin-Epstein 2000). One reason for this might be that mothers' childcare preferences differ from those of fathers. Doing gender motives (West and Zimmerman 1987, Berk 1985, South and Spitze 1994) may spur mothers to spend even more time with their child in case of increased working time (Brines 1994). Moreover, parallel leave time (e.g. during Partnerschaftsbonus receipt) may prevent partners from shifting parental roles. This way, gender gaps in household productivity persist and motivate parents to retain traditional specialization. Finally, persistent gender roles in the couple's social environment may boost a fall-back (Bielby and Bielby 1989).

4.3 Desired hours of work

Another explanation for not finding any effects on increased labor market activity of mothers or on changes in the responsibilities for childcare might be that constraints prevent mothers from increasing their work hours despite the incentives generated by the new components of the parental leave benefit scheme. In a next step, we estimate a potential effect of the reform on desired work hours among those mothers not working. The results presented in Table 6 reveal that mothers in couples in which the father has college education would prefer to work more hours in the treatment group compared to the control group. We do not estimate these regressions for fathers because too few fathers who answered the survey are out of the labor force at each the point in time when the survey is carried out. However, descriptive evidence presented in Table 7 shows that fathers in the treatment group would prefer to work fewer hours than fathers in the control group when pooling responses of fathers from waves 5 to 8.

Table 6. Regression discontinuity and difference-in-differences analysis: Reform effect on desired work hours of respondent mothers who do not work.

	DV: Mothers' desired work hours (log) - among those currently not working		
	All	**Father college**	**Father no college**
W5 (2016)	0.110*	0.212**	-0.0101
	(0.0656)	(0.0869)	(0.102)
Observations	1,959	869	1,033
W6 (2017)	0.0731	0.202*	-0.122
	(0.0830)	(0.115)	(0.128)
Observations	842	416	413
W7 (2018)	0.0426	0.117	0.00964
	(0.0864)	(0.111)	(0.141)
Observations	817	409	393
W8 (2019)	0.0862	0.203	-0.133
	(0.135)	(0.180)	(0.210)
Observations	623	318	294

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREATCONTR included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months; constant included. DV: dependent variable, work hours measured as weekly desired work hours; all values +1 before log transformation to include zero values. Detailed regression table provided in the appendix.

Table 7. Average desired work hours among fathers and mothers who are not working at the time of the survey (pooled for wave 5 (2016) to wave 8 (2019), respondents only).

	Fathers	Mothers
Treatment group	33.8	25.3
Control group	37.5	24.0

Source KiBS W5-W8. Notes: Control group includes children born in April, May or June in 2015. Treatment group includes children born in July, August or September in 2015. Average work hours are only calculated for those parents who reported to work at the time of the survey. Underlying numbers of fathers who are out of the labor force and answered the desired work hours question: 28 in the treatment group and 25 in the control group. The corresponding numbers of observations for mothers are 1,226 in the treatment group and 611 in the control group.

4.4 Demand for and use of institutional childcare

As we observe an effect of the reform on desired but not for actual work hours of mothers, not finding any significant effects on the division of labor might be due to constraints that prevent mothers from increasing their activity on the labor market despite the incentives generated by the studied reform. In Table 8 we analyze the respondents' desired and actual hours of institutional childcare between treatment and control group. Among couples with college educated fathers desired hours of institutional childcare are significantly higher in the treatment group than in the control group in the second, third and fourth year after childbirth. Despite the increased demand for institutional childcare we do not observe statistically significant corresponding effects on actual hours of institutional childcare. In terms of magnitude and direction, the estimated effects on actual institutional childcare hours are similar to the increase in demand. The absence of statistically significant effects might be due to capacity constraints for institutional childcare in some regions in Germany (Schmitz et al. 2023). In Panel C we run regressions with a dummy variable indicating excess demand for institutional childcare hours when subtracting actual from desired hours. Results show that in couples where the father has college education, there is a weakly statistically significant difference in excess demand for institutional childcare between treatment and control group in survey wave 6.

Table 8. Regression discontinuity and difference-in-differences analysis: Reform effect on desired and actual hours of institutional childcare.

DV:	A: Desired hours of institutional childcare (log)			B: Actual hours of institutional childcare (log)			C: Excess demand for institutional childcare		
	All	Father college	Father no col.	All	Father college	Father no col.	All	Father college	Father no col.
W5 (2016)	-0.0487	0.0502	-0.265	0.183	0.272	-0.0421	-0.000122	0.00359	-0.0395
	(0.158)	(0.230)	(0.230)	(0.152)	(0.223)	(0.219)	(0.0446)	(0.0689)	(0.0618)
Observations	6,279	2,931	3,102	6,635	3,058	3,313	6,273	2,926	3,101
W6 (2017)	0.122	0.292*	-0.125	-0.0473	0.0391	-0.143	0.0454	0.110*	-0.0204
	(0.124)	(0.160)	(0.199)	(0.136)	(0.175)	(0.215)	(0.0456)	(0.0638)	(0.0669)
Observations	4,392	2,282	2,024	4,499	2,320	2,092	4,387	2,282	2,019
W7 (2018)	0.118	0.272**	-0.0392	0.0490	0.128	-0.0181	0.0185	0.0469	-0.0198
	(0.0858)	(0.107)	(0.139)	(0.0938)	(0.116)	(0.150)	(0.0492)	(0.0687)	(0.0728)
Observations	4,315	2,171	2,005	4,429	2,202	2,081	4,312	2,171	2,003
W8 (2019)	0.0391	0.162**	-0.133	0.0173	0.164	-0.144	-0.0340	0.0159	-0.108
	(0.0598)	(0.0725)	(0.0972)	(0.0831)	(0.101)	(0.134)	(0.0622)	(0.0846)	(0.0938)
Observations	3,901	1,983	1,865	4,104	2,063	1,988	3,891	1,978	1,862

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREATCONTR included as well as additional control variables; constant included. DV: dependent variable; (desired) childcare hours measured as weekly hours; all values +1 before log transformation to include zero values. Excess demand for institutional childcare defined as a dummy variable equal to one if respondent indicated more desired hours for institutional childcare per week than actually used, and zero otherwise. Detailed regression table provided in the appendix.

4.5 Robustness analysis

In the appendix, we present results from the analysis of a "placebo reform" checking whether a hypothetical reform date of July 1st 2014 would be associated with any similar effect on parental leave take-up as reported above. Results are reported in Figure A1 and Table A4. These results do not reveal any such statistically significant effects as presented in Figure 1 and Table 4, which makes us confident that our findings reported above actually stem from the effect of the ElterngeldPlus reform in 2015.

In Tables A6, A7, A8 and A9, we show regression results with additional control variables at the individual and regional level (dummy variables for the total number of children, the education and age of father/mother, as well as for the region of residence). These results are generally robust to our main specifications. The reported values of the R-squared measures are substantially higher when including additional control variables. In our main specification, we include only context variables, which do not explain much of the total variation in these specifications, in particular in later years when more time has passed since birth. We also present estimation results from weighted regressions to account for potential selection bias due to sampling and non-response in Tables A10, A11, A12 and A13.

We also analyzed any potential effects of the reform on fertility decisions but we don't find any significant effects here. And we checked any effects on life satisfaction (overall as well as domain specific related to family or work life), which was only asked in wave 5 and wave 6, and we do not observe any effects of the reform here either.[12]

12 Those results are available upon request.

5 Conclusion

We analyzed the effects of a parental leave benefit reform in Germany that added new components to the existing parental leave benefit scheme. Most importantly, the reform increased opportunities and incentives for parents to work part-time during the parental leave phase and, in this case, extended the possible duration of parental leave compared to the initial benefit scheme. One goal of the German parental leave benefit scheme Elterngeld is - next to granting financial security for families with a newborn child – to promote more gender equality in leave-taking and thus in care involvement among fathers and mothers. The ElterngeldPlus reform should increase attractiveness of leave taking for parents who would like to divide time between family and work more flexibly.

The presented analysis is the first exploiting the quasi-experimental allocation of parents around the eligibility date of childbirth to estimate an intent-to-treat (ITT) effect for the reform. We find a positive effect on parental leave uptake and leave duration among fathers while mothers take shorter leaves. This effect is driven by those parents where the father has a college education. We do not find significant effects on the employment status of mothers or fathers. Probably, the employment incentives of the reform are too small to govern parental decisions at the extensive margin, a result that has also been shown for other leave reforms (e.g. Kluve and Tamm 2013, Schönberg and Ludsteck 2014 for Germany; Ziegler and Barnieh 2023 for Austria). Regarding the intensive margin of labor supply, however, we find weak evidence that fathers with college education work fewer hours but we do not observe any effects of the reform on working hours among mothers. In contrast to the results on actual working hours, we find that non-working mothers in the treatment group would like to work more hours than mothers in the control group.

Regarding childcare arrangements, results do not reveal differences between treatment and control group in the division of childcare among parents. On the other hand and again limited to couples in which the father has a college education, we observe higher demand for institutional childcare (in terms of desired hours) of couples in the treatment group but not higher institutional childcare usage (in terms of actual hours). These findings suggest that higher demand for institutional childcare might not be met by a corresponding supply. Thus, regarding the effects of the Elterngeld Plus reform, couples with highly educated fathers can be seen as forerunners, setting the path for further research investigating potential mechanisms at work which might promote or mitigate behavior incentivized by the reform.

Methodologically, our study is restricted to the analysis of an "intent-to-treat" effect of the reform as we cannot observe who of the parents actually took up the new components of the parental leave benefit scheme. Moreover, we focus on the comparison of parents with children born in a very narrow time window around the reform date. Any potential spillover effects of the reform, e.g. on work cultures in establishments or on peer groups cannot be captured by our research design. Such effects have been shown to be relevant for the effects of parental leave benefits in Germany in the context of the Elterngeld scheme (Unterhofer et al. 2017).

In general, it is important to note, that the estimated effects of the reform have to be interpreted in the context of other family policy measures, institutional settings and prevailing social norms, which have an impact on an isolated reform's effectiveness in how family compatibility and gender equality goals are achieved. In addition to the potentially mitigating effects of the mentioned shortage in the supply of public childcare, this refers to other aspects as well, which we are not able to study with our data. Currently, a more active and permanent family involvement of fathers is mitigated in Germany by counteracting incentives e.g. by an income tax scheme favoring an uneven income division among partners. On the other hand, measures promoting incentives to support a more gender equal division of work are lacking or pending such as a paid work release of fathers in the two weeks-period after childbirth (Queisser and Fluchtmann 2023). Behavioral effects of parental leave reforms incentivizing a higher involvement of fathers take time. New experimental evidence by Philipp et al. (2023) shows, however, that raising awareness about long-lasting earnings penalties for women derived from overly long breaks can spoil support for a more even gender division of unpaid work, albeit this evidence was restricted to couple constellations where women outearn their male partner.

6 References

Allensbach Institut für Demoskopie (2018), Das ElterngeldPlus nach zwei Jahren - Befragung von Bezieherinnen und Beziehern im Auftrag des BMFSFJ.

Arntz, M. Sarra, B. Y., Berlingieri, F. (2019). Working from home: Heterogeneous effects on hours worked and wages. ZEW Discussion Paper 19-015.

Beblo, M. and Boll, C. (2014). Die neuen Elterngeld-Komponenten: Will money trump gender? Wirtschaftsdienst, 94(8): 564-569.

Becker, G. S. (1965). A Theory of the Allocation of Time, The Economic Journal 75(299): 493-517.

Bergemann, A. and Riphahn, R. T. (2010). Female labour supply and parental leave benefits - the causal effect of paying higher transfers for a shorter period of time, Applied Economics Letters 18(1): 17-20.

Berk, S. F. (1985). The gender factory: The apportionment of work in American households, New York.

Bielby, W. T. and Bielby, D. D. (1989). Family ties: Balancing commitments to work and family in dual earner households, American Sociological Review, 54(5): 776-789.

BMFSFJ - Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (2011). Elterngeld und Elternzeit. Das Bundeselterngeld- und Elternzeitgesetz, Broschüre, Bundesministerium für Familie, Senioren, Frauen und Jugend (BMFSFJ), Berlin.

BMFSFJ - Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (2020). Who takes care of household, children and the elderly? A dossier on the societal dimension of a private question, Berlin.

BMFSFJ - Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (2021). Elterngeld und Elternzeit. Das Bundeselterngeld- und Elternzeitgesetz, Broschüre, 25. Auflage, Bundesministerium für Familie, Senioren, Frauen und Jugend (BMFSFJ), Berlin.

Boll, C., Leppin, J., Reich, N. (2014). Paternal childcare and parental leave policies: evidence from industrialized countries, Review of Economics of the Household, 12: 129-158.

Brehm, U., Huebener, M., Schmitz, S. (2022). 15 Jahre Elterngeld: Erfolge, aber noch Handlungsbedarf. Ein Blick auf partnerschaftliche Arbeitsteilung und Karrieren, Bevölkerungsforschung Aktuell 6/2022: 3-7.

Bujard, M. (2013). Einführung in das Schwerpunktthemenheft Elterngeld und Elternzeit in Deutschland: Ziele, Diskurse und Wirkungen, Zeitschrift für Familienforschung, 25(2): 123-131.

Chirkova, S. (2019). The impact of parental leave policy on child-rearing and employment behavior: The case of Germany, IZA Journal of Labor Policy, 9:7.

Cygan-Rehm, K. (2016). Earnings-dependent parental leave benefit and fertility: evidence from Germany, Journal of Population Economics, 29(1): 73-103.

Cygan-Rehm K., Kühnle, D., Riphahn, R. T. (2018). Paid parental leave and families' living arrangements, Labour Economics, 53(C): 182-197.

Deutscher Bundestag (2018). Drucksache 19/400: Bericht über die Auswirkungen der Regelungen zum Elterngeld Plus und zum Partnerschaftsbonus sowie zur Elternzeit.

Dustmann, C. and Schönberg, U. (2012). Expansions in maternity leave coverage and children's long-term outcomes, American Economic Journal: Applied Economics, 4(3): 190-224.

Duvander, A. and Johansson, M. (2014). Parental leave use for different fathers. A study of the impact of three Swedish parental leave reforms. In T. Rostgard & G. Eydal (Eds.), Fatherhood in the Nordic welfare states—Comparing care policies and practice, Bristol.

Evertsson, M., Boye, K. and Erman, J. (2018). 'Fathers on-call? A study on the sharing of care work between parents in Sweden', Demographic Research, 39(2): 33-60.

Frodermann, C., Filser, A., Bächmann, A.-C. (2023a). Mütter kehren meist schneller rauf den Arbeitsmarkt zurück, wenn ihre Ehepartner Elternzeit nehmen. Institut für Arbeitsmarkt- und Berufsforschung (Ed.), IAB-Kurzbericht 1/2023, Nürnberg.

Frodermann, C., Wrohlich, K., Zucco, A. (2023b): Parental leave policy and long-run earnings of mothers, Labour Economics 80: 102296.

Geisler, E. and Kreyenfeld, M. (2012). How policy matters: Germany's parental leave benefit reform and fathers' behavior, Max Planck Institute for Demographic Research Working Paper 2012-21.

Geyer, J., Haan, P., Wrohlich, K. (2015). The effects of family policy on maternal labor supply: combining evidence from a structural model and a quasi-experimental approach, Labour Economics 36(C): 84-98.

Geyer, J. and Krause, A. (2016). Veränderungen der Erwerbsanreize durch das Elterngeld Plus für Mütter und Väter, DIW Discussion Papers, No. 1592.

Huebener, M., Jessen, J., Kuehnle, D., Oberfichtner, M. (2022). Parental leave, worker substitutability, and firms' employment, Berlin School of Economics Discussion Paper No. 7.

Kluve, J. and Tamm, M. (2013). Parental leave regulations, mothers' labor force attachment and fathers' childcare involvement: evidence from a natural experiment, Journal of Population Economics 26(3): 983-1005.

Kluve, J and Schmitz, S. (2018). Back to work: Parental benefits and mothers' labor market outcomes in the medium run, ILR Review 71(1): 143-173.

Küpperer S., Rübenach, S. P., Stahl, T., Wolff, A., Acht, M., Hänisch, C., Jacobs, L., Peter, R. (2022). Paarbezüge in der Elterngeldstatistik, WISTA - Wirtschaft und Statistik, 74(1): 1619-2907.

McElroy, M., Horney, M. J., (1981). Nash-bargained household decisions: Toward a generalization of the theory of demand, International Economic Review 22(2): 333-349.

Olivetti, C., Petrongolo, B. (2017). The economic consequences of family policies: lessons from a century of legislation in high-income countries, Journal of Economic Perspectives, 31: 205-30.

Philipp, M.-F., Büchau, S., Schober, P. S., Spieß, C. K. (2023): Parental leave policies, usage consequences, and changing normative beliefs, Gender & Society, 37(4): 1-31.

Queisser, M. and Fluchtmann, J. (2023). Familienpolitische Trends in den OECD-Ländern, Wirtschaftsdienst 103(9): 589-594.

Reich, R. (2022), Abseits der Norm? Egalitäre Teilzeitarrangements während des Elterngeldbezuges. Ausgestaltung und Motivlagen, Berliner Journal für Soziologie. [online first]

Reimer, T. and Andernach, B. (2015). Aktivierte Väter durch Elterngeld? Eine Untersuchung des Zusammenhangs von väterlicher Elterngeldnutzung und ihren Kinderbetreuungszeiten. Beitrag zur Veranstaltung »Aktuelle Projekte familiensoziologischer Forschung« der Sektion Familiensoziologie. Bd. 37.

Samtleben, C. K., Wrohlich, K., Zucco, A. (2021). Auswirkungen des Elterngelds auf die partnerschaftliche Arbeitsteilung, DJI Broschüre, DJI Verlag Deutsches Jugendinstitut, München.

Schmitz, S., K.C.Spiess, M. Huber (2023). Weiterhin Ungleichheiten bei der Kita-Nutzung - Größter ungedeckter Bedarf in grundsätzlich benachteiligten Familien, Bevölkerungsforschung Aktuell 2| 2023: 4-8.

Schönberg U. and Ludsteck, J (2014), Expansions in maternity leave coverage and mothers' labor market outcomes after childbirth, Journal of Labor Economics, 32(3): 469-505.

Schreyer, J. (2015). Part-time employment while receiving parental leave benefits, Zeitschrift für Familienforschung, 27(1): 53-77.

South, S. J., Spitze G. (1994). Housework in marital and nonmarital households, American Sociological Review, 59(3) 327-347.

Stahl, J. F and Schober, P. S. (2018). Convergence or divergence? Educational discrepancies in work-care arrangements of mothers with young children in Germany, Work, Employment and Society 32(4): 629–49.

Statistisches Bundesamt (2020). Statistik zum Elterngeld, Wiesbaden: Statistisches Bundesamt.

Statistisches Bundesamt (2023a). Elterngeld 2022: Väteranteil steigt weiter auf 26,1 %, Press Release: https://www.destatis.de/DE/Presse/Pressemitteilungen/2023/03/PD23_123_22922.html.

Statistisches Bundesamt (2023b). Elterngeld: Im 2. Quartal 2023 etwas unter 1 Million Leistungsbezüge, Press Release: https://www.destatis.de/DE/Themen/Gesellschaft-Umwelt/Soziales/Elterngeld/elterngeld-plus.html

Stier, H., Lewin-Epstein, N. (2000). Women's part-time employment and gen- der inequality in the family, Journal of Family Issues, 21(3): 390-410.

Tamm, M. (2019). Fathers' parental leave-taking, childcare involvement and labor market participation, Labour Economics, 59: 184-197.

Trappe, H. (2013). Väter mit Elterngeldbezug: Nichts als ökonomisches Kalkül? Zeitschrift für Soziologie, 42(1): 28-51.

Trappe, H., Pollmann-Schult, M., Schmitt, C. (2015). The rise and decline of the male breadwinner model: Institutional underpinnings and future expectations, European Sociological Review, 31(2): 230-242.

Unterhofer, U., Welteke, C, Wrohlich, K. (2017). Elterngeld hat soziale Normen verändert, DIW Wochenbericht Nr. 34

West, C., Zimmerman, D. H. (1987). Doing gender, Gender and Society, 1(2): 125-151.

Wrohlich, K., Berger, E. M., Geyer, J., Haan P., Sengül, D., Spieß, C. K., Thiemann, A. (2012): Elterngeld Monitor (Endbericht). DIW Berlin: Politikberatung kompakt 61.

Ziegler, L, Barnieh, O. (2023). Does a Flexible Parental Leave System Stimulate Maternal Employment? IZA Discussion Paper No. 16172.

7 Appendix A

Table A 1. Average expected duration of parental leave benefit receipt (months).

		2016	2017	2018	2019	2020	2021	2022
Male	without ElterngeldPlus	3.0	3.1	3.0	2.9	2.9	2.8	2.8
	with ElterngeldPlus	8.5	8.7	8.9	8.8	8.6	8.2	7.9
	total	3.5	3.7	3.8	3.7	3.7	3.7	3.6
Female	without ElterngeldPlus	11.7	11.7	11.7	11.7	11.6	11.6	11.6
	with ElterngeldPlus	20.1	19.9	20	19.9	19.8	19.6	19.5
	total	13.3	13.8	14.2	14.3	14.5	14.6	14.6
Total	without ElterngeldPlus	9.5	9.4	9.3	9.1	9.0	8.9	8.7
	with ElterngeldPlus	18.8	18.6	18.7	18.6	18.4	18.2	18.0
	total	11.1	11.5	11.7	11.7	11.8	11.8	11.8

Source: Statistisches Bundesamt (Destatis), 2023.

Table A 2. Parental leave benefit recipients according to birth quarter of child as reported by administrative statistics.

	2015				
	1. Quarter	**2 .Quarter**	**3. Quarter**	**4. Quarter**	**Total 2015**
Male	57,721	63,108	72,816	63,783	257,428
Female	160,431	169,432	191,096	169,699	690,658
Total	218,152	232,540	263,912	233,482	948,086
	2018				
	1. Quarter	**2 .Quarter**	**3. Quarter**	**4. Quarter**	**Total 2018**
Male	72,266	78,945	87,369	74,554	313,134
Female	174,181	184,100	201,625	174,210	734,116
Total	246,447	263,045	288,994	248,764	1,047,250
	2019				
	1. Quarter	**2 .Quarter**	**3. Quarter**	**4. Quarter**	**Total 2019**
Male	73,303	80,536	89,923	75,923	319,685
Female	169,479	181,138	200,695	174,526	725,838
Total	242,782	261,674	290,618	250,449	1,045,523

Source: Statistisches Bundesamt (Destatis), 2023. Notes: Parental leave benefit recipients by child birth quarter; includes all paid leaves completed until QX+5 quarters after childbirth.

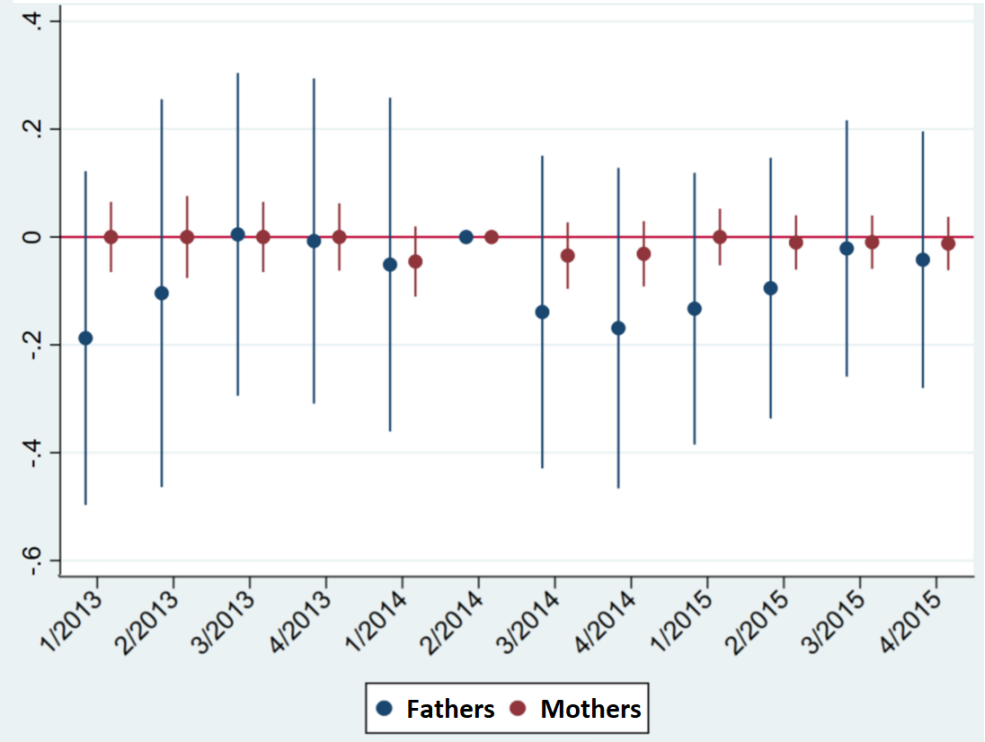
Table A 3. Descriptive statistics for treatment and control group.

		Control	Treatment	Difference in means (Treatment – Control)
5th wave (2016)	Age mother	32.72	32.67	-0.05
	Age father	36.31	36.14	-0.17
	College mother	0.50	0.50	0.00
	College father	0.45	0.47	0.02
	2+ children	0.49	0.51	0.02
6th wave (2017)	Age mother	34.07	33.53	-0.54**
	Age father	36.94	36.42	-0.52
	College mother	0.54	0.55	0.01
	College father	0.49	0.52	0.03
	2+ children	0.54	0.51	-0.03
7th wave (2018)	Age mother	34.99	35.06	0.07
	Age father	37.90	37.67	-0.23
	College mother	0.48	0.61	0.13***
	College father	0.46	0.56	0.10***
	2+ children	0.65	0.65	0.00
8th wave (2019)	Age mother	36.18	36.18	0.00
	Age father	38.94	38.98	0.04
	College mother	0.51	0.61	0.10***
	College father	0.48	0.54	0.06**
	2+ children	0.74	0.76	0.02
Total	Age mother	34.26	34.21	-0.05
	Age father	37.82	37.35	-0.47***
	College mother	0.51	0.56	0.05***

College father	0.47	0.52	0.05***
2+ children	0.59	0.59	0.00

Source KiBS W5-W8. Notes: Information on age is only available for the parent who answered the questionnaire, not for both parents in a couple. Included are children born between April 1st and Sept. 30th 2015 and living with both biological parents in the household. Control group includes children born in April, May or June in 2015. Treatment group includes children born in July, August or September in 2015. In the treatment group, the share of mothers who answered the questionnaire was 84 % and in the control group, it was 85 % among all respondents. Stars indicate at which level difference in means is statistically significant: *** p<0.01, ** p<0.05, * p<0.1

Figure A 1. Figure A1. Regression discontinuity estimation results for child birth quarters explaining parental leave take-up by mothers and fathers until W7 (2018) – effects relative to birth quarter 2/2014 (placebo analysis).



Source: KiBS wave 7 (2018). Notes: Figure reports coefficient estimates and confidence intervals at 5 % significance level from a linear probability model with the dependent variable indicating whether mother or father took up parental leave. As explanatory variables dummy variables for birth quarter and year combinations are included (reference category Q2 2014).

Table A 4. Regression discontinuity and difference-in-differences placebo analysis: Parental leave taken by mothers and fathers.

DV:	A: Parental leave uptake (yes/no)		B: Parental leave uptake (log months)	
	Mother	**Father**	**Mother**	**Father**
All parents	-0.0188	-0.0458	-0.0261	-0.0722
	(0.0214)	(0.0624)	(0.0817)	(0.0968)
Observations	3,628	3,648	3,628	3,648
Father college	-0.0213	-0.163*	0.00520	-0.223*
	(0.0291)	(0.0838)	(0.110)	(0.133)
Observations	1,883	1,894	1,883	1,894
Father no college	-0.0192	0.0879	-0.0783	0.103
	(0.0318)	(0.0922)	(0.123)	(0.141)
Observations	1,745	1,754	1,745	1,754

Source: KiBS wave 8 (2019). Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2013 and Sept. 30th 2014 and living with both biological parents in the household. Children in placebo TREATMENT group are born between July 1st 2014 and Sept. 30th 2014. Children in placebo TREAT|CONTR group are born between April 1st 2014 and September 30th 2014. Dummy for TREAT|CONTR group included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months; constant included in all models. DV: dependent variable. In Columns 3 and 4 zero duration values are included by adding "1" before the log transformation.

Table A 5. Regression discontinuity and difference-in-differences analysis: Reform effect on labor force participation of mothers and fathers

DV:	A: Father's labor force participation			B: Mother's labor force participation		
	All	**Father college**	**Father no col.**	**All**	**Father college**	**Father no col.**
W5 (2016)	-0.00745	-0.0357	0.0163	0.00694	-0.0126	0.0242
	(0.0191)	(0.0292)	(0.0253)	(0.0453)	(0.0674)	(0.0621)
Obs.	6,345	3,048	3,297	6,325	3,044	3,281
W6 (2017)	-0.0198	-0.00764	-0.0364	-0.0400	-0.0542	-0.00356
	(0.0154)	(0.0175)	(0.0264)	(0.0427)	(0.0586)	(0.0632)
Obs.	4,412	2,316	2,096	4,409	2,317	2,092
W7 (2018)	0.0108	0.0109	0.00982	-0.0426	-0.0437	-0.0473
	(0.0150)	(0.0200)	(0.0228)	(0.0428)	(0.0601)	(0.0616)
Obs.	4,279	2,200	2,079	4,261	2,193	2,068
W8 (2019)	-0.0159	-0.0188	-0.0187	0.0132	0.0171	-0.00451
	(0.0165)	(0.0203)	(0.0268)	(0.0499)	(0.0691)	(0.0731)
Obs.	4,045	2,062	1,983	4,053	2,065	1,988

Source: KiBS wave 8 (2019). Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREAT|CONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREAT|CONTR group included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months reported in the appendix; constant included in all models. DV: dependent variable. We define labor force participation as being employed, self-employed or unemployed from a survey question on current employment status. We consider parents who are on parental leave and not working as not participating in the labor force.

Table A 6. Reform effect from regression discontinuity and difference-in-differences analysis – dependent variable: parental leave taken by mothers and fathers (regressions with additional control variables).

DV:	**A: Parental leave uptake (yes/no)**		**B: Parental leave uptake (log months)**	
	Mother	**Father**	**Mother**	**Father**
All parents	0.00245	0.155***	-0.0821	0.236***
	(0.0202)	(0.0599)	(0.0779)	(0.0912)
Observations	3,717	3,735	3,717	3,735
Father college	-0.0300	0.260***	-0.224**	0.321**
	(0.0269)	(0.0801)	(0.104)	(0.125)
Observations	1,915	1,931	1,915	1,931
Father no college	0.0303	0.0104	0.0442	0.107
	(0.0305)	(0.0909)	(0.117)	(0.136)
Observations	1,802	1,804	1,802	1,804

Source: KiBS wave 8 (2019). Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREAT|CONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREAT|CONTR group included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months, College education father, college education mother, dummies for 2, 3+ children, age of respondent, dummy for eastern Germany; constant included in all models. DV: dependent variable. ln Columns 3 and 4 zero duration values are included by adding "1" before the log transformation.

Table A 7. Regression discontinuity and difference-in-differences analysis: Reform effect on work hours of mothers and fathers (regressions with additional control variables).

DV:	A: Father's work hours (log)			B: Mother's work hours (log)		
	All	Father college	Father no col.	All	Father college	Father no col.
W5 (2016)	-0.176*	-0.189	-0.155	-0.0645	-0.158	0.0588
	(0.0958)	(0.137)	(0.136)	(0.149)	(0.224)	(0.203)
Obs.	6,166	2,977	3,189	6,211	2,996	3,215
W6 (2017)	-0.0965	-0.0682	-0.0900	-0.0554	0.00377	-0.0622
	(0.0774)	(0.0910)	(0.130)	(0.139)	(0.194)	(0.202)
Obs.	4,317	2,268	2,049	4,326	2,275	2,051
W7 (2018)	0.0908	0.0345	0.151	-0.0430	-0.00673	-0.108
	(0.0752)	(0.0942)	(0.120)	(0.142)	(0.199)	(0.205)
Obs.	4,190	2,156	2,034	4,211	2,164	2,047
W8 (2019)	-0.217**	-0.247**	-0.226	0.0296	0.0474	-0.0254
	(0.0934)	(0.109)	(0.156)	(0.166)	(0.230)	(0.241)
Obs.	3,963	2,030	1,933	3,983	2,039	1,944

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015, Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREAT|CONTR group included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months, college education father, college education mother, dummies for 2, 3+ children, age of respondent, dummy for eastern Germany; constant included. DV: dependent variable, work hours measured as weekly actual work hours; all values +1 before log transformation to include zero values.

Table A 8. Regression discontinuity and difference-in-differences analysis: Reform effect on desired work hours of respondent mothers who do not work (regressions with additional control variables).

	DV: Mothers' desired work hours (log) - among those currently not working		
	All	**Father college**	**Father no college**
W5 (2016)	0.0573	0.119	-0.00563
	(0.0619)	(0.0821)	(0.0951)
Observations	1,884	863	1,021
W6 (2017)	0.118	0.275**	-0.0482
	(0.0800)	(0.112)	(0.127)
Observations	819	411	408
W7 (2018)	0.0698	0.135	0.0711
	(0.0794)	(0.102)	(0.131)
Observations	788	400	388
W8 (2019)	0.0523	0.0405	0.00613
	(0.125)	(0.167)	(0.197)
Observations	600	313	287

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREATCONTR included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months, dummies for age of child in months, College education father, college education mother, dummies for 2, 3+ children, age of respondent, dummy for eastern Germany; constant included. DV: dependent variable, work hours measured as weekly desired work hours; all values +1 before log transformation to include zero values.

.

Table A 9. Regression discontinuity and difference-in-differences analysis: Reform effect on division of childcare in the couple and (desired) hours of institutional childcare (regressions with additional control variables).

DV:	A: Desired hours of institutional childcare (log)			B: Actual hours of institutional childcare (log)			C: Excess demand for institutional childcare		
	All	**Father college**	**Father no col.**	**All**	**Father college**	**Father no col.**	**All**	**Father college**	**Father no col.**
W5 (2016)	0.0319	0.0246	0.0332	-0.228	-0.125	-0.276	-0.0467	0.0739	-0.0568
	(0.0433)	(0.0634)	(0.0601)	(0.152)	(0.220)	(0.212)	(0.147)	(0.219)	(0.198)
Observations	6,223	3,005	3,218	5,817	2,822	2,995	6,234	3,002	3,232
W6 (2017)	-0.0135	-0.0366	0.0179	0.0670	0.181	-0.110	-0.0160	0.0371	-0.104
	(0.0438)	(0.0595)	(0.0657)	(0.116)	(0.151)	(0.181)	(0.128)	(0.169)	(0.196)
Observations	4,336	2,279	2,057	4,218	2,232	1,986	4,336	2,281	2,055
W7 (2018)	0.0512	0.0323	0.0747	0.0958	0.235***	-0.0179	0.0608	0.112	0.0564
	(0.0461)	(0.0631)	(0.0682)	(0.0691)	(0.0861)	(0.111)	(0.0908)	(0.113)	(0.145)
Observations	4,221	2,171	2,050	4,068	2,117	1,951	4,222	2,172	2,050
W8 (2019)	-0.0503	-0.121	0.0247	0.0270	0.143**	-0.0974	0.0188	0.150	-0.123
	(0.0582)	(0.0798)	(0.0864)	(0.0565)	(0.0699)	(0.0909)	(0.0819)	(0.100)	(0.132)
Observations	3,992	2,040	1,952	3,828	1,972	1,856	3,989	2,037	1,952

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Dummy for TREAT|CONTR group included as well as additional control variables for birth quarter dummies, birth year dummy, interview

month dummies, dummies for age of child in months, college education father, college education mother, dummies for 2, 3+ children, age of respondent, dummy for eastern Germany; constant included. DV: dependent variable, childcare responsibility defined as binary variable equal to 1 if respondent answered that the mother (relative to the father) takes main responsibility for childcare in the couple;(desired) childcare hours measured as weekly hours; all values +1 before log transformation to include zero values.

Table A 10. Reform effect from regression discontinuity and difference-in-differences analysis – dependent variable: parental leave taken by mothers and fathers (weighted sample).

DV:	**A: Parental leave uptake (yes/no)**		**B: Parental leave uptake (log months)**	
	Mother	**Father**	**Mother**	**Father**
All parents	0.000797	0.0833	-0.0968	0.168
	(0.0350)	(0.0862)	(0.134)	(0.125)
Observations	3,569	3,586	3,569	3,586
Father college	-0.0401	0.254**	-0.315**	0.284*
	(0.0346)	(0.109)	(0.141)	(0.159)
Observations	1,846	1,862	1,846	1,862
Father no college	0.0499	-0.0811	0.144	0.0469
	(0.0545)	(0.128)	(0.204)	(0.191)
Observations	1,723	1,724	1,723	1,724

Source: KiBS wave 8 (2019). Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREAT|CONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREAT|CONTR group included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months; constant included in all models. DV: dependent variable. In Columns 3 and 4 zero duration values are included by adding "1" before the log transformation. Estimations with population weights.

Table A 11. Regression discontinuity and difference-in-differences analysis: Reform effect on work hours of mothers and fathers (weighted sample).

DV:	A: Father's work hours (log)			B: Mother's work hours (log)		
	All	**Father college**	**Father no col.**	**All**	**Father college**	**Father no col.**
W5 (2016)	-0.258*	-0.500***	-0.0904	-0.0493	-0.120	-0.00323
	(0.140)	(0.186)	(0.214)	(0.200)	(0.306)	(0.264)
Obs.	6,195	2,989	3,206	6,238	3,008	3,230
W6 (2017)	-0.142	-0.106	-0.126	-0.101	-0.0413	-0.162
	(0.0897)	(0.120)	(0.147)	(0.217)	(0.302)	(0.298)
Obs.	4,389	2,306	2,083	4,400	2,313	2,087
W7 (2018)	0.0946	0.0339	0.164	-0.0356	0.181	-0.324
	(0.108)	(0.138)	(0.166)	(0.202)	(0.281)	(0.285)
Obs.	4,244	2,183	2,061	4,268	2,192	2,076
W8 (2019)	-0.0875	-0.0877	-0.0404	0.116	0.510	-0.317
	(0.0877)	(0.103)	(0.141)	(0.264)	(0.363)	(0.362)
Obs.	3,808	1,954	1,854	3,827	1,963	1,864

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREATCONTR included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months; constant included. DV: dependent variable, work hours measured as weekly actual work hours; all values +1 before log transformation to include zero values. Estimations with population weights.

Table A 12. Regression discontinuity and difference-in-differences analysis: Reform effect on desired work hours of respondent mothers who do not work (weighted sample).

	DV: Mothers' desired work hours (log) - among those currently not working		
	All	**Father college**	**Father no college**
W5 (2016)	0.0981	0.163	0.0314
	(0.0857)	(0.112)	(0.136)
Observations	1,932	862	1,016
W6 (2017)	0.247**	0.363**	0.255
	(0.105)	(0.149)	(0.166)
Observations	842	416	413
W7 (2018)	-0.0189	-0.0361	0.0969
	(0.118)	(0.162)	(0.152)
Observations	817	409	393
W8 (2019)	0.110	0.0835	0.116
	(0.127)	(0.161)	(0.201)
Observations	594	308	278

Source: KiBS panel data W5-W8. Notes: Weighted linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREATCONTR included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months, dummies for age of child in months, College education father, college education mother, dummies for 2, 3+ children, age of respondent, dummy for eastern Germany; constant included. DV: dependent variable, work hours measured as weekly desired work hours; all values +1 before log transformation to include zero values. Estimations with population weights.

Table A 13. Regression discontinuity and difference-in-differences analysis: Reform effect on division of childcare in the couple and (desired) hours of institutional childcare (weighted sample).

DV:	A: Desired hours of institutional childcare (log)			B: Actual hours of institutional childcare (log)			C: Excess demand for institutional childcare		
	All	**Father college**	**Father no col.**	**All**	**Father college**	**Father no col.**	**All**	**Father college**	**Father no col.**
W5 (2016)	0.0318	-0.0123	0.0729	-0.176	-0.119	-0.208	0.120	0.107	0.0628
	(0.0538)	(0.0688)	(0.0806)	(0.223)	(0.320)	(0.309)	(0.176)	(0.272)	(0.220)
Observations	6,251	3,018	3,233	5,851	2,839	3,012	6,263	3,015	3,248
W6 (2017)	-0.0130	-0.00803	0.000938	0.118	0.121	-0.00231	0.111	-0.0761	0.219
	(0.0546)	(0.0721)	(0.0859)	(0.225)	(0.288)	(0.320)	(0.234)	(0.311)	(0.332)
Observations	4,410	2,317	2,093	4,289	2,268	2,021	4,410	2,319	2,091
W7 (2018)	0.102*	0.0735	0.133	0.245*	0.479**	-0.0168	0.232	0.278	0.172
	(0.0594)	(0.0820)	(0.0831)	(0.139)	(0.192)	(0.189)	(0.157)	(0.217)	(0.218)
Observations	4,278	2,199	2,079	4,124	2,145	1,979	4,279	2,200	2,079
W8 (2019)	-0.0645	-0.190*	0.0650	0.0739	0.368***	-0.226**	-0.0806	0.189	-0.324**
	(0.0790)	(0.102)	(0.114)	(0.0907)	(0.141)	(0.105)	(0.122)	(0.184)	(0.140)
Observations	3,834	1,964	1,870	3,677	1,899	1,778	3,831	1,961	1,870

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Dummy for TREATCONTR included as well as additional control variables for birth quarter dummies, birth year dummy, interview month dummies, dummies for age of child in months; constant included. DV: dependent variable, childcare responsibility defined as binary variable equal to 1 if

respondent answered that the mother (relative to the father) takes main responsibility for childcare in the couple;(desired) childcare hours measured as weekly hours; all values +1 before log transformation to include zero values. Estimations with population weights.

8 Appendix B

Table B 1. Regression discontinuity and difference-in-differences analysis: Reform effect on parental leave uptake (yes/no).

	All parents		Father college		Father no college	
	Mother	**Father**	**Mother**	**Father**	**Mother**	**Father**
TREATMENT	0.00201	0.154**	-0.0331	0.274***	0.0261	-0.00966
	(0.0200)	(0.0615)	(0.0263)	(0.0811)	(0.0310)	(0.0928)
TREAT|CONTR	-0.00971	0.00844	0.0167	-0.0820	-0.0442	0.136
	(0.0219)	(0.0670)	(0.0299)	(0.0922)	(0.0325)	(0.0969)
1. Birth quarter	-0.0134	0.0312	0.0141	-0.0594	-0.0448	0.136*
	(0.0181)	(0.0554)	(0.0242)	(0.0744)	(0.0273)	(0.0813)
3. Birth quarter	0.00920	-0.0334	0.0141	-0.0998	0.00612	0.0438
	(0.0162)	(0.0499)	(0.0209)	(0.0647)	(0.0254)	(0.0760)
4. Birth quarter	-0.0224	-0.0330	0.0228	-0.144	-0.0540	0.0717
	(0.0250)	(0.0767)	(0.0331)	(0.102)	(0.0381)	(0.114)
Year 2014	0.0160	0.103	-0.00422	0.0886	0.0129	0.125
	(0.0436)	(0.134)	(0.0582)	(0.179)	(0.0657)	(0.197)
Observations	3,837	3,828	1,958	1,953	1,838	1,835
R-squared	0.009	0.011	0.013	0.018	0.026	0.009

Source: KiBS wave 8 (2019). Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREAT|CONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month, age of child in months included; constant included in all models.

Table B 2. Regression discontinuity and difference-in-differences analysis: Reform effect on parental leave uptake (log months).

	All parents		Father college		Father no college	
	Mother	**Father**	**Mother**	**Father**	**Mother**	**Father**
TREATMENT	-0.0963	0.232**	-0.286***	0.355***	0.0594	0.0653
	(0.0798)	(0.0946)	(0.107)	(0.128)	(0.122)	(0.141)
TREAT|CONTR	-0.0578	-0.0173	-0.0280	-0.197	-0.107	0.230
	(0.0871)	(0.103)	(0.122)	(0.145)	(0.128)	(0.147)
1. Birth quarter	-0.0816	-0.0227	-0.0678	-0.164	-0.121	0.150
	(0.0722)	(0.0852)	(0.0986)	(0.117)	(0.107)	(0.123)
3. Birth quarter	0.0224	-0.0453	0.0852	-0.144	-0.0289	0.0505
	(0.0645)	(0.0767)	(0.0852)	(0.102)	(0.0996)	(0.115)
4. Birth quarter	-0.0916	0.0761	0.0714	-0.146	-0.202	0.256
	(0.0993)	(0.118)	(0.135)	(0.161)	(0.149)	(0.173)
Year 2014	-0.00339	-0.0108	-0.132	0.00260	0.0402	0.0285
	(0.173)	(0.205)	(0.237)	(0.282)	(0.258)	(0.298)
Observations	3,835	3,828	1,956	1,953	1,838	1,835
R-squared	0.009	0.011	0.017	0.015	0.018	0.023

Source: KiBS wave 8 (2019). Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREAT|CONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month, age of child in months included; constant included in all models. Zero duration values are included by adding “1” before the log transformation.

Table B 3. Regression discontinuity and difference-in-differences analysis: Reform effect on (log) work hours of mothers.

	Wave 5 (2016)	Wave 6 (2017)	Wave 7 (2018)	Wave 8 (2019)
All parents				
TREATMENT	0.0754	-0.176	-0.120	-0.0387
	(0.154)	(0.148)	(0.150)	(0.176)
TREAT|CONTR	0.188	-0.0574	0.186	0.0237
	(0.173)	(0.190)	(0.170)	(0.189)
1. Birth quarter	0.0985	-0.120	-0.0632	-0.111
	(0.141)	(0.167)	(0.149)	(0.155)
3. Birth quarter	-0.0230	0.236*	0.0675	0.204
	(0.114)	(0.141)	(0.135)	(0.142)
4. Birth quarter	-0.0390	0.312	0.268	0.273
	(0.189)	(0.231)	(0.216)	(0.219)
Year 2014	0.199	-0.592	-0.566	-0.478
	(0.343)	(0.410)	(0.386)	(0.378)
Observations	6,468	4,463	4,308	4,086
R-squared	0.093	0.011	0.011	0.011
Father college				
TREATMENT	0.0276	-0.0829	-0.0807	0.0383
	(0.230)	(0.204)	(0.210)	(0.242)
TREAT|CONTR	0.475*	0.0272	-0.342	0.0107
	(0.244)	(0.263)	(0.244)	(0.274)
1. Birth quarter	0.183	-0.0446	-0.479**	-0.0773
	(0.199)	(0.233)	(0.215)	(0.220)

3. Birth quarter	0.100	0.302	0.294	0.115
	(0.160)	(0.193)	(0.188)	(0.193)
4. Birth quarter	0.0853	0.468	0.446	0.206
	(0.267)	(0.317)	(0.301)	(0.307)
Year 2014	0.0561	-0.832	-1.409**	-0.385
	(0.492)	(0.568)	(0.550)	(0.536)
Observations	3,031	2,311	2,185	2,062
R-squared	0.100	0.021	0.020	0.030
Father no college				
TREATMENT	0.0358	-0.180	-0.223	-0.145
	(0.215)	(0.221)	(0.218)	(0.260)
TREAT|CONTR	-0.0137	-0.141	0.818***	-0.00230
	(0.252)	(0.279)	(0.242)	(0.266)
1. Birth quarter	0.0888	-0.192	0.332	-0.131
	(0.203)	(0.242)	(0.210)	(0.220)
3. Birth quarter	-0.226	0.123	-0.0910	0.262
	(0.166)	(0.215)	(0.198)	(0.212)
4. Birth quarter	-0.328	0.102	0.0982	0.262
	(0.273)	(0.342)	(0.317)	(0.317)
Year 2014	0.598	-0.304	0.320	-0.465
	(0.489)	(0.604)	(0.553)	(0.542)
Observations	3,258	2,082	2,062	1,977
R-squared	0.103	0.030	0.029	0.013

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with

both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month, dummies for age of child in months and constant included. DV: dependent variable; work hours measured as weekly actual work hours, all values +1 before log transformation to include zero values.

Table B 4. Regression discontinuity and difference-in-differences analysis: Reform effect on (log) work hours of fathers.

	Wave 5 (2016)	**Wave 6 (2017)**	**Wave 7 (2018)**	**Wave 8 (2019)**
All parents				
TREATMENT	-0.137	-0.145*	0.0539	-0.175*
	(0.0978)	(0.0816)	(0.0774)	(0.0935)
TREAT|CONTR	0.147	0.107	0.0375	-0.123
	(0.110)	(0.104)	(0.0875)	(0.100)
1. Birth quarter	0.107	0.0333	-0.0243	-0.0454
	(0.0898)	(0.0917)	(0.0767)	(0.0824)
3. Birth quarter	0.0913	0.137*	0.00755	0.0629
	(0.0726)	(0.0779)	(0.0698)	(0.0756)
4. Birth quarter	0.173	0.288**	0.0484	-0.0292
	(0.120)	(0.127)	(0.111)	(0.116)
Year 2014	-0.186	-0.366	-0.197	-0.0706
	(0.218)	(0.226)	(0.199)	(0.201)
Observations	6,431	4,456	4,296	4,054
R-squared	0.013	0.014	0.011	0.008
Father college				
TREATMENT	-0.178	-0.0804	0.0329	-0.213**
	(0.132)	(0.0880)	(0.0938)	(0.105)

TREAT|CONTR	0.0293	0.0955	0.128	-0.00635
	(0.141)	(0.113)	(0.109)	(0.118)
1. Birth quarter	0.189*	0.127	0.0652	0.0467
	(0.115)	(0.101)	(0.0963)	(0.0951)
3. Birth quarter	-0.0396	0.146*	0.0638	0.0795
	(0.0924)	(0.0832)	(0.0839)	(0.0836)
4. Birth quarter	-0.104	0.160	0.112	0.156
	(0.154)	(0.138)	(0.135)	(0.132)
Year 2014	0.257	-0.142	-0.230	-0.152
	(0.283)	(0.246)	(0.246)	(0.232)
Observations	3,016	2,303	2,183	2,050
R-squared	0.028	0.018	0.020	0.025
Father no college				
TREATMENT	-0.0919	-0.119	0.110	-0.192
	(0.135)	(0.132)	(0.119)	(0.154)
TREAT|CONTR	0.174	0.0734	0.00143	-0.175
	(0.158)	(0.165)	(0.132)	(0.157)
1. Birth quarter	0.0758	-0.0489	-0.0531	-0.0431
	(0.127)	(0.144)	(0.114)	(0.130)
3. Birth quarter	0.140	0.0472	-0.103	0.0520
	(0.104)	(0.128)	(0.108)	(0.126)
4. Birth quarter	0.260	0.258	-0.0763	-0.196
	(0.172)	(0.204)	(0.173)	(0.187)
Year 2014	-0.349	-0.354	0.0949	0.118
	(0.307)	(0.360)	(0.301)	(0.320)

Observations	3,249	2,082	2,058	1,961
R-squared	0.011	0.028	0.021	0.012

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month, dummies for age of child in months and constant included. DV: dependent variable; work hours measured as weekly actual work hours, all values +1 before log transformation to include zero values.

Table B 5. Regression discontinuity and difference-in-differences analysis: Reform effect on division of childcare in the couple.

	Wave 5 (2016)	**Wave 6 (2017)**	**Wave 7 (2018)**	**Wave 8 (2019)**
All parents				
TREATMENT	0.0287	-0.0121	0.0683	-0.0411
	(0.0436)	(0.0451)	(0.0478)	(0.0596)
TREAT|CONTR	0.0287	-0.0792	-0.0381	0.0675
	(0.0492)	(0.0577)	(0.0541)	(0.0639)
1. Birth quarter	9.90e-07	-0.0833	0.0259	0.113**
	(0.0401)	(0.0507)	(0.0474)	(0.0524)
3. Birth quarter	0.0377	-0.0207	-0.0334	-0.0854*
	(0.0325)	(0.0431)	(0.0431)	(0.0482)
4. Birth quarter	0.0568	-0.0186	-0.0644	-0.167**
	(0.0537)	(0.0702)	(0.0688)	(0.0740)
Year 2014	-0.0877	-0.0273	0.109	0.304**
	(0.0975)	(0.125)	(0.123)	(0.128)
Observations	6,542	4,486	4,345	4,102

R-squared	0.023	0.014	0.011	0.009
Father college				
TREATMENT	-0.0148	-0.0439	0.0261	-0.153*
	(0.0649)	(0.0620)	(0.0659)	(0.0817)
TREAT|CONTR	0.00735	-0.0485	0.00909	-0.00173
	(0.0692)	(0.0799)	(0.0764)	(0.0921)
1. Birth quarter	0.0262	-0.0374	0.0752	0.134*
	(0.0565)	(0.0708)	(0.0676)	(0.0740)
3. Birth quarter	-0.00634	-0.00804	-0.0420	-0.0861
	(0.0455)	(0.0586)	(0.0588)	(0.0652)
4. Birth quarter	0.00955	-0.0308	-0.0707	-0.165
	(0.0756)	(0.0965)	(0.0944)	(0.103)
Year 2014	0.0217	0.0415	0.145	0.463**
	(0.139)	(0.173)	(0.173)	(0.181)
Observations	3,061	2,318	2,201	2,066
R-squared	0.027	0.021	0.024	0.021
Father no college				
TREATMENT	0.0491	0.0251	0.110	0.0788
	(0.0610)	(0.0675)	(0.0708)	(0.0890)
TREAT|CONTR	0.0485	-0.0794	-0.0558	0.159*
	(0.0712)	(0.0846)	(0.0786)	(0.0909)
1. Birth quarter	-0.00966	-0.0969	0.0154	0.105
	(0.0576)	(0.0737)	(0.0679)	(0.0752)
3. Birth quarter	0.0810*	-0.0621	-0.0422	-0.0886
	(0.0472)	(0.0656)	(0.0642)	(0.0727)

4. Birth quarter	0.0961	-0.0409	-0.102	-0.148
	(0.0778)	(0.104)	(0.103)	(0.108)
Year 2014	-0.153	-0.0151	0.154	0.190
	(0.139)	(0.184)	(0.179)	(0.185)
Observations	3,298	2,094	2,081	1,989
R-squared	0.037	0.026	0.016	0.014

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month, dummies for age of child in months and constant included. DV: dependent variable; childcare responsibility defined as binary variable equal to 1 if respondent answered that the mother (relative to the father) takes main responsibility for childcare in the couple.

Table B 6. Regression discontinuity and difference-in-differences analysis: Reform effect on (log) desired work hours of mothers.

	Wave 5 (2016)	**Wave 6 (2017)**	**Wave 7 (2018)**	**Wave 8 (2019)**
All parents				
TREATMENT	0.110*	0.0731	0.0426	0.0862
	(0.0656)	(0.0830)	(0.0864)	(0.135)
TREAT|CONTR	0.204**	-0.0205	0.152	0.0234
	(0.0824)	(0.110)	(0.101)	(0.147)
1. Birth quarter	0.147**	0.0385	-0.0637	-0.0989
	(0.0708)	(0.0930)	(0.0859)	(0.132)
3. Birth quarter	-0.0726	0.0383	0.102	-0.0125
	(0.0568)	(0.0793)	(0.0797)	(0.117)
4. Birth quarter	-0.188**	0.00518	0.245*	0.0534
	(0.0925)	(0.128)	(0.125)	(0.181)

Year 2014	0.343**	-0.115	-0.325	-0.311
	(0.167)	(0.236)	(0.216)	(0.303)
Observations	1,959	842	817	623
R-squared	0.035	0.054	0.060	0.058
Father college				
TREATMENT	0.212**	0.202*	0.117	0.203
	(0.0869)	(0.115)	(0.111)	(0.180)
TREAT|CONTR	0.126	-0.0350	0.189	0.322
	(0.110)	(0.153)	(0.155)	(0.213)
1. Birth quarter	0.0976	0.0943	-0.00657	0.156
	(0.0970)	(0.134)	(0.137)	(0.183)
3. Birth quarter	-0.110	0.0296	-0.0144	-0.230
	(0.0731)	(0.109)	(0.109)	(0.152)
4. Birth quarter	-0.224*	-0.0151	0.132	-0.348
	(0.118)	(0.172)	(0.166)	(0.232)
Year 2014	0.390*	0.132	-0.0505	0.370
	(0.223)	(0.337)	(0.297)	(0.403)
Observations	869	416	409	318
R-squared	0.061	0.128	0.099	0.119
Father no college				
TREATMENT	-0.0101	-0.122	0.00964	-0.133
	(0.102)	(0.128)	(0.141)	(0.210)
TREAT|CONTR	0.260**	0.0214	0.126	-0.231
	(0.123)	(0.166)	(0.155)	(0.233)

1. Birth quarter	0.193*	0.0687	-0.0543	-0.376*
	(0.103)	(0.142)	(0.129)	(0.207)
3. Birth quarter	-0.0625	0.0549	0.154	0.278
	(0.0908)	(0.125)	(0.124)	(0.191)
4. Birth quarter	-0.184	-0.0198	0.249	0.480
	(0.145)	(0.200)	(0.212)	(0.296)
Year 2014	0.385	-0.190	-0.368	-1.178**
	(0.250)	(0.357)	(0.348)	(0.490)
Observations	1,033	413	393	294
R-squared	0.042	0.100	0.077	0.133

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month, dummies for age of child in months and constant included. DV: dependent variable, work hours measured as weekly desired work hours; all values +1 before log transformation to include zero values

Table B 7. Regression discontinuity and difference-in-differences analysis: Reform effect on (log) hours of institutional childcare.

	Wave 5 (2016)	**Wave 6 (2017)**	**Wave 7 (2018)**	**Wave 8 (2019)**
All parents				
TREATMENT	0.183	-0.0473	0.0490	0.0173
	(0.152)	(0.136)	(0.0938)	(0.0831)
TREAT|CONTR	0.267	0.279	0.0274	0.199**
	(0.173)	(0.174)	(0.106)	(0.0893)
1. Birth quarter	0.217	0.216	-0.0540	0.143*
	(0.141)	(0.153)	(0.0926)	(0.0734)

3. Birth quarter	-0.139	0.0836	0.0302	0.0173
	(0.114)	(0.130)	(0.0845)	(0.0672)
4. Birth quarter	-0.222	0.0149	0.0573	-0.0103
	(0.188)	(0.212)	(0.135)	(0.103)
Year 2014	0.585*	0.212	-0.00279	0.107
	(0.342)	(0.376)	(0.241)	(0.179)
Observations	6,635	4,499	4,429	4,104
R-squared	0.131	0.043	0.049	0.018
Father college				
TREATMENT	0.272	0.0391	0.128	0.164
	(0.223)	(0.175)	(0.116)	(0.101)
TREAT|CONTR	0.410*	0.0789	-0.159	0.242**
	(0.238)	(0.225)	(0.135)	(0.114)
1. Birth quarter	0.337*	0.111	-0.0233	0.136
	(0.194)	(0.200)	(0.119)	(0.0918)
3. Birth quarter	-0.165	0.0978	0.0209	-0.0382
	(0.156)	(0.165)	(0.104)	(0.0805)
4. Birth quarter	-0.373	-0.0377	0.0284	0.0152
	(0.260)	(0.272)	(0.166)	(0.128)
Year 2014	0.927*	0.0802	0.0252	0.0867
	(0.479)	(0.487)	(0.305)	(0.223)
Observations	3,058	2,320	2,202	2,063
R-squared	0.180	0.042	0.046	0.030

Father no college				
TREATMENT	-0.0421	-0.143	-0.0181	-0.144
	(0.219)	(0.215)	(0.150)	(0.134)
TREAT|CONTR	0.135	0.514*	0.366**	0.189
	(0.256)	(0.269)	(0.167)	(0.138)
1. Birth quarter	0.121	0.302	-0.0388	0.145
	(0.207)	(0.234)	(0.144)	(0.114)
3. Birth quarter	-0.147	0.0815	0.0173	0.0937
	(0.170)	(0.208)	(0.136)	(0.110)
4. Birth quarter	-0.0882	0.0601	0.0345	-0.0121
	(0.279)	(0.331)	(0.218)	(0.163)
Year 2014	0.363	0.325	0.0432	0.0684
	(0.500)	(0.584)	(0.380)	(0.279)
Observations	3,313	2,092	2,081	1,988
R-squared	0.110	0.070	0.071	0.031

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month dummies, dummies for age of child in months and constant included. DV: dependent variable; childcare hours measured as weekly hours; all values +1 before log transformation to include zero values.

Table B 8. Regression discontinuity and difference-in-differences analysis: Reform effect on desired (log) hours of institutional childcare.

	Wave 5 (2016)	**Wave 6 (2017)**	**Wave 7 (2018)**	**Wave 8 (2019)**
All parents				
TREATMENT	-0.0487	0.122	0.118	0.0391
	(0.158)	(0.124)	(0.0858)	(0.0598)

TREAT|CONTR	0.176	0.0596	0.0854	0.104
	(0.180)	(0.159)	(0.0971)	(0.0631)
1. Birth quarter	0.217	0.164	0.0142	0.0466
	(0.146)	(0.139)	(0.0848)	(0.0517)
3. Birth quarter	0.00564	0.00626	-0.0956	0.0514
	(0.119)	(0.119)	(0.0772)	(0.0481)
4. Birth quarter	0.0697	0.0212	-0.0483	0.0940
	(0.197)	(0.194)	(0.124)	(0.0740)
Year 2014	0.178	0.135	0.111	-0.112
	(0.357)	(0.344)	(0.221)	(0.128)
Observations	6,279	4,392	4,315	3,901
R-squared	0.083	0.036	0.021	0.011
Father college				
TREATMENT	0.0502	0.292*	0.272**	0.162**
	(0.230)	(0.160)	(0.107)	(0.0725)
TREAT|CONTR	0.239	0.0419	-0.0655	0.0544
	(0.247)	(0.205)	(0.124)	(0.0816)
1. Birth quarter	0.286	0.204	0.0325	0.0121
	(0.200)	(0.182)	(0.110)	(0.0651)
3. Birth quarter	-0.0858	-0.0769	-0.0858	-0.0218
	(0.162)	(0.151)	(0.0954)	(0.0578)
4. Birth quarter	-0.157	-0.0801	-0.0322	-0.00889
	(0.270)	(0.249)	(0.153)	(0.0913)
Year 2014	0.376	0.204	0.166	-0.0307
	(0.496)	(0.444)	(0.280)	(0.161)

Observations	2,931	2,282	2,171	1,983
R-squared	0.103	0.041	0.030	0.019
Father no college				
TREATMENT	-0.265	-0.125	-0.0392	-0.133
	(0.230)	(0.199)	(0.139)	(0.0972)
TREAT|CONTR	0.0805	0.143	0.348**	0.179*
	(0.269)	(0.250)	(0.155)	(0.0967)
1. Birth quarter	0.0993	0.103	0.00201	0.0883
	(0.216)	(0.217)	(0.134)	(0.0803)
3. Birth quarter	0.0357	0.150	-0.110	0.154*
	(0.179)	(0.193)	(0.126)	(0.0788)
4. Birth quarter	0.226	0.172	-0.0270	0.226*
	(0.297)	(0.308)	(0.203)	(0.118)
Year 2014	0.0160	-0.0202	0.0441	-0.230
	(0.528)	(0.543)	(0.355)	(0.200)
Observations	3,102	2,024	2,005	1,865
R-squared	0.083	0.055	0.038	0.027

Source: KiBS panel data W5-W8. Notes: Linear regression coefficients reported with standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Included are children born between Jan 1st 2014 and Sept. 30th 2015 and living with both biological parents in the household. Children in TREATMENT group are born between July 1st 2015 and Sept. 30th 2015. Children in TREATCONTR group are born between April 1st 2015 and September 30th 2015. Reference categories: 2. birth quarter and year 2015. Additional control variables for interview month dummies, dummies for age of child in months and constant included. DV: dependent variable; desired childcare hours measured as weekly hours; all values +1 before log transformation to include zero values.

9 List of Figures and Tables