

Maternal employment effects of paid parental leave

Annette Bergemann

Regina T. Riphahn

The Institute for Evaluation of Labour Market and Education Policy (IFAU) is a research institute under the Swedish Ministry of Employment, situated in Uppsala.

IFAU's objective is to promote, support and carry out scientific evaluations. The assignment includes: the effects of labour market and educational policies, studies of the functioning of the labour market and the labour market effects of social insurance policies. IFAU shall also disseminate its results so that they become accessible to different interested parties in Sweden and abroad.

Papers published in the Working Paper Series should, according to the IFAU policy, have been discussed at seminars held at IFAU and at least one other academic forum, and have been read by one external and one internal referee. They need not, however, have undergone the standard scrutiny for publication in a scientific journal. The purpose of the Working Paper Series is to provide a factual basis for public policy and the public policy discussion.

More information about IFAU and the institute's publications can be found on the website www.ifau.se

ISSN 1651-1166

Maternal employment effects of paid parental leave^a

by

Annette Bergemann^b and Regina T. Riphahn^c

March 23, 2020

Abstract

We study the short, medium, and long run employment effects of a substantial change in the parental leave benefit program in Germany. In 2007, a means-tested parental leave transfer program, which had paid benefits for up to two years, was replaced by an earnings related transfer, which paid benefits for up to one year. The reform generated winners and losers with heterogeneous response incentives. We find that the reform sped up the labor market return of all mothers after benefit expiration. Likely pathways for this substantial reform effect are changes in social norms and mothers' preferences for economic independence.

Keywords: female labor supply, maternal labor supply, parental leave, parental leave benefit, child-rearing benefit

JEL-codes: J13, J21

^a We thank Jerome Adda, Joseph Altonji, Martha Bailey, Pedro Carneiro, Kamily Cygan-Rehm, Christian Dustmann, Eric French, Stephen Kastoryano, Patrick Kline, Daniel Kuehnle, Shelly Lundberg, Chris Muris, Sarah Smith, Toni Stocker, Michèle Tertilt, Trine Engh Vattø, Gerard van den Berg, Andrea Weber, Frank Windmeijer, participants of the SFB 884 Research Conference "Evaluation of Political Reforms", Internal Workshop of Empirical Economists and Sociologists, 2013 workshop of the Marburg Center for Institutional Economics (MACIE), ZEW Family Economics Workshop, Norwegian-German Seminar at cesifo, ZEW Family Policy Workshop, econometrics group of the German Economic Association, Seminar at Aarhus University, annual conference of the European Society of Population Economics in Braga, LASER center at the University of Erlangen-Nuremberg, University Osnabrück, Melbourne Institute, University of Auckland, annual conference of European Association of Labour Economists in Ljubljana, Seminar at IZA, Royal Economic Society Conference in Bristol, Seminar at the Copenhagen Business School and Seminar at the University of Groningen for helpful discussions, and Alexandra Spitz-Oener and Alexandra Fedorets for sharing their data with us. Viola Ackfeld, Anna Hammerschmid, Isabel Stockton and Sam Drew provided very able research assistance

^b corresponding author: University of Bristol, Department of Economics, Priory Road Complex, Priory Road, BS8 1TU, Bristol, United Kingdom, Email: annette.bergemann@bristol.ac.uk, Phone: +44 (0) 117 331 7909

^c Friedrich-Alexander University Erlangen-Nürnberg, Lange Gasse 20, 90403 Nürnberg, Germany, Email: regina.riphahn@fau.de, Phone: +49-(0)911-5302-826

Table of contents

1	Introduction	3
2	Institutions and Hypotheses.....	8
2.1	Institutional Background	8
2.2	Expected Labor Supply Responses to the Reform.....	11
3	Data and Empirical Approach	12
3.1	Description of the data.....	12
3.2	Empirical Approach.....	17
4	Results	23
4.1	Nonparametric and Graphical Results	23
4.2	Estimation Results: Before-After Comparisons	25
4.3	Heterogeneity in before-after effects: hypotheses and results	30
4.4	Robustness Tests.....	42
5	Conclusions	48
	References.....	51
	Appendix.....	57

1 Introduction

Paid and unpaid parental leave is high on the political agenda in many industrialized countries. A large number of countries in Europe has installed parental leave benefits with heterogeneous characteristics. In other countries, the introduction or extension of such programs is intensely discussed. In this paper, we exploit a major reform of a paid parental leave program to identify the causal effect of paid parental leave on the labor market attachment of recent mothers.

Parental leave regulations are typically characterized by the duration of employment protected parental leave and by the generosity of parental leave benefits in terms of transfer amount, duration, and eligibility. These regulations vary between countries and within countries over time.¹ Even though a growing literature studies the causal relationship between parental leave and maternal labor market outcomes, mothers' behavioral responses are still not well understood. Some studies find strengthened labor market attachment in response to more generous or newly introduced parental leave while others conclude the opposite; Rossin-Slater (2018) argues that leave duration may be crucial. A number of authors show that the availability of (paid) parental leave can increase employment rates (see Berger and Waldfogel 2004, Burgess et al. 2008, Rossin-Slater et al. 2013, Byker 2014, and Baum and Ruhm 2016). On the other hand, a substantial part of the literature disagrees. Studies for Canada, Austria, Germany, Norway and Sweden report that mothers

¹ For recent surveys see Olivetti and Petrongolo (2017) and Rossin-Slater (2018).

increase the time spent at home when parental leave is extended and that the availability of leave weakens their short-term labor force attachment.²

This paper uses a fundamental reform of the parental leave benefit program in Germany to identify its causal effect on maternal employment after childbirth. Before the reform, German mothers could claim "child-rearing benefits" conditional on a means test; the benefits typically paid 300 Euro per month for up to 24 months after childbirth. The new system follows the Swedish model (Ekberg, Eriksson and Friebe, 2013). Since the reform benefits are available to all parents without a means test. The benefits now generally replace 67 percent of last net earnings, with minimum and maximum amounts fixed at 300 and 1,800 Euro per month. These benefits are paid for 12 months (plus two months for a partner).

As the reform is a major revision of the German parental leave policy, it allows us to identify causal effects that are difficult to identify in scenarios of only minor institutional adjustments. In particular, we study the effects of an introduction of parental leave benefits for some mothers (the 'winners' or new benefit recipients) and of a shortening of parental leave benefits for others (the 'losers' or prior benefit recipients); both changes occur simultaneously and in the same economic environment.

Among the few studies looking at the introduction of paid parental leave are Sánchez-Mangas and Sánchez-Marcos (2008) for Spain or Rossin-Slater et al. (2013) for California. A much larger literature covers changes in benefit durations (see e.g., Hanratty and Trzcinski (2009) and Baker and Milligan (2008b) for Canada, Lalive and Zweimüller (2009)

² See, e.g., Olivetti and Petrongolo (2017), Baker and Milligan (2008a, 2008b), Hanratty and Trzcinski (2009), Lalive and Zweimüller (2009), Lalive et al. (2014), Dustmann and Schönberg (2012), Schönberg and Ludsteck (2014), Dahl et al. (2016), Liu and Nordstrom Skans (2010) and Karimi, Lindahl and Skogman Thoursie (2012).

and Lalive et al. 2014 for Austria, and Dahl et al. (2016) for Norway). The elements of the reform render our contribution most similar to Lalive et al. (2014), who study the effects of a shortening and an extension of the duration of cash benefit payments for Austria. In contrast to their study where the reforms occurred consecutively, our reform constitutes a program change that simultaneously reduces the duration of payment for one group and introduces payments for another group. Overall, the German reform is of interest to many countries with similar policies and adds new evidence compared to extant studies of prior reforms by Dustmann and Schönberg (2014) and Schönberg and Ludsteck (2014).³

To address the effect of parental leave benefits on maternal employment we compare the labor market outcomes for mothers of children born under the old and the new benefit regimes over the short, medium, and long term. In order to account for impacts of the business cycle and general trends, we conduct a sensitivity analysis that combines the discontinuity approach with a difference-in-differences (DID) framework: we compare the adjustment in the reform period for recent mothers with that of mothers of older children who are not directly affected by the reform. We apply duration models to flexibly describe the determinants of the timing of post-birth events.

Several contributions have already investigated the 2007 reform: Kluve and Tamm (2013) and Kluve and Schmitz (2018) found an employment

³ Due the simultaneous introduction of earning related parental leave and daddy months, we cannot separate the evaluation of these two institutions. Ekberg, Eriksson and Friebe (2013) and Karimi, Lindahl and Skogman Thoursie (2012) are, however, able to investigate the effect of the introduction of the first daddy-months in Sweden. Their findings suggest that the introduction had no effect on female employment in the short run. But they suspect that it might induce a long-term shift in norms. See also our section 4.3 on mechanism. In fact, Sweden was the first country that introduced general paternity leave rights in 1974. At that time mother and father were allowed to share six months of parental leave (Olivetti and Petrongolo, 2017).

decline in year one after childbirth and an increase thereafter using cross-sectional data. The authors discuss employers' responses and suggest that the definition of a point of "natural" return to the labor force could be the driving force. They do not discuss nor investigate the relevance of other channels. In addition, their data is cross-sectional and does not provide information on labor earnings of either parent. As we have information on pre-reform gross and net earnings of both spouses, we can characterize more precisely whether couples benefited from the reform and thus more reliably separate winners and losers.⁴ In addition, Geyer et al. (2015) estimate a structural labor supply model for mothers and consider outcomes up to two years after childbirth.

We go beyond these papers in various ways. First and most importantly, we apply rich survey data, which allow us to differentiate the heterogeneous effects for 'winners' and 'losers' of the reform. Our analyses would not be possible with administrative data, which do not provide information at the household level. Second, our data allow us to assess the mechanisms of how mothers respond to incentives in parental leave programs. Third, prior studies use cross-sectional data which observe mothers only at one point in time and cannot follow the path to labor force participation. In contrast, we apply event study methods that allow us to carefully model the employment dynamics after childbirth, which we combine in a sensitivity analysis with a difference-in-differences approach.

We find that the reform yielded strong labor supply responses. During benefit receipt, i.e., in year one after childbirth, the rate of returning to the

⁴ In section 4.2, we compare the estimation results obtained using the Kluve and Schmitz (2018) approximation to spousal earnings versus our detailed calculations.

labor force declined (insignificantly) for new benefit recipients, i.e., the winners of the reform, whereas prior benefit recipients, i.e. the losers of the reform, hardly responded to the reform. At benefit expiration (month 12), prior benefit recipients' hazards of returning to the labor force increased by a factor three after the reform. Among new benefit recipients, the reform generated a large and significant increase in the rate of returning to the labor force at the time of benefit expiration. The overall time until an average mother with (without) prior claims to benefits returns to the labor force after childbirth declined by 10 (8) months, at the median after the reform. We show that likely pathways for this substantial reform effect are changes in social norms and mothers' preferences for economic independence.

The paper develops as follows. In section two, we describe the institutional background and discuss the expected reform effects. Section three describes the data and our empirical approach. We present the results and robustness tests in section four. Section five concludes.

2 Institutions and Hypotheses

2.1 Institutional Background

German parental leave regulations were introduced in the early 1950s and have been modified many times since (see, e.g., Dustmann and Schönberg 2012). The last major reform affected births after Dec. 31, 2006 and had three main objectives: to financially support all young families, to strengthen mothers' incentives to return to work after childbirth, and to enhance paternal involvement in child care. Even though German fertility was very low (TFR of 1.34 in 2005) this was not an official motivation for the reform.

Three German family policy programs are relevant for our analysis. First, maternity leave (Mutterschutz) and maternity benefits (Mutterschaftsgeld) are available six weeks before and up to eight weeks after childbirth. In that period mothers are not allowed to work and their job is protected, i.e., they cannot be laid off. Those employed before maternity leave birth continue to receive their full net earnings, while those not employed prior to birth receive no benefits. Second, parents can take parental leave (Elternzeit). Employers must guarantee a parent's job for up to 3 years after birth. Couples are free to choose which partner uses the leave.

As a third institution, child-rearing benefits (Erziehungsgeld) were government transfers paid to one parent prior to the reform. These benefits were means tested and paid a maximum of 300 Euro per month for up to 24 months (regular benefit version) or, alternatively, 450 Euro per month for 12 months (budget version); however only a minority of parents (13 percent in 2006) used the budget version (RWI 2008). The eligibility

criteria of the means test relate to the expected family income in years one and two after childbirth.⁵ In principle, recipients of child-rearing benefits could work part-time, however, as labor earnings counted against the means test the benefit scheme created strong disincentives for labor force participation. Only "mini-jobs", i.e., subsidized marginal employment with earnings below 400 Euro per month, did not count against the means test.

The parental leave benefit reform of 2006 changed this third institution leaving maternity leave, maternity benefits, and parental leave unaltered. Parents of children born on or after January 1, 2007 are entitled to "parents' money" (Elterngeld) instead of child-rearing benefits (Erziehungsgeld). The new benefit generally amounts to two-thirds of average net earnings in the 12 months prior to the birth, of the parent who does not work after birth. Parents employed part-time or in marginal employment (mini-job) after childbirth receive 300 Euro per month as a minimum and up to two-thirds of the decline in earnings, if a reduction in hours worked occurred after childbirth. A minimum benefit of 300 Euros per month is provided also to those not previously employed. The maximum benefit is 1,800 Euro per month. One parent can receive the benefit for up to 12 months, with a second parent able receive the benefit for an additional two months of employment interruption. Couples are free

⁵ Parents were eligible for full child-rearing benefits if their annual net income was below a threshold. If net income exceeded the threshold payouts were reduced. The thresholds differed for couples and single parents and varied with the number of children in the household. They also differed for benefits to be paid in months 1-6 vs. 7-24. In addition, the income concept on which eligibility is based differs for months 1-12 and 13-24, resulting in different eligibility rules for months 1-6, 7-12, and 13-24. Benefit eligibility in months 1-12 (13-24) after the birth was based on the income of the father in the calendar year prior to (after) birth and the current income of the mother.

to split the available 14 months of benefits between themselves. Single parents can receive the benefit for 14 months.⁶

In terms of transfer amounts the new benefit is more generous than the prior means-tested benefit. In terms of transfer duration the new benefit is less generous, only running for 12-14 months, instead of up to 24 months.⁷ Before the reform, part-time employment during benefit receipt was considered in the means test. The reform abolished the means test and thus strengthened work incentives.⁸

Another relevant institution is child care. While child care has been widely available for children aged between three and six, care for children under three was lacking in West Germany: in 2006, less than eight percent of children under three attended public child care in West, compared to nearly fifty percent in East Germany. In response, political agreements of 2005, 2007, and 2008 called for an increase in child care provision to guarantee availability by 2013 (for details see Bauernschuster et al. 2016). Consequently child care availability for children under three increased over time, from coverage rates of 13.6 in 2006 to 27.6 percent in 2012, with substantial variation at the county level (BMFSFJ 2015).

⁶ It is possible to double the eligibility duration of the new parental leave benefit if the monthly benefit is cut in half; only about ten percent of recipients use this option (STBA 2013).

⁷ As of 2006, about 77 percent of families received child-rearing benefits for one year and 53 percent for two years (RWI 2007). After the reform, almost 100 percent of all families received parents' money (STBA 2008); thus the share of beneficiaries in year one after a birth increased by about 23 percentage points while all prior year two recipients lost their benefits. A substantial share of prior recipients of only year one benefits may have benefitted from increased amounts, as only 25 percent of fathers and about 50 percent mothers received the post reform minimum of 300 Euro parents' money. All others received higher amounts (STBA 2008).

⁸ One might be concerned about general equilibrium labor supply effects of the reform. However, overall fertility in Germany is very low and only a small number of families was affected by the reform. Considering the time that equilibrium effects might take to materialize we do not expect such effects to bias our estimation results.

2.2 Expected Labor Supply Responses to the Reform

We are interested in the effect of the reform on maternal labor force participation. Given the institutional change, behavioral adjustments can differ (i) for the first 12 months after childbirth, i.e., the time of benefit payout, and the period afterwards and (ii) for mothers who would have received child-rearing benefits prior to the reform (prior recipients, reform losers) and those who would not have received pre-reform benefits (new recipients, reform winners). Next, we discuss the responses that we expect in the framework of an inter-temporal model of labor supply (see, e.g., Klerman and Leibowitz 1999).

For the first 12 months after childbirth all prior recipients continue to be eligible, and parents who failed the means tests before are newly eligible. Among the new recipients, we expect a drop in labor force participation. For prior recipients transfer amounts may now increase beyond 300 Euro per month, which may reduce labor force participation after birth and possibly increase reservation wages. On the other hand, the abolition of the means test renders employment more attractive already in year 1 after birth. Also, the transfer now ends already after 12 instead of 24 months which might generate an incentive to reconnect to the labor market faster as prior recipients may lose a substantial part of their household income. Overall, we cannot derive a clear hypothesis as to whether the labor market attachment of prior recipients in year one after birth goes up or down.

The change in regulations, which occurs after month 12 differently modifies the labor supply incentives of those who previously could and could not claim child-rearing benefits: prior recipients now lose the benefit already after month 12. Due to a negative income effect, we expect

an increase in their labor supply after month 12 compared to the pre-reform situation. In addition, the means-tests on household income are abolished and remove a labor force participation disincentive. New recipients who would not have received a benefit prior to the reform lose their transfer after 12 months. While they should reduce labor supply in the first year after birth after the reform, labor supply models suggest no change in labor market behavior compared to the pre-reform situation after month 12. Thus, at the end of the transfer period their labor supply should increase to its pre-reform level. Alternatively, the newly available benefit may generate a wealth effect: after the reform, and with the benefit, mothers may be able to afford more time out of work than before the reform and without the benefit. In that case, the reform may as well reduce labor force participation after month 12.

3 Data and Empirical Approach

3.1 Description of the data

We use data from of the German Socioeconomic Panel (SOEP), a long running panel study which provides detailed household and individual information (Wagner et al. 2007).⁹ The only disadvantage of the SOEP data is that the number of new mothers with births immediately before and after the reform is limited.

The reform affected all births on or after January 1, 2007. It was first discussed in May 2006 and was passed into law in September 2006. This implies that children born in a window of six months around January 1,

⁹ We use Socio-Economic Panel (SOEP), data for years 1984-2012(2016), version 29(33), SOEP, 2012/2016, doi:10.5684/soep.v29 and doi:10.5684/soep.v33.

2007 were conceived before the details of the reform were available. We consider mothers who gave birth in time windows of equal length before and after the reform. While our main analysis uses 24 months periods, i.e., all births observed in 2005/06 vs. 2007/08 we offer robustness tests with more narrow windows of observations. We consider all births, independent of prior employment of the mother, and censor spells when another birth occurs.

Our dependent variable describes the number of months until a recent mother returns to the labor market. We consider three outcomes: (a) labor force participation, including full- and part-time work, marginal employment, and registered unemployment, (b) substantial employment, i.e., full- and regular part-time employment, and (c) full-time employment. We regard a transition into a labor market state as absorbing. We study the labor market behavior of mothers for up to 42 months after birth. We use information until December 2011. We expect heterogeneous responses for prior and new beneficiaries, i.e. for reform losers and winners. To test our hypotheses, we have to identify the two groups in the data. In order to determine the potential child-rearing benefit eligibility status of mothers, we use information on the household situation, i.e., partnership, number of children, and gross income in the year before childbirth. We consider households to be ineligible for child-rearing benefits if the gross income of the father before childbirth exceeds the threshold.¹⁰ We present sensitivity tests with respect to the determination

¹⁰ The eligibility rules differ for months 1-6, 7-12, and 13-24 after birth. In our analysis, we use the rules for months 7-12 to determine eligibility. In months 7-12 after childbirth, the income of the father over the 12 months before childbirth and the current income of the mother count towards the means test. As maternal post-birth employment may respond to the reform we prefer to rely on paternal pre-birth income. If this paternal income exceeds the means test threshold already, the household will not be eligible. In all other cases, we consider the households to be at least

of the eligibility status which show that our results are robust to modifications in these procedures.

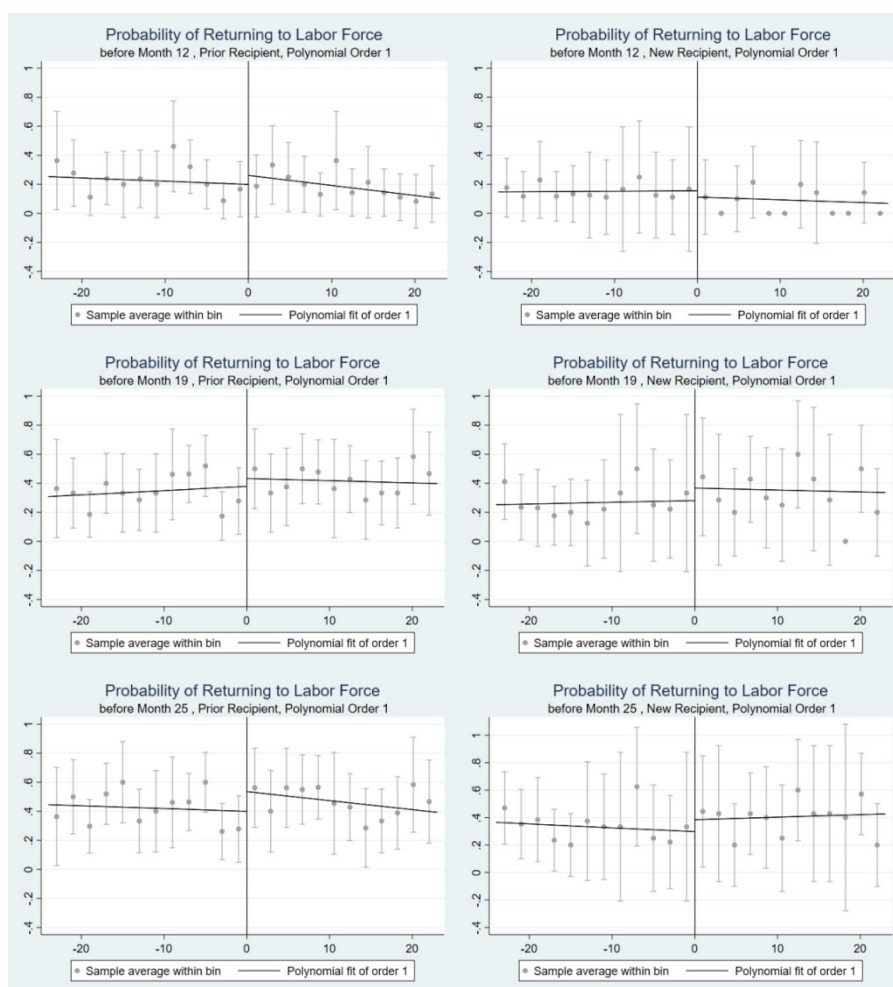
We observe 372 women giving birth before and 313 women giving birth after the reform with valid information on month of birth, monthly employment status, and covariates.¹¹ For our dependent variables we observe 149 / 102 / 51 exits before, and 111 / 84 / 50 exits after, the reform, respectively for the three labor markets states (a-c). To describe our data Figure 1 presents the discontinuity in the cumulative propensity to return the labor force by months 11, 18, and 24 after birth for births before and after the reform, separately for prior and new beneficiaries. Except for new beneficiaries in the first year after birth (see upper right panel) we generally find insignificant increases in labor force participation at the discontinuity. As we are interested in the dynamics of returning to work and given the small sample sizes we do not pursue a discontinuity-type analysis in the main part of our study.

We follow the literature and consider as basic covariates age, region of residence (i.e., East or West), German citizenship, years of education, whether this is a first child, and a single mother. If not indicated otherwise we treat covariates as time constant, measured at the time of childbirth. However, the treatment effect (see next section) is time-varying with the age of the child. Table 1 shows descriptive statistics.

potentially eligible. Based on this procedure we predict that about 64 percent of the mothers in our sample are potentially eligible for the prior child rearing benefit. This is in keeping with actual recipient shares for the births in 2006, where 77 percent of parents were eligible in months 1-6 and 50 percent beyond month 6 (Ehlert 2008).

¹¹ The sample size declines from 568/472 women originally giving birth before/after the reform. One part of the sample size reduction derives from the ex post coding of many of these births in a subsequently interviewed refreshment sample. In these cases, contemporary employment information is unavailable. In other cases, we lack information on key variables. We do not find significant differences between the considered and omitted observations that raise concern.

Figure 1 Observed propensity to return the labor force before months 12, 19, and 25 after birth for prior (left hand side) and new recipients (right hand side)



Note: The running variable is indexed at 0 for births occurring on January 1, 2007, i.e., the reform date. The graph depicts 24 months of birth prior and after the reform. The number of bins was set to 12 before and after the reform even though the available number of observations varies over time.

Source: SOEP (various years).

Table 1.1 Descriptive Statistics on Independent Variables

	Old regime (N = 372 births)			New regime (N = 313 births)	
	Mean	Std. Er.		Mean	Std. Er.
Maternal age in years	30.906	0.302	*	31.674	0.290
Maternal schooling in years	12.700	0.144		12.906	0.151
East Germany (0/1)	0.263	0.023		0.259	0.025
Foreign origin (0/1)	0.089	0.015		0.077	0.015
First child (0/1)	0.487	0.026	**	0.409	0.028
Single mother (0/1)	0.102	0.016		0.089	0.016

	Prior Recipients (N = 441 births)			New Recipients (N = 244 births)	
	Mean	St. Er.		Mean	St. Er.
Maternal age in years	29.816	0.267	***	33.832	0.277
Maternal schooling in years	12.057	0.116	***	14.141	0.173
East Germany (0/1)	0.331	0.022	***	0.135	0.021
Foreign origin (0/1)	0.098	0.014	*	0.057	0.015
First child (0/1)	0.462	0.023		0.430	0.032
Single mother (0/1)	0.147	0.017	***	0.000	0.000

Table 1.2 Additional Descriptive Statistics

	Old regime (N = 338 births)			New regime (N = 307 births)	
	Mean	Std. Er.		Mean	Std. Er.
Gross monthly female income before birth	1005.1	63.5		1036.7	68.0
Gross monthly family income before birth	3496.8	131.3		3494.7	137.7
Female share of family income	0.268	0.016		0.296	0.018

	Prior Recipients (N = 410 births)			New Recipients (N = 235 births)	
	Mean	Std. Er.		Mean	Std. Er.
Gross monthly female income before birth	847.5	48.0	***	1321.4	92.9
Gross monthly family income before birth	2245.8	71.5	***	5676.7	143.4
Female share of family income	0.328	0.017	***	0.200	0.012

Note: In the pre-reform, old regime 239 of 372 mothers were eligible for child-rearing benefits. In the post-reform, new regime 202 of 313 mothers would have been eligible for child-rearing benefits. The income information in the bottom panels is missing for some observations. ***, ** and * indicate statistically significant difference of the subgroup means in a two sided test at the 1, 5, and 10 percent levels.

The samples observed before vs. after the reform do not differ greatly. Mothers in the new regime are slightly older and are more likely to have already had a child, which agrees with overall demographic trends. In contrast, we find substantial differences between prior and new benefit recipients with regard to age, education, area of residence, and single-mother status. This confirms the importance of distinguishing these two groups, to allow for potentially heterogeneous reform effects. We also show gross monthly earnings of mothers and their families, as well as the maternal share of household income prior to childbirth. Average monthly earnings before childbirth are around 800 Euro for prior recipients and 1,300 Euro for new recipients. As expected, monthly family income is lower for the prior recipients. At the same time, the female share in family income is substantially higher among prior recipients, which points towards the significance of benefits for family income for this particular group.

3.2 Empirical Approach

We are interested in mothers' return to the labor force after childbirth, and the effect of the parental leave benefit reform on the timing of this event. We use semi-parametric Cox hazard models to model the time until labor force transition. The main advantages of this method are that it does not impose constraints on the baseline hazard and therefore on duration dependence, it allows us to account for censored observations, and it takes advantage of the full distribution of time to exit from the 'post-birth out of the labor force state'. We allow for time varying treatment effects to make the estimates more easily relatable to individual behavior. In addition, we allow for different baseline hazards for treatment and control groups, and

for prior and new recipients. This accounts for nonproportionalities in the treatment effect.¹²

We model the hazard of the transition out of the 'post-birth out of the labor force' state for females giving birth in the pre- and post-reform periods, 2005/06 and 2007/08. As all spells commence with a birth, there is no left censoring. We observe women in the state 'out of the labor force' until they either return to the labor force or are right censored because they reach the last survey month (December 2011), or the maximum duration in our sample (42 months), experience another birth, or attrit from the survey sample.¹³

We start out with the log hazard of leaving the 'post-birth out of the labor force' state at time t for mother i , conditional on being in this state until time t , $\lambda_i(t)$. Our empirical approach takes two steps. First, we conduct a before-after analysis which evaluates the shift in the baseline hazard after the reform for different parts of the baseline hazard distribution. In step two we apply a difference-in-differences estimation similar to Fortin et al. (2004), comparing women who are and are not affected by the reform. This accounts for effects such as business cycles and aggregate unemployment trends.

Before-after analyses may evaluate a change in the hazard after a reform using a model such as (1) with a constant effect (α) of the reform on the log hazard; the reform indicator ('reform') is coded one for mothers

¹² Clearly, any continuous time hazard rate model can be approximated by a linear regression. However, least squares estimation will not allow us to identify age-, i.e., duration-specific reform effects. In our setting, the Cox model uses the available information in a particularly efficient way.

¹³ We have chosen the upper limit of 42 months in order to include the period of job protection under parental leave (36 months) and the time until a child's entrance to kindergarten that occurs around age three. Cygan-Rehm (2016) shows that the reform affected the timing of second births but not the frequency. By month 42 after the first birth the reform effect just about vanishes. Therefore, our sample restriction should not introduce selection issues.

who gave birth after the reform (January 1, 2007), and zero otherwise. Covariates z control for mechanisms affecting the hazard in addition to the reform. They can be time varying and are assumed to shift the log hazard by a factor β .

$$(1) \quad \lambda_i(t) = \lambda_0(t) + \text{reform}_i \alpha + z_i(t) \beta.$$

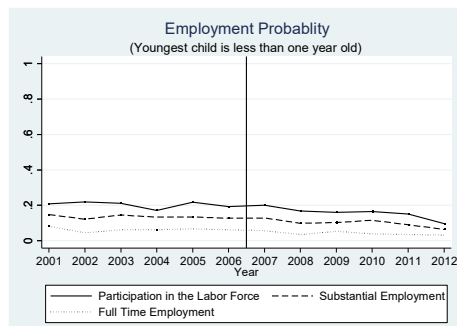
However, we do not expect a constant treatment effect (α) in our case. Instead, we allow the reform effect to vary over the duration of the spell, which here is identical to the age of the child ('age'). Model (2) replaces the reform indicator with a vector of its interaction terms with age to evaluate how the baseline hazard changes after the reform:

$$(2) \quad \lambda_i(t) = \lambda_0(t) + \{\text{reform}_i * \text{age}(t)_i\} \alpha(t) + z_i(t) \beta.$$

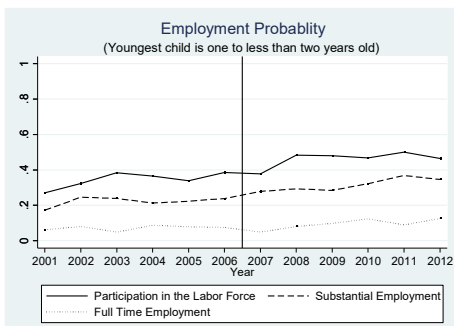
The before-after analysis provides unbiased estimates of the causal reform effect if three conditions apply. First, there should be no anticipation of the reform and fertility in the treatment and control groups must be unaffected by the reform. Ideally, one would compare the behavior of mothers where births occurred randomly in the pre- and post-reform periods. Such a situation is approximated if we consider only births from a short window of time around the reform date (January 1, 2007). Due to sample size restrictions we use a broader time window and test whether results change when the window around the reform date is narrowed.

Figure 2 Employment Probability of Mothers

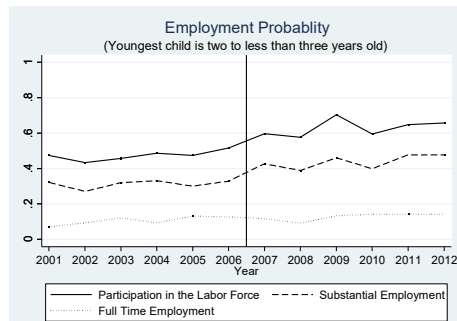
Panel 1



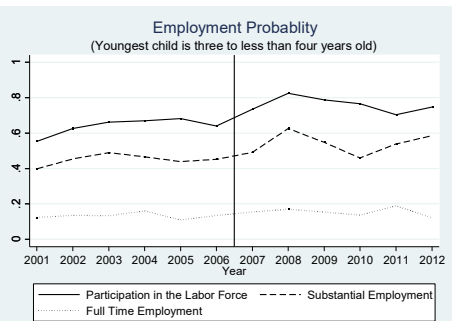
Panel 2



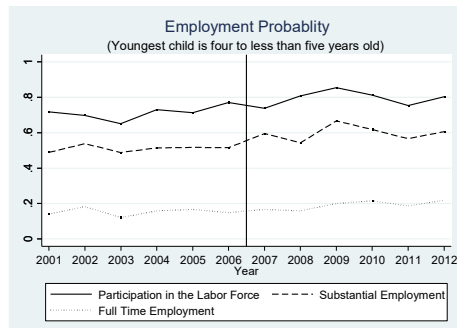
Panel 3



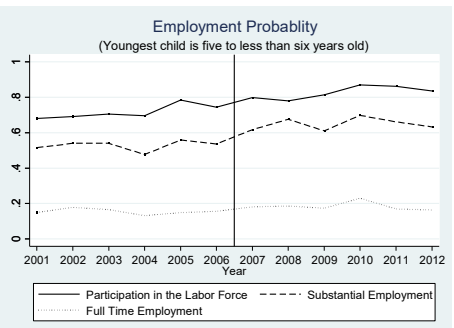
Panel 4



Panel 5



Panel 6



Note: The figures show weighted cross-sectional evidence on the annual share of mothers in a certain type of employment.

Source: SOEP (various years).

As a second condition, seasonality should not affect the difference between pre- and post-reform outcomes. We investigate this in a robustness test. This source of bias becomes less important the wider is

the time-window of observations. Finally, we have to assume that there are no specific time-trends in female return to the labor force for those who are affected by the reform. As an approximation Figure 2 shows the development of maternal employment since 2001, by the age of the youngest child. While recent years show increasing participation, there is no evidence that such trends were important prior to 2007. In our main specification a linear time-trend controls for these developments.

In a sensitivity analysis, we apply a difference-in-differences (DID) estimation to account for any general shifts in return to the labor force that occurred after the reform and might bias our results. There are two mechanisms that might bias our before-after comparison: first, the German labor market witnessed a substantial decline in unemployment after 2005; second, there is a discussion of secular shifts in social norms regarding maternal employment which might affect mothers' labor market return independent of parental leave benefit reforms. It is important to establish that maternal return to the labor force is not just determined by overall shifts in labor demand, or secular cultural shifts. The DID approach can separate both mechanism from the true reform effect. As the treatment group (T) we use women who gave birth shortly before and after the reform date of January 1, 2007. For the control group (C) we consider women who gave birth three years earlier, and are therefore not affected by the reform.¹⁴ Following Fortin et al. (2004), we allow the shift in the post reform hazard, $\alpha(t)$, to consist of one element that describes the causal reform effect, $\alpha_R(t)$, and one that describes general changes in the hazard

¹⁴ We considered using unemployed women, whose children are above age 18 as control group. However, the unemployment benefit duration was shortened (for older unemployed) in 2009, which made this approach infeasible. Also, male unemployed of the same age as the mothers could not be used, as men and women were differentially affected by the recession in 2008.

over time, $\alpha_P(t)$: $\alpha(t) = \alpha_P(t) + \alpha_R(t)$. Now we can describe the models for the treatment and control groups:

$$(3) \lambda_i(t)^T = \lambda_0(t)^T + \{\text{reform}_i * \text{age}(t)_i\} [\alpha_P(t)^T + \alpha_R(t)^T] + Z_i(t) \beta^T$$

$$(4) \lambda_i(t)^C = \lambda_0(t)^C + \{\text{reform}_i * \text{age}(t)_i\} [\alpha_P(t)^C + \alpha_R(t)^C] + Z_i(t) \beta^C.$$

Generally, the two elements of the post reform shift, $\alpha_P(t)^j$ and $\alpha_R(t)^j$ for $j = T, C$, are not separately identified. The before-after approach assumes that $\alpha_P(t)^T = 0$ and $\alpha_R(t)^C = 0$. In the DID framework we assume that the overall time effects are identical for the two groups, i.e., $\alpha_P(t) = \alpha_P(t)^T = \alpha_P(t)^C$.¹⁵ To keep things simple, we let $\beta = \beta^T = \beta^C$. If we set an indicator 'treat' to one for treatment and to zero for control observations, we obtain the following model:

$$(5) \lambda_i(t) = \lambda_0(t)^C + \text{treat}_i [\lambda_0(t)^T - \lambda_0(t)^C] \\ + \{\text{reform}_i * \text{age}(t)_i\} \alpha_P(t) + \{\text{reform}_i * \text{age}(t)_i\} * \text{treat}_i \alpha_R(t)^T + Z_i(t) \beta.$$

Line one of Equation (5) gives the baseline hazard for the two subsamples. In line two we consider a possible general shift in the hazard after the reform, which equally affects treatment and control groups ($\alpha_P(t)$). The causal reform effect on the treated is estimated by $\alpha_R(t)^T$ if there are no heterogeneous uncontrolled time trends for treatment and control groups. Note that we underestimate the true reform effect. Our sample is too small and has too few multiple spells to credibly account for the distribution of unobserved heterogeneity. The assumption of no unobserved heterogeneity within a hazard rate model with a very flexible baseline hazard tends to bias the estimated hazard ratios towards one (see Ridder

¹⁵ Figure 2 shows the time trends in employment for mothers of recent births and three years olds in Panels 1 and 4. In both cases the time trends are roughly flat, which strengthens the credibility of the parallel trends assumption.

1987, Van den Berg 2001). As such we estimate lower bounds of the true reform effect.

4 Results

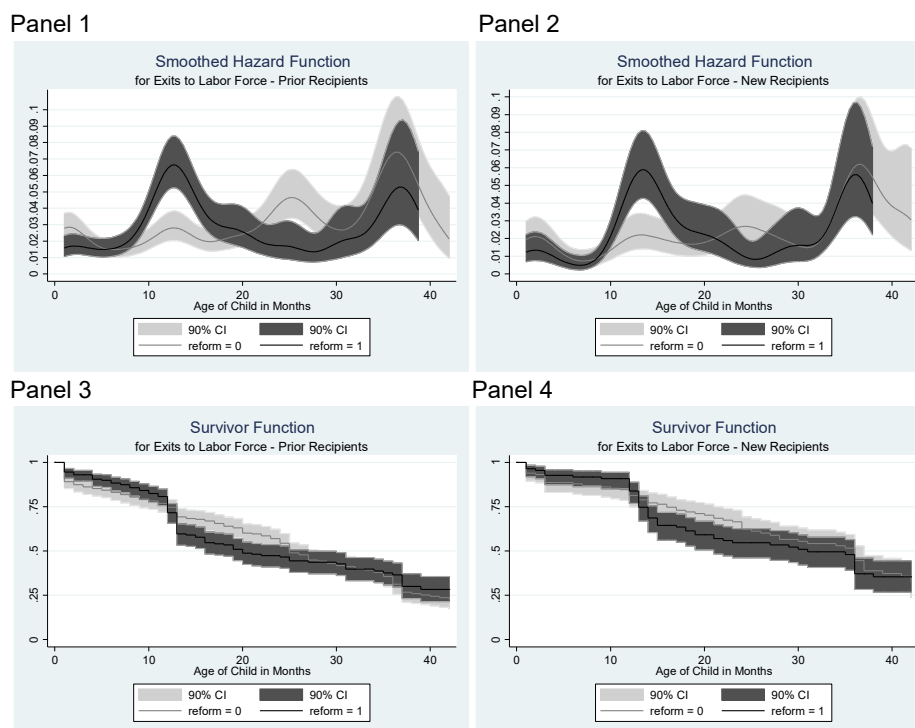
4.1 Nonparametric and Graphical Results

Figure 3 describes the development of maternal labor force participation after birth, before and after the reform. It shows smoothed hazards and survivor functions separately by maternal child-rearing benefit eligibility before the reform, i.e., for prior and for new recipients, the reform losers and winners.¹⁶

Before the reform, exit rates of prior recipients (see grey areas in Panels 1 and 2) peaked after 2, 12, 24, and 36 months. These peaks are likely related to the end of maternity leave (8 weeks), the earliest entry age to formal childcare (typically 1 year), the end of child-rearing benefits and eased child care access (2 years), and the end of job protection under the parental leave program plus the guaranteed access to child care (3 years). The reform changed this pattern. Now, for both groups of mothers' exit rates fall in the first few months after birth and increase significantly around month 12, relative to the pre-reform situation. Subsequent exit rates fall, with the month 24 peak disappearing. At month 36 exit rates peak again.

¹⁶ We show figures for the two other labor force participation indicators in the appendix. The patterns are similar but show lower exit hazards.

Figure 3 Labor Force Participation Behavior of Mothers after Childbirth



Note: Panels 1 and 3 use 441 observations and Panels 2 and 4 244 observations. Panels 1 and 2 use a Gaussian kernel without boundary correction and a bandwidth of 2 months.

The survivor functions describe the probability of staying out of the labor force after birth. For prior recipients (see Panel 3), this probability increased in year one after childbirth; however, at the end of the new benefit payment period it falls below prior levels for about one year. After the child reaches age two, the survival probability is similar to the pre-reform level. For prior recipients the decline in the survivor function in year two matches the expected increase in labor supply.

Panels 2 and 4 show the behavior of new benefit recipients. The pre-reform peaks in exit rates at months 12 and 24 are much smaller than for prior recipients, most likely because there are no expiring child-rearing

benefits for this group. The survivor function in Panel 4 shows that after the reform, the probability of staying out of the labor force increases during year one, then drops well below the pre-reform level in year two, and subsequently converges towards the pre-reform level. The development in year one matches expectations. After year one we predicted that labor supply would return to, or stay below, its pre-reform level. Instead we find an increase in the return to the labor force. The overall net-effect of the reform on long term employment appears to be zero and the impact of the reform thus appears to be intensive rather than extensive. However, the shortened employment interruptions may affect wages, promotion opportunities, and labor market careers in the longer run.

4.2 Estimation Results: Before-After Comparisons

Next, we apply the semi-parametric before-after model with covariates in order to estimate the causal effect of the reform. Due to dynamic selection the non-parametric descriptive hazard rate model cannot be interpreted in a causal way. We use a condensed specification of period-specific hazards. This allows us to estimate the reform effect separately for those who would and would not have been eligible for prior child rearing benefits. We allow for different baseline hazards for the two groups. We present our estimation results in terms of hazard ratios and show the hazard ratios for the post-reform effect of exiting non-employment by the age of the child separately for prior and new recipients. The reference group are mothers of the given recipient status with a child of the same age in the pre-reform period.

Table 2 Hazard Models – Basic Specification

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.004 (0.0113)	1.036*** (0.0131)	1.009 (0.0206)
Maternal schooling in years	1.025 (0.0233)	1.097*** (0.0267)	1.090** (0.0410)
East-Germany	1.561*** (0.184)	1.633*** (0.222)	2.232*** (0.424)
Not German citizenship	0.431*** (0.110)	0.305*** (0.123)	0.317** (0.182)
First child	1.354*** (0.143)	1.562*** (0.185)	1.937*** (0.364)
Single mother	1.108 (0.198)	0.644* (0.154)	0.820 (0.243)
Time trend	0.991 (0.00722)	1.002 (0.00806)	0.992 (0.0122)
Reform&1-11 months& prior recipient	1.007 (0.279)	0.907 (0.305)	1.384 (0.631)
Reform&12-14 months& prior recipient	3.364*** (1.089)	1.812 (0.672)	2.828* (1.568)
Reform&15-21 months& prior recipient	1.993* (0.752)	1.082 (0.464)	2.064 (1.410)
Reform&22-25 months& prior recipient	0.536 (0.276)	0.888 (0.417)	3.502 (2.710)
Reform&26-36 months& prior recipient	0.575 (0.248)	0.666 (0.297)	1.078 (0.596)
Reform&37-42 months& prior recipient	1.160 (0.571)	1.446 (0.870)	0.913 (0.670)
Reform&1-11 months& new recipient	0.741 (0.313)	0.670 (0.299)	1.404 (1.260)
Reform&12-14 months& new recipient	3.819*** (1.589)	2.274* (0.986)	1.462 (1.215)
Reform&15-21 months& new recipient	2.060 (0.983)	1.159 (0.595)	6.110 (7.211)
Reform&22-25 months& new recipient	0.504 (0.416)	0.485 (0.418)	0.467 (0.573)
Reform&26-36 months& new recipient	1.412 (0.613)	0.980 (0.462)	0.419 (0.518)
Reform&37-42 months& new recipient	0.225 (0.238)	0.165* (0.176)	0.224 (0.258)
Number of Subjects	685	685	685

Note: Exponentiated coefficients; standard errors of the exponentiated coefficients calculated using the delta method in parentheses, clustered at the individual level. In all estimations baseline hazards are stratified by potential child rearing benefit eligibility status. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 2 presents the estimation results for the three outcomes.¹⁷ We do not find statistically significant reform effects for the exit rates in the first 11 months for either group; however, generally exit hazards fall for new benefit recipients after the reform, as expected. The estimations yield mainly significant reform effects around month 12 after birth for both groups.¹⁸ Mothers who would have been eligible for the pre-reform benefit show an increased exit rate when the new benefit expires.

New recipients show mostly significant increases in the exit rates in months 12-14. This increase in exit rates is particularly large for overall labor force participation and substantial employment. For months 15-21 we find increased exit rates to the labor force for both groups after the reform. At later periods the exit hazards are generally reduced. However, the latter patterns are not precisely estimated.¹⁹

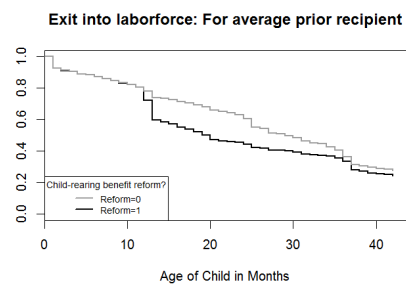
¹⁷ Due to small sample size we categorize monthly indicators in groups. The estimates for the covariates mainly have the expected signs: those in East Germany and with a first child return to the labor market faster and those without German nationality more slowly. We find no statistically significant time trend. In separate estimations, we found that the results are robust to adding quadratic and cubic time trends (see appendix). Additional years of age and education increase exit rates and single mothers show a significantly reduced exit rate to substantial employment.

¹⁸ We replicated the approach of Kluve and Schmitz (2018) who approximate the groups of new and old recipients based on tertiles of predicted 2006 total household incomes. When we used the bottom household income tertile to capture prior recipients and top household income tertile to represent new recipients estimation results differed compared to those in Table 2 (see the appendix): the estimated effects for the lower tertile are smaller and less significant than the results in Table 2. In the top tertile the results in months 12-14 decline in magnitude and in part lose significance whereas the effects for months 15-21 are much larger and significant for all three outcomes. Thus, the choice of data and measurement approach matters.

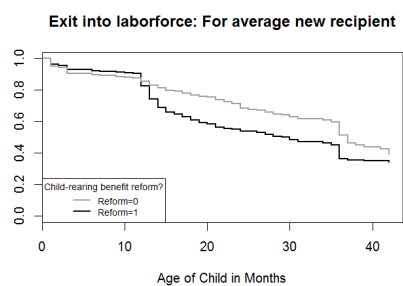
¹⁹ We tested and rejected the hypothesis that the two groups' responses to the reform are significantly different.

Figure 4 Simulated Survivor Curves for Average Prior and New Recipient

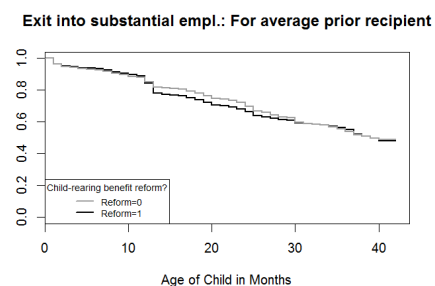
Panel 1



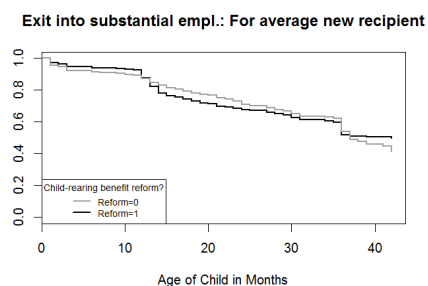
Panel 2



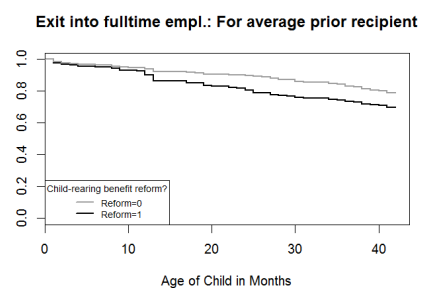
Panel 3



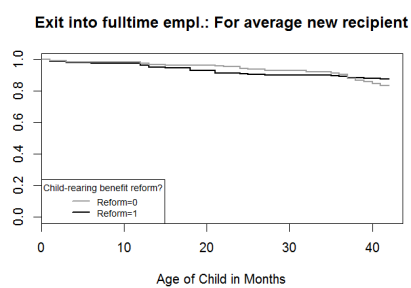
Panel 4



Panel 5



Panel 6



Note: Simulated survivor curves based on estimation results in Table 2.

In order to visualize these reform effects, we simulated the pre- and post-reform survivor functions for prior and new recipients using average characteristics of both groups. Figure 4 describes the predicted survivor functions, separately for prior and new recipients. The reform yields increased exit rates to the labor force starting around month 12 for both groups and all three outcomes. At month 15 the survivor rate has dropped by 14 (15) percentage points for prior (new) recipients (see Panels 1 and 2). The median predicted time for prior recipients to return to the labor force fell by ten months, from 29 to 19 months after the reform (see Panel 1). For new recipients this duration fell by eight months, from 37 to 29 months at the median after the reform (see Panel 2). Due to the generally low employment rates of German mothers we cannot determine the median change for average prior and new benefit recipients: Panels 3-6 show that over the entire period the survivor curves do not cross the median line. The figures show, however, increased full-time employment probabilities after the reform, particularly for prior benefit recipients starting at month 12.

Based on the predicted survivor function, we can sign the cumulative change in the number of hours worked at months 24 or 36. If we assume a constant employment intensity among mothers before and after the reform and apply a 'back-of-the-envelope' calculation, the overall number of hours worked increased both for substantial and full-time employment after the reform. This confirms a strengthened labor market attachment.

We can also calculate in a 'back-of-the-envelope' fashion the elasticities of the probability of remaining out of the labor force after 6, (12), [24], {36} months with respect to income lost if not working during the 24 months after birth see the appendix for details). For prior recipients

these elasticities amount to -0.008, (-1.429), [-1.759], {-0.765} and for new recipients to -0.174, (0.679), [1.389], {1.604}. Prior recipients react in the expected way, i.e. due to a one percent increase in income lost they reduce on average the probability of staying out of the labor force. New recipients react differently. After one year they reduce the probability of staying out of the labor force after a reduction in income lost.

The strong increase in the propensity of newly eligible mothers to return to the labor market after month 12 does not agree with the prediction of no behavioral change or even falling labor supply discussed before. In the next section we explore alternative explanations of this average effect by considering specific mechanisms and subgroups.

4.3 Heterogeneity in before-after effects: hypotheses and results

A number of mechanisms may determine the post-reform labor market choices at the point when benefits run out for mothers who newly receive parental leave benefits. In this section we discuss and evaluate the plausibility of five mechanisms:

- (i) speed premium,
- (ii) paternal involvement,
- (iii) child care availability,
- (iv) maternal preferences for own income and economic independence
- (v) social norms.

Table 3 Hazard Models – Test whether First Time Mothers Respond more Strongly to the Reform

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.004 (0.0114)	1.035*** (0.0132)	1.012 (0.0211)
Maternal schooling in years	1.025 (0.0234)	1.097*** (0.0267)	1.093** (0.0418)
East-Germany	1.536*** (0.182)	1.626*** (0.224)	2.319*** (0.452)
Not German citizenship	0.428*** (0.110)	0.303*** (0.122)	0.316** (0.180)
First child	1.314* (0.188)	1.505** (0.250)	2.668*** (0.693)
Single mother	1.108 (0.199)	0.645* (0.154)	0.847 (0.252)
Time trend	0.991 (0.00722)	1.002 (0.00806)	0.992 (0.0122)
Reform&1-11 months& prior recipient	1.148 (0.368)	0.899 (0.354)	2.009 (1.077)
Reform&12-14 months& prior recipient	3.333*** (1.146)	1.748 (0.687)	3.323* (2.079)
Reform&15-21 months& prior recipient	1.778 (0.753)	0.938 (0.464)	3.589* (2.553)
Reform&22-25 months& prior recipient	0.271 (0.237)	0.738 (0.460)	6.136** (5.040)
Reform&26-36 months& prior recipient	0.496 (0.225)	0.672 (0.322)	1.837 (1.153)
Reform&37-42 months& prior recipient	1.158 (0.608)	1.704 (1.083)	1.112 (1.072)
Reform&1-11 months& new recipient	0.832 (0.354)	0.665 (0.312)	1.985 (1.775)
Reform&12-14 months& new recipient	3.790*** (1.665)	2.196* (1.046)	1.679 (1.607)
Reform&15-21 months& new recipient	1.849 (0.950)	1.007 (0.555)	10.59* (12.95)
Reform&22-25 months& new recipient	0.262 (0.223)	0.408 (0.334)	0.798 (1.078)
Reform&26-36 months& new recipient	1.204 (0.586)	0.988 (0.504)	0.695 (0.939)
Reform&37-42 months& new recipient	0.227 (0.248)	0.184 (0.200)	0.257 (0.269)
Reform&1-11 months& first child	0.760 (0.242)	1.016 (0.375)	0.559 (0.289)
Reform&12-14 months& first child	1.022 (0.285)	1.075 (0.370)	0.807 (0.464)
Reform&15-21 months& first child	1.273 (0.515)	1.335 (0.618)	0.364 (0.254)
Reform&22-25 months& first child	3.224 (2.738)	1.444 (0.923)	0.372 (0.299)
Reform&26-36 months& first child	1.565 (0.720)	0.973 (0.470)	0.357 (0.280)
Reform&37-42 months& first child	0.954 (0.780)	0.489 (0.479)	0.737 (0.739)
Number of Subjects	685	685	685

Note: see Table 2.

Table 4 Hazard Models – Test for a Response to Paternal Leave Taking

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.004 (0.0117)	1.036*** (0.0134)	1.011 (0.0213)
Maternal schooling in years	1.024 (0.0237)	1.098*** (0.0272)	1.082** (0.0419)
East-Germany	1.508*** (0.185)	1.560*** (0.222)	2.009*** (0.399)
Not German citizenship	0.440*** (0.113)	0.317*** (0.128)	0.331* (0.190)
First child	1.361*** (0.149)	1.561*** (0.193)	2.057*** (0.407)
Single mother	1.089 (0.196)	0.656* (0.158)	0.872 (0.262)
Time trend	0.991 (0.00749)	1.003 (0.00831)	0.992 (0.0130)
Father on parental leave	0.978 (1.028)	1.566 (1.603)	0.745 (0.897)
Reform&1-11 months& prior recipient	0.960 (0.280)	0.941 (0.337)	1.321 (0.655)
Reform&12-14 months& prior recipient	3.288*** (1.104)	1.702 (0.659)	2.739* (1.659)
Reform&15-21 months& prior recipient	1.625 (0.653)	0.992 (0.433)	1.861 (1.302)
Reform&22-42 months& prior recipient	0.716 (0.218)	0.887 (0.293)	1.342 (0.615)
Reform&1-11 months& new recipient	0.571 (0.270)	0.506 (0.254)	0.823 (0.864)
Reform&12-14 months& new recipient	3.716*** (1.642)	2.153 (1.004)	1.079 (0.954)
Reform&15-21 months& new recipient	2.170 (1.110)	1.307 (0.731)	3.817 (4.793)
Reform&22-42 months& new recipient	1.011 (0.378)	0.784 (0.321)	0.364 (0.300)
Reform&1-11 months& father in leave	1.255 (1.406)	0.810 (0.889)	2.234 (2.931)
Reform&12-14 months& father in leave	0.986 (1.098)	0.784 (0.859)	2.991 (3.990)
Reform&15-21 months& father in leave	1.704 (1.956)	0.803 (0.941)	2.132 (3.065)
Reform&22-42 months& father in leave	0.461 (0.604)	0.277 (0.357)	1.724 (2.489)
Number of Subjects	597	597	597

Note: see Table 2. The number of observations is reduced because we do not observe fathers' leave taking behavior for all fathers. Due to the reduced number of observations and additional interaction effects we had to aggregate the time periods of 22-25, 26-36 and 37-42 months of the interaction effects.

We evaluate these mechanisms by comparing the behaviors of those who are and those who are not affected by any given mechanism.²⁰

(i) A first rationale for new recipients' increased labor force attachment after month 12 is that employment after childbirth may now affect future parental leave benefits. This generates a work incentive for mothers who expect to have additional children. To evaluate the plausibility of this explanation, we tested whether mothers of first children respond more strongly to the reform (see Table 3). We do not find significantly higher exit rates after month 12 among first time mothers; thus, there seems to be no support for this mechanism.

(ii) A second mechanism that might explain increased maternal labor force attachment after month 12 may be related to the new regulation that provides two additional benefit months if the father takes leave: as couples often use paternal after maternal leave, the household employment situation changes after month 12. This may facilitate maternal return to work compared to a situation with static household labor supply. To test the plausibility of this mechanism, we evaluated the correlation of maternal exit to the labor force with paternal leave taking by adding interaction terms of paternal involvement with the reform indicators to the specification (see Table 4). However, we find no evidence to support the hypothesis.

²⁰ This section describes the results obtained when studying prior and new recipients jointly; the mechanisms should affect both groups and pooling them provides larger estimation samples. When we repeated the tests for the new recipients only, the resulting patterns are not substantially different from those presented here (available upon request).

Table 5 Hazard Models – Test by Controlling for Local Child Care Supply

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.002 (0.0113)	1.036*** (0.0131)	1.010 (0.0206)
Maternal schooling in years	1.021 (0.0231)	1.089*** (0.0263)	1.086** (0.0404)
East-Germany	1.134 (0.267)	0.983 (0.265)	1.540 (0.685)
Not German citizenship	0.421*** (0.108)	0.290*** (0.119)	0.307** (0.178)
First child	1.364*** (0.145)	1.585*** (0.189)	1.965*** (0.369)
Single mother	1.020 (0.186)	0.594** (0.147)	0.792 (0.238)
Local child-care share	1.011 (0.00692)	1.017** (0.00801)	1.012 (0.0134)
Time trend	0.988* (0.00733)	0.998 (0.00811)	0.990 (0.0124)
Reform&1-11 months& prior recipient	1.007 (0.285)	0.943 (0.321)	1.353 (0.619)
Reform&12-14 months& prior recipient	3.369*** (1.085)	1.829 (0.675)	2.743* (1.509)
Reform&15-21 months& prior recipient	2.011* (0.760)	1.087 (0.466)	2.001 (1.366)
Reform&22-25 months& prior recipient	0.532 (0.272)	0.876 (0.410)	3.401 (2.623)
Reform&26-36 months& prior recipient	0.563 (0.243)	0.649 (0.289)	1.046 (0.574)
Reform&37-42 months& prior recipient	1.125 (0.550)	1.394 (0.834)	0.885 (0.647)
Reform&1-11 months& new recipient	0.783 (0.336)	0.730 (0.333)	1.464 (1.325)
Reform&12-14 months& new recipient	4.390*** (1.857)	2.676** (1.173)	1.452 (1.198)
Reform&15-21 months& new recipient	2.402* (1.174)	1.387 (0.725)	6.148 (7.252)
Reform&22-25 months& new recipient	0.531 (0.438)	0.525 (0.452)	0.476 (0.585)
Reform&26-36 months& new recipient	1.465 (0.637)	1.034 (0.485)	0.427 (0.527)
Reform&37-42 months& new recipient	0.228 (0.242)	0.170* (0.181)	0.229 (0.262)
Number of Subjects	679	680	683

Note: See Table 2. The number of observations varies because depending on the considered outcome individual observations stay non-censored for different periods of time, which modifies the probability of matching regional information.

(iii) Next, we investigate whether changes in child care availability over time might be related to maternal labor force attachment. As a first test, we control for annual child care coverage for children below age three in the maternal county of residence. We can incorporate region-specific and calendar-time varying information for all mothers. The results in Table 5 show small positive effects of child care availability on maternal return to the labor market which is statistically significant only for return to substantial employment. However, our main result, i.e., that new recipients increase their labor supply after 12 months after the reform is even stronger after controlling for child care availability. In additional estimations, we used more flexible specifications and interacted regional child care availability with the age of the child because availability may affect mothers differently depending on the age of her child. The results confirm this expectation (see the appendix) and show significantly positive effects of child care availability on labor force return. However, we continue to find strong and significant reform induced increases in labor force return after year one. We also allowed the child age-specific child care availability effects to change after the reform and to differ in urban (high demand) and rural (lower demand) areas which all did not affect our main estimates of the reform effects (see the appendix) ²¹

²¹ In German municipalities, access to child care is rationed. Single parents receive preferential treatment. To test whether this might affect our results, we added child care availability interacted with child age and the triple interaction with single parent status to our model (see the appendix). Our results are robust to adding these controls, as well.

Table 6 Hazard Models – Differential Effects by "Valuing to be able to afford something"

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.004 (0.0115)	1.039 ^{***} (0.0133)	1.011 (0.0207)
Maternal schooling in years	1.028 (0.0240)	1.104 ^{***} (0.0274)	1.088 ^{***} (0.0409)
East-Germany	1.602 ^{***} (0.191)	1.657 ^{***} (0.225)	2.320 ^{***} (0.438)
Not German citizenship	0.434 ^{***} (0.112)	0.306 ^{***} (0.125)	0.322 ^{**} (0.184)
First child	1.354 ^{***} (0.148)	1.530 ^{***} (0.186)	1.937 ^{***} (0.367)
Single mother	1.005 (0.184)	0.625 [*] (0.154)	0.787 (0.238)
Time trend	0.991 (0.00732)	1.003 (0.00812)	0.993 (0.0122)
Values being able to afford something	0.991 (0.156)	1.282 (0.231)	1.161 (0.314)
Reform&1-11 months& prior recipient	1.003 (0.301)	0.992 (0.352)	1.626 (0.793)
Reform&12-14 months& prior recipient	2.896 ^{***} (1.002)	1.716 (0.689)	2.825 [*] (1.725)
Reform&15-21 months& prior recipient	2.175 ^{**} (0.844)	1.240 (0.542)	2.005 (1.403)
Reform&22-42 months& prior recipient	0.648 (0.206)	0.841 (0.286)	1.512 (0.686)
Reform&1-11 months& new recipient	0.712 (0.304)	0.687 (0.309)	1.494 (1.344)
Reform&12-14 months& new recipient	3.455 ^{***} (1.463)	2.256 [*] (0.997)	1.468 (1.162)
Reform&15-21 months& new recipient	2.094 (1.007)	1.266 (0.655)	6.098 (7.161)
Reform&22-42 months& new recipient	0.854 (0.321)	0.659 (0.271)	0.347 (0.269)
Reform&1-11 months& value able to afford s.	1.111 (0.458)	0.849 (0.406)	0.444 (0.352)
Reform&12-14 months& value able to afford s.	1.735 [*] (0.545)	1.259 (0.512)	0.919 (0.681)
Reform&15-21 months& value able to afford s.	0.457 (0.329)	0.463 (0.338)	1.020 (0.820)
Reform&22-42 months& value able to afford s.	1.013 (0.444)	1.036 (0.461)	0.573 (0.418)
Number of Subjects	674	674	674

Note: See Table 2. The number of observations is reduced because the question on values is not asked in every wave. Due to the reduced number of observations and additional interaction effects we had to aggregate the time periods of 22-25, 26-36 and 37-42 months of the interaction effects.

(iv) Another potential mechanism relates to mothers' preferences with respect to economic independence and an own income (i.e. reference dependent preferences, see DellaVigna et al. (2017)): before the reform, mothers without child-rearing benefits who left the labor force and cared for a child lost their benefit income at the end of maternity leave, eight weeks after birth. Afterwards, there was no reason to return to work at any specific time; many mothers chose to be financially dependent on their partner, which one might label a "housewife trap" for those who stayed at home. After the reform, the loss of an own income typically occurs only after month 12. At that time, mothers may judge the option of returning to work and seeking external care for their child differently than after week eight. The loss of an own income after month 12 can provide an impetus to return to work which might increase labor force participation rates beyond pre-reform levels.²² To test whether the high rate of return to the labor force at month 12 is associated with mothers' preferences for an own income and economic independence, we apply two measures. First, we test whether women who strongly value being able "to afford something" react stronger to the reform.²³ These women might be particularly attracted by the new option of avoiding the "housewife trap." Indeed, we find a weakly significant increase in the exits to the labor force around month 12 for this particular group (Table 6). In addition, we consider information on how couples handle their finances. We assume that women

²² A similar response can result from a consumption habit where behavior responds to a taste for certain consumption levels. Alternatively, it may be influenced by the mothers' interest in maintaining her economic independence and bargaining position in the partnership.

²³ The variable is based on the question "Various things can be important for various people. Are the following things currently very important, important, less important, not at all important for you? Afford to buy something for myself." We code those who indicate "very important". The GSOEP included this question in 2004, 2008, and 2012. We use the information that is given closest to childbirth.

who manage their account separately or partly separately value their financial independence (see the appendix).²⁴ We find that those mothers who handled their finances independently before the birth generally have a higher hazard of returning to the labor force. Also, they respond stronger to the reform: they are significantly less likely to return to the labor force in months 1-11 and they are substantially (yet mostly insignificantly) more likely to return after the benefit runs out.

As an indication of the reform intensity and benefit amounts we evaluate mothers' labor market response by maternal share in household income and by level of education. Both measures also may be indicative of preferences regarding economic independence and an own income. The results (see the appendix) are clear: the propensity to return to the labor force is significantly higher for mothers who contribute a large share to household income. Also, these mothers similar to those with high education (see the appendix) respond to the reform insignificantly stronger than others. Overall, the evidence appears to agree with our expectations.

(v) Alternatively, one might argue that the institutional regulation of benefit expiration after month 12 generates a new social norm and signal for young mothers that it is socially acceptable (or even expected) to return to work and to use child care when the child has reached the age of one year (see Olivetti and Petrongolo 2017). Similarly, young mothers

²⁴ The variable is based on the question “How do you and your partner decide what to do with the income that one of you or both receive?” The question was asked in 2004 and 2005 (and in 2008) if respondents had a partner. Since we consider financial independence to be an individual predisposition, we use the information that is given well before childbirth and thus can be assumed to be exogenous. Specifically, we allocate the information given in 2004 to the 2005 and 2006 births and the information given in 2005 to the births in 2007 and 2008. We code those women with partner who manage their account before birth separately or partly separately as financial independent.

might respond to (perceived) expectations of their employers (e.g., Bernheim 1994).²⁵ Such social norm effects are a common explanation of observed retirement behavior (e.g., Hanel and Riphahn 2012). If prior to the reform the focal, expected, or normal point for young mothers to return to work was after 36 months at the end of employment protection (see Figure 3) this may have shifted after the reform to month 12, the end of transfer receipt. Thus, increased maternal labor force participation after month 12 could result from of a change in social norms.²⁶

We use various approaches to test the plausibility of this hypothesis. (a) As a change in social norms takes time we expect a potential reform effect to increase over time. Thus, we consider an interaction term of the reform effect which indicates whether a child was born in 2008 rather than in 2007. The estimation results in Table 7 show that the increase in exit rates in months 12-14 was significantly higher for births that occurred in 2008 rather than in 2007. In addition, the decline in months 1-11 is (insignificantly) stronger for later births.²⁷ This supports the social norm hypothesis.

²⁵Traditionally, West German social norms were opposed to maternal employment and child care use, particularly for small children. For a discussion see, e.g., Borck (2014).

²⁶Such a change in social norms is observationally equivalent with a peer effect that snowballs through the system and can affect heterogeneous individuals in different ways (see Dahl et al. 2014).

²⁷Clearly, we are not able distinguish whether the differences in behavior after births in 2007 vs. 2008 truly derive from shifts in social norms or from other factors affecting shifts in choices over time.

Table 7 Hazard Models - Differential Effects by Time since Reform

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.005 (0.0114)	1.036*** (0.0131)	1.010 (0.0207)
Maternal schooling in years	1.024 (0.0233)	1.097*** (0.0267)	1.085** (0.0406)
East-Germany	1.572*** (0.187)	1.639*** (0.225)	2.267*** (0.433)
Not German citizenship	0.432*** (0.111)	0.306*** (0.123)	0.314** (0.180)
First child	1.362*** (0.143)	1.574*** (0.186)	1.950*** (0.364)
Single mother	1.107 (0.197)	0.644 (0.152)	0.812 (0.238)
Time trend	0.990 (0.00912)	1.000 (0.01000)	0.988 (0.0149)
Reform&1-11 months& prior recipient	1.140 (0.339)	1.265 (0.442)	1.745 (0.811)
Reform&12-14 months& prior recipient	2.657*** (0.943)	1.404 (0.574)	1.792 (1.201)
Reform&15-21 months& prior recipient	2.115* (0.915)	0.986 (0.496)	2.277 (1.685)
Reform&22-29 months& prior recipient	0.505 (0.267)	0.768 (0.355)	1.568 (1.008)
Reform&30-42 months& prior recipient	1.054 (0.427)	1.003 (0.454)	1.528 (0.827)
Reform&1-11 months& new recipient	0.829 (0.354)	0.894 (0.398)	1.752 (1.596)
Reform&12-14 months& new recipient	3.140*** (1.375)	1.859 (0.880)	1.002 (0.950)
Reform&15-21 months& new recipient	2.185 (1.041)	1.065 (0.582)	6.823 (8.208)
Reform&22-29 months& new recipient	0.721 (0.455)	0.656 (0.450)	0.726 (0.786)
Reform&30-42 months& new recipient	1.137 (0.499)	0.607 (0.298)	0.225 (0.260)
Reform&1-11 months& child born in 2008	0.789 (0.247)	0.549 (0.204)	0.726 (0.363)
Reform&12-14 months& child born in 2008	1.606* (0.435)	1.715 (0.565)	2.685* (1.460)
Reform&15-21 months& child born in 2008	0.907 (0.366)	1.366 (0.602)	0.999 (0.675)
Reform&22-29 months& child born in 2008	0.595 (0.408)	0.834 (0.454)	2.009 (1.303)
Reform&30-42 months& child born in 2008	0.835 (0.369)	1.463 (0.648)	0.254 (0.279)
Number of Subjects	685	685	685

Note: see Table 2. Due to the small sample size in cells of the triple interaction terms we had to aggregate the time periods 22 to 29 months and 30 to 42 months.

(b) Next, we test whether women who value success at work react stronger to the new policy.²⁸ Because the traditional social norm of staying at home after childbirth was particularly binding for this group, they might adjust faster to the change in circumstances than others. The results support this reasoning (see the appendix): mothers who value success at work return to work faster and respond significantly stronger to the end of the new benefit. (c) Third, personalities respond differently to changes in social norms. One might expect that women with a more external locus of control respond stronger to changes in social norms. We test whether mothers who agree with the statement that "others make the crucial decisions in my life" respond stronger to the reform by adding an interaction term of this characteristic with the reform effect to the empirical specification (see the appendix). The insignificant results agree with this presumption. (d) Finally, we compare the reform response between East- and West-German mothers. Given the socialist heritage of East Germany, social norms there are more in favor of maternal employment and early return to work. If a shift in social norms occurs after the reform it should be visible particularly in West Germany. The estimation results show (see the appendix) that the reform effects around month 12 are economically but not statistically significantly larger in the West. This confirms the plausibility of a shift in social norms after the reform which may drive increased labor force return in months 12-14.²⁹

²⁸ The variable uses the question "Various things can be important for various people. Are the following things currently very important, important, less important, not at all important for you? Be successful in once career." We code those who indicate "very important" and "important". The GSOEP included this question in 2004 and 2008. We use the information that is given closest before birth.

²⁹ In an additional test, we find that those living in the countryside respond significantly more strongly to the end of the benefit payout than those in urban areas (see the electronic appendix). This agrees with the expectations that a change in norms matters more for the rural population.

As we consider a large number of heterogeneity tests, our results may be subject to the effects of multiple hypotheses testing. In order to test the robustness of our findings, we estimated a model which considers all hypotheses simultaneously, i.e., interactions for a first birth, paternal involvement, year of birth and valuing economic independence. In addition, the model accounts for childcare availability and the relevant main effects. This joint testing reduces the problem of multiple hypotheses testing and estimates partial effect of the different hypotheses. We present the results in the appendix. They confirm that women who value ‘to be able to afford something’ and with a later born child return to the labor market faster around month 12. Overall, we interpret this as suggestive evidence, in support of the hypothesis that the increased labor force participation after month 12 relates to changes in social norms and to a preference for financial independence.

4.4 Robustness Tests

Difference-in-differences (DID) - We apply a DID estimation approach to account for the potentially biasing effects of the business cycle and secular shifts. We re-estimated our model using mothers of three years olds as a control group. We allow for different baseline hazards for the treatment and control groups because the form of exit hazards may differ between mothers of very young and older children.

Table 8 Hazard Models - DiD Specification without Time Trend

	Exit into labor force participation	Exit into substantial employment	Exit into fulltime employment
Maternal age in years	0.997 (0.00932)	1.018 (0.0112)	1.003 (0.0179)
Maternal schooling in years	1.033* (0.0195)	1.106*** (0.0227)	1.088*** (0.0358)
East-Germany	1.587*** (0.175)	1.507*** (0.190)	2.626*** (0.467)
Not German citizenship	0.510** (0.0993)	0.317*** (0.102)	0.338* (0.169)
First child	1.381*** (0.127)	1.484*** (0.155)	1.868*** (0.313)
Single mother	1.061 (0.161)	0.711* (0.137)	0.844 (0.223)
Reform	1.174 (0.190)	1.106 (0.214)	0.727 (0.269)
Reform&treat&1-11 months& prior rec.	0.693 (0.181)	0.874 (0.281)	1.598 (0.802)
Reform&treat&12-14 months& prior rec.	2.302*** (0.714)	1.742 (0.641)	3.260** 81.9199
Reform&treat&15-21 months& prior rec.	1.357 (0.498)	1.037 (0.440)	2.375 (1.665)
Reform&treat&22-25 months& prior rec.	0.364** (0.184)	0.855 (0.394)	4.000* (3.144)
Reform&treat&26-36 months& prior rec.	0.398** (0.172)	0.638 (0.285)	1.241 (0.741)
Reform&treat&37-42 months& prior rec.	0.813 (0.411)	1.357 (0.851)	1.053 (0.832)
Reform&treat&1-11 months& new recip.	0.498* (0.203)	0.646 (0.287)	1.576 (1.414)
Reform&treat&12-14 months& new recip.	2.558** (1.036)	2.173 (0.939)	1.647 (1.445)
Reform&treat&15-21 months& new recip.	1.381 (0.628)	1.112 (0.550)	6.945* (8.094)
Reform&treat&22-25 months& new recip.	0.337 (0.276)	0.464 (0.397)	0.528 (0.651)
Reform&treat&26-36 months& new recip.	0.937 (0.383)	0.942 (0.421)	0.470 (0.576)
Reform&treat&37-42 months& new recip.	0.153* (0.163)	0.157* (0.169)	0.252 (0.293)
Number of Subjects	1030	1030	1030

Note: See Table 2. In the DiD-estimations the baseline hazards are stratified by treatment group affiliation and for those belonging to the treatment group by potential child rearing benefit eligibility status.

Table 8 shows the estimation results when the period effect (α_P) is constant across child age groups. In other specifications we considered time trend controls, used duration-varying effects, and controlled for quarterly calendar effects (see the appendix). Our key results are robust: for prior and new recipients, we find an intensified return to the labor force

after year one in the post-reform regime.³⁰ Our DID estimates generate a lower bound of the causal effect if the control group similarly responds to an overall shift in social norms. Given that we consider dichotomous labor force participation outcomes potentially heterogeneous business cycle effects for, e.g., the number of hours worked in the treatment and control groups do not affect our results.

Seasonality - In the investigation of after-birth-events the seasonality of births is often a concern (e.g., Cygan-Rehm 2016). As we use a time window of two years before and after the reform date, seasonality effects should average out. Nevertheless, as a sensitivity test we add controls for month of birth to our baseline specification (see the appendix): the main results are robust and only the hazard ratios decline slightly in magnitude.

Before-after observation window - So far, we considered maternal employment outcomes for births that occurred two years before and after the reform. When we set the time horizon to 6 months before and after the reform we obtain 162 observations. This sampling choice slightly affects results: now it appears that after the reform prior benefit recipients returned to employment faster already in months 1-11 rather than around month 12. However, the estimates confirm the large post-reform increase of exit rates into the labor force and substantial employment around month 12 for new recipients (see Table 9).³¹

³⁰ As an additional test, we re-estimated the models in Table 2 when additionally controlling for county level unemployment rates: the hazard ratio of the local unemployment rate is almost equal to one and it does not affect the estimated reform effects (see appendix). The estimated reform effects are also robust to considering controls for interactions of the local unemployment rate with child age (see appendix).

³¹ To avoid multicollinearity with the base line hazard we did not use a time trend here.

Table 9 Basic Specification with 6 Months Window without Time Trend

	Exit into labor force participation	Exit into substantial employment
Maternal age in years	1.009 (0.0252)	1.037 (0.0279)
Maternal schooling in years	1.097* (0.0528)	1.189*** (0.0625)
East-Germany	1.787*** (0.399)	1.967*** (0.488)
Not German citizenship	0.289** (0.151)	0.347 (0.252)
First child	1.511* (0.336)	1.613** (0.393)
Single mother	0.794 (0.361)	0.704 (0.400)
Reform&1-11 months& prior recipient	1.609 (0.693)	3.128* (1.888)
Reform&12-14 months& prior recipient	0.995 (0.478)	0.461 (0.287)
Reform&15-21 months& prior recipient	1.421 (0.737)	1.308 (0.719)
Reform&26-36 months& prior recipient	2.440 (1.965)	1.234 (1.266)
Reform&37-42 months& prior recipient	0.398 (0.336)	0.670 (0.672)
Reform&1-11 months& new recipient	0.608 (0.564)	1.027 (1.051)
Reform&12-14 months& new recipient	3.077 (3.279)	2.617 (2.940)
Reform&15-25 months& new recipient	0.918 (0.739)	1.004 (0.834)
Reform&26-36 months& new recipient	2.530 (2.889)	2.514 (2.840)
Reform&37-42 months& new recipient	0.941 (1.186)	1.071 (1.340)
Number of Subjects	162	162

Note: See Table 2. Due to the very small sample size and the few number of exits to full time employment we cannot report these results. We aggregate the cells for 15-21- and 22-25-months interaction terms due to the low number of observed exits in these cells.

When setting the observation period to one year before and after the reform (see the appendix), the reform effect for the new recipients around month 12 is significant for two exit states and even larger than in Table 2. Again, we do not find an increase in the exit rate to substantial employment for prior recipients around month 12.

Omitting December 2006 and January 2007 births - Tamm (2013) showed manipulations of the timing of births around the reform date. To ensure that such behaviors do not bias our results, we reestimated our model in Table 2 after dropping the births of December 2006 and January 2007 (N=24) which does not affect the results (see the appendix).

Definition of child-rearing benefit eligibility - We investigate the robustness of our results to our approach of defining the pre-reform benefit eligibility status. First, we conduct a sensitivity analysis with respect to the eligibility rules for child-rearing benefit. So far, we used the rules to determine benefit eligibility in months 7-12. When we instead consider the requirements for benefit eligibility in months 13-24 and replicate our analyses, the baseline specification confirms the significant increase in the hazard rate around month 12 for prior and new recipients (see the appendix). Second, given our rich household-level information, we can group mothers who would have received pre-reform child-rearing benefits more finely into those (i) who certainly would have received the full amount of 300 Euro, (ii) those who certainly would have received a partial amount, and (iii) those who would have received the full or a partial amount if they reduced their working hours after birth. We estimate the reform effects separately for these groups. We find that mothers who certainly would have received the full amount increased their exit rates to the labor force already in year one after birth, whereas those who would

have received only a partial amount or for whom this is not certain react mainly around month 12 (see the appendix).

Potential misreporting - Maternity leave rules prohibit the employment of mothers in the first eight weeks after childbirth. Nevertheless, in our data a few women report to return to the labor force in months 1 and 2 after childbirth. We recoded these events to test whether this affects our results but find no substantial differences after recoding (see the appendix).

Seam effects - As survey data can suffer from seam effects (Bassi 1998), i.e., a mismeasurement of events at the start of a new interview period, we reestimated our models accounting for a "January effect." We find that the propensity to change labor force status is particularly high in January. However, the controls do not affect our key results (see the appendix).

Employment before birth - In our main specification we do not control for the employment status before birth due to its potential endogeneity. In sensitivity analyses, we control for pre-birth employment status. As we lose 60 observations due to missing values in this variable, we first run our baseline model on the reduced sample and then on a model that also controls for the employment status before birth. The results remain very stable (see appendix).

5 Conclusions

This study evaluates the response of maternal labor force participation to a recent reform of the German paid parental leave program. The reform replaced a program, which paid means-tested benefits for up to 24 months with one, which provides earnings-related benefits for 12 months, without a means test, and for all mothers. The reform generated winners and losers who should respond differently. Our rich and detailed survey data allow us to identify these winners and losers. We apply event study methods to evaluate the reform effects in before-after comparisons, which exploit the temporal discontinuity generated by the reform. We provide sensitivity analyses including difference-in-differences procedures.

We expected that after the reform and during benefit receipt (i.e., in months 1-12 after childbirth) the speed to return to the labor force declines for new benefit recipients and possibly increases for prior benefit recipients. We find that the speed indeed declines by more for new than for prior benefit recipients, however, these reform effects are insignificant. For the period after benefit expiration (i.e., after month 12 after childbirth) we expected that prior benefit recipients who lose previously available benefits increase the speed to return to the labor force. We find clear evidence of this effect. For new benefit recipients standard labor supply models predict either no reform effect or - if wealth effects are also taken into account - falling labor force participation. The estimates, however, show large and significant increases in the speed to return to the labor force for new benefit recipients after month 12. Thus, both, the winners and the losers of the reform increase their labor market attachment after the reform when the child reaches age one.

The time until an average mother with (without) prior claims to benefits returns to the labor force after childbirth declined after the reform by 10 (8) months at the median. This represents a substantial reform effect. In addition, the net effect of first declining and then increasing employment in years one and two after childbirth yields an overall increase in the cumulative number of hours worked by months 24 and 36 on average. At the same time, we do not find significant reform effects in the longer run. As maternal labor force participation at the end of our observation window, i.e., at month 42 after childbirth has not increased post reform, we conclude that the reform effect was intensive but not extensive.

Our results for prior benefit recipients (losers of the reform) agree with those of, e.g., Lalive et al. (2014), who find an increase in labor force participation when cash benefit duration fell from 24 to 18 months in Austria. However, our finding that overall employment of new benefit recipients (winners of the reform) increases after the introduction of benefit payments differs from the literature on European paid parental leave reforms: Lalive et al. (2014) study an Austrian reform, which increased benefit duration from 18 to 30 months in 2000. They found a decline in the propensity to return to the labor force. Similarly, Schönberg and Ludsteck (2014) study a 1993 German reform, which extended benefit duration from 18 to 24 months and also find a decline in the propensity to return to work. In contrast, our finding resembles the findings from U.S. studies, where, e.g., Rossin-Slater et al. (2013) or Waldfogel et al. (1999) confirm positive medium term effects of parental leave on labor force attachment.

The difference in findings from prior European analyses may relate to two factors: first, the benefit we study constitutes a major reform of the program, whereas in other reforms existing benefit claims were merely extended. Second, the benefits paid out in Germany after 2006 are substantially higher than those discussed in the studies of Lalive et al. (2014) and Schönberg and Ludsteck (2014): in the German 1993 reform benefits amounted to at most 300 Euro per month and in the Austrian 2000 reform benefits did not exceed 435 Euro per month which contrasts with up to 1,800 Euro per month provided in Germany after 2006.

In order to understand the mechanisms that generate the increase in labor force involvement in year two after birth among new benefit recipients, we consider a variety of mechanisms. While we do not offer formal tests, we find patterns that render a shift in social norms plausible: the impact of the reform increased over time, women who may be expected to be restricted more by social norms (e.g., those with external locus of control, who value success at work or reside in the countryside) tend to respond more strongly to the reform. In addition, maternal preferences for an own income and for economic independence may be at work.

The finding of increasing labor force attachment among new beneficiaries of paid parental leave may be of particular interest for other countries where paid parental leave programs do not yet exist at the federal level or are available only during a very short time after birth.

References

- Baker, Michael and Kevin Milligan, 2008a, How Does Job-Protected Maternity Leave Affect Mothers' Employment?, *Journal of Labor Economics* 26(4), 655-691.
- Baker, Michael and Kevin Milligan, 2008b, Maternal employment, breastfeeding, and health: Evidence from maternity leave mandates, *Journal of Health Economics* 27(4), 871-887.
- Bassi, Francesca, 1998, Gross Flows Estimation from the Survey of Income and Program Participation, *Journal of Economic and Social Measurement* 95(2), 97-110.
- Bauernschuster, Stefan, Timo Hener, and Helmut Rainer, 2016, Children of a (Policy) revolution: the introduction of universal child care and its effect on fertility, *Journal of the European Economic Association* 14(4), 975-1005.
- Baum, Charles L. and Christopher J. Ruhm, 2016, The Effects of Paid Family Leave in California on Labor Market Outcomes, *Journal of Policy Analysis and Management*, 35(2), 333-356.
- Berger, Lawrence M. and Jane Waldfogel, 2004, Maternity leave and the employment of new mothers in the United States, *Journal of Population Economics* 17(2), 331-349.
- Bernheim, Douglas, 1994, A Theory of Conformity, *Journal of Political Economy* 103(5), 841-877.

- BMFSFJ, 2015, Kinderbetreuung, see <http://www.bmfsfj.de/BMFSFJ/Kinder-und-Jugend/kinderbetreuung.html> [last access 16.05.2015]
- Borck, Rainald, 2014, Adieu Rabenmutter – The effect of culture on fertility, female labour supply, the gender wage gap and childcare, *Journal of Population Economics* 27(3), 739-765.
- Burgess, Simon, Paul Gregg, Carol Propper and Elizabeth Washbrook, 2008, Maternity rights and mothers' return to work, *Labour Economics* 15(2), 168-201.
- Byker, Tanya S., 2014, Fertility and Women's Economic Outcomes in the United States, Peru and South Africa, Dissertation, University of Michigan.
- Cygan-Rehm, Kamila, 2016, Parental leave benefit and differential fertility responses: Evidence from a German reform, *Journal of Population Economics* 29(1), 73-103.
- Dahl, Gordon B., Katrine V. Løken, Magne Mogstad, and Kari V. Salvanes, 2016, What Is the Case for Paid Maternity Leave? *Review of Economics and Statistics* 98(4), 655-670.
- Dahl, Gordon B., Katrine V. Løken, and Magne Mogstad, 2014, Peer Effects in Program Participation, *American Economic Review* 104(7), 2049-2074.
- DellaVigna, Stefano, Attila Lindner, Balazs Reizer, Johannes F. Schmieder (2017): Reference-Dependent Job Search: Evidence from Hungary, *Quarterly Journal of Economics* 132(4), 1969-2018.

- Dustmann, Christian and Uta Schönberg, 2012, Expansions in Maternity Leave Coverage and Children's Long-Term Outcomes, *American Economic Journal: Applied Economics* 4(3), 190-224.
- Ekberg, John, Rickard Eriksson and Guido Friebel, 2013, Parental leave – A policy evaluation of the Swedish “Daddy-Month” reform, *Journal of Public Economics*, 97, 131-143.
- Ehlert, Nancy, 2008, Dossier: Elterngeld als Teil nachhaltiger Familienpolitik, BMFSFJ, Berlin.
- Fortin, Bernard, Guy Lacroix, and Simon Drolet, 2004, Welfare benefits and the duration of welfare spells: evidence from a natural experiment in Canada, *Journal of Public Economics* 88(7-8), 1495-1520.
- Geyer, Johannes, Peter Haan, and Katharina Wrohlich, 2015, The effects of family policy on maternal labor supply: Combining evidence from a structural model and a quasi-experimental approach, *Labour Economics* 36, 84-98.
- Hanel, Barbara and Regina T. Riphahn, 2012, The timing of retirement - New evidence from Swiss female workers, *Labour Economics* 19(5), 718-728.
- Hanratty, Maria and Eileen Trzcinski, 2009, Who benefits from paid family leave: Impact of expansions in Canadian paid family leave on maternal employment and transfer income, *Journal of Population Economics* 22(3), 693-711.
- Karimi, Arizo, Erica Lindahl and Peter Skogman Thoursie (2012), Labour supply responses to paid parental leave, IFAU Working paper 2012:22.

- Klerman Jacob Alex and Arleen Leibowitz, 1999, Job continuity among new mothers. *Demography* 36(2), 145–155.
- Kluve, Jochen and Sebastian Schmitz, 2018, Back to work: parental benefits and mothers' labor market outcomes in the medium-run, *Industrial and Labor Relations Review* 71(1), 143-173.
- Kluve, Jochen and Marcus Tamm, 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.
- Lalive, Rafael, Analia Schlosser, Andreas Steinhauer, and Josef Zweimüller, 2014, Parental leave and mothers' careers: the relative importance of job protection and cash benefits, *Review of Economic Studies* 81(1), 219-265.
- Lalive, Rafael and Josef Zweimüller, 2009, How does parental leave affect fertility and return to work? Evidence from two natural experiments, *The Quarterly Journal of Economics* 124(3), 1363-1402.
- Liu, Qian and Oskar Nordstrom Skans, 2010, The duration of paid parental leave and children's scholastic performance, *The B.E. Journal of Economic Analysis & Policy*, 10 (1). 1-33.
- Olivetti, Claudia and Barbara Petrongolo, 2017, The economic consequences of family policies: Lessons from a century of legislation in high-income countries, *Journal of Economic Perspectives* 31(1), 205-230.

- Ridder, Geert, 1987, The sensitivity of duration models to misspecified unobserved heterogeneity and duration dependence, Working paper, Groningen University.
- Rossin-Slater, Maya, 2018, Maternity and family leave policy, in: The Oxford Handbook of Women and the Economy, edited by Saul D. Hoffman Susan L. Averett, Laura M. Argys, 323-342. Oxford University Press.
- Rossin-Slater, Maya, Christopher J. Ruhm, Jane Waldfogel, 2013, The effects of California's paid family leave program on mothers' leave-taking and subsequent labor market outcomes, *Journal of Policy Analysis and Management* 32(2), 224-245.
- RWI (Rheinisch-Westfälisches Institut für Wirtschaftsforschung), 2007, Zwischenbericht zur Evaluation des Gesetzes zum Elterngeld und zur Elternzeit. Zwischenbericht 2007, Bundesministerium für Familie, Senioren, Frauen und Jugend, Berlin.
- RWI (Rheinisch-Westfälisches Institut für Wirtschaftsforschung), 2008, Evaluation des Gesetzes zum Elterngeld und zur Elternzeit. Endbericht 2008, RWI-Projektbericht, mimeo, Essen.
- Sánchez-Mangas, Rocio and Virginia Sánchez-Marcos, 2008, Balancing family and work: The effect of cash benefits for working mothers, *Labour Economics* 15(6), 1127-1142.
- Schönberg, Uta and Johannes Ludsteck, 2014, Expansions in maternity leave coverage and mothers' labor market outcomes after childbirth, *Journal of Labor Economics* 32(3), 469-506.

- STBA (Statistisches Bundesamt), 2008, Elterngeld für Geburten 2007 nach Kreisen, Wiesbaden.
- STBA (Statistisches Bundesamt), 2013, Öffentliche Sozialleistungen. Statistik zum Elterngeld - Beendete Leistungsbezüge für im Jahr 2011 geborene Kinder, Wiesbaden.
- Tamm, Marcus, 2013, The impact of a large parental leave benefit reform on the timing of birth around the day of implementation, Oxford Bulletin of Economics and Statistics 75(4), 585-601.
- Van den Berg, Gerard J., 2001, Duration models: specification, identification, and multiple durations, in: J.J. Heckman and E. Leamer (editors), Handbook of econometrics, Volume V, North Holland, Amsterdam.
- Wagner, Gert G., Joachim Frick, and Jürgen Schupp, 2007, The German socio-economic panel study (SOEP): scope, evolution, and enhancements, Journal of Applied Social Science Studies (Schmollers Jahrbuch) 127(1), 139-170.
- Waldfoegel, Jane, Yoshio Higuchi, and Mashiro Abe, 1999, Family leave policies and women's retention after childbirth: evidence from the United States, Britain, and Japan, Journal of Population Economics 12(4), 523-545.

Appendix

for

Maternal Employment Effects of Paid Parental Leave

Table of Content:

Figure A.1	Substantial Employment of Mothers after Childbirth: Smoothed Hazard and Survivor Function
Figure A.2	Full-time Employment of Mothers after Childbirth: Smoothed Hazard and Survivor Function
Table A.1	Basic Specification with Quadratic Time Trend
Table A.2	Basic Specification with Cubic Time Trend
Table A.3	Information used for Calculation of Elasticities
Table A.4	Approximate Reciprocity Status via Income Tertiles and Consider Interactions
Table A.5	Interact Child Care Availability with Age of the Child
Table A.6	Interact Child Care Availability with Age of the Child and Reform Period
Table A.7	Interact Child Care Availability with Age of the Child and Urban/Rural Agglomeration
Table A.8	Interact Child Care Availability with Age of the Child and Single Mother Status
Table A.9	Hazard Models - Differential Effects by Financial Independence
Table A.10	Hazard Models - Differential Effects with Respect to

Maternal Income Share

Table A.11 Test for Response Heterogeneity by Educational Attainment

Table A.12 Hazard Models - Test for Response Heterogeneity by Value of Success at Work

Table A.13 Test for Response Heterogeneity by Locus of Control

Table A.14 Test for Response Heterogeneity by Region of Residence (East vs. West)

Table A.15 Test for Response Heterogeneity by Rural Residence

Table A.16 Testing Several Hypotheses Jointly

Table A.17 Differences-in-Differences Estimation Controlling for Time Trend

Table A.18 Difference-in-Differences Estimation with Duration-Varying Reform Effects

Table A.19 Difference-in-Differences Estimation Controlling for Yearly Quarters

Table A.20 Estimation of Table 2 with Controls for County Level Unemployment

Table A.21 Estimation of Table 2 with Controls for Age Varying, County Level Unemployment

Table A.22 Estimation of Table 2 with Controls for Month of Birth

Table A.23 Estimation of Table 2 only with Births 12 Months before and after Reform

Table A.24 Estimation of Table 2 without Births around Reform: Dec 2006 and Jan 2007

Table A.25 Estimation of Table 2 with Alternative Thresholds for Prior Benefit Eligibility

Table A.26 Estimation of Table 2 with Alternative Prior Benefit Eligibility Groups

Table A.27 Estimation of Table 2 accounting for Potential Maternity Leave Misreporting

Table A.28 Estimation of Table 2 controlling for a "January" - Seam Effect

Table A.29 Estimation of Table 2 with Reduced Sample - No Control for Employment Prior to Childbirth (cf. Table EA.29)

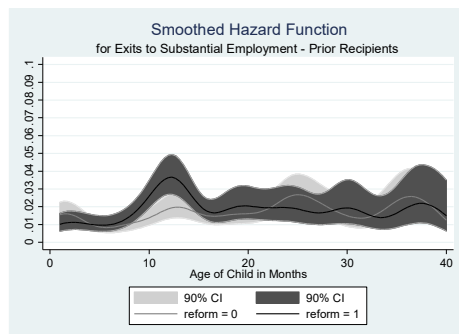
Table A.30 Estimation of Table 2 with Reduced Sample - With Control for Employment Prior to Childbirth

General Note:

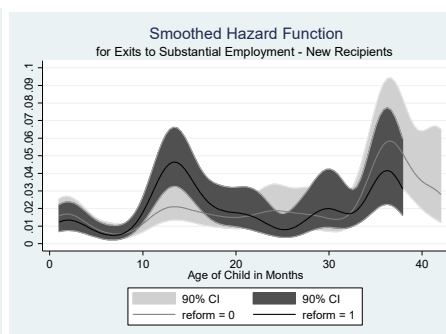
All presented estimations control for age and education of the mother, whether the mother lives in East Germany or is of non-German citizenship, whether she is living with a partner or a single parent, whether the child is a first birth and a time trend; unless stated otherwise all estimations of baseline hazards are stratified by potential child-rearing benefit (pre reform benefit) eligibility status; all tables present exponentiated coefficients and standard errors of the exponentiated coefficients calculated using the delta method in parentheses, clustered at the individual level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure A.1 Substantial Employment of Mothers after Childbirth: Smoothed Hazard and Survivor Function

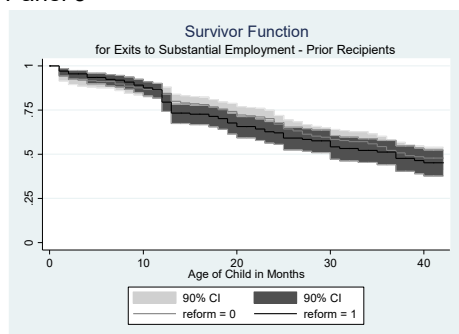
Panel 1



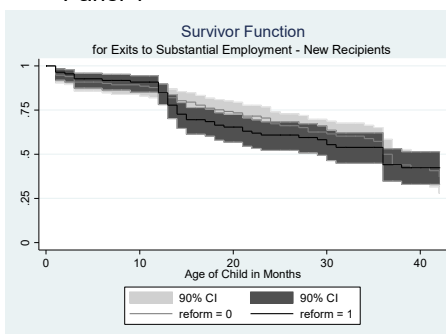
Panel 2



Panel 3



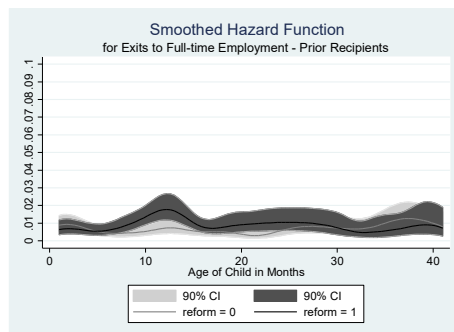
Panel 4



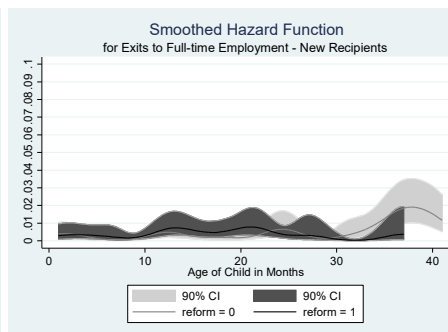
Note: Panels 1 and 3 use 441 observations and Panels 2 and 4 244 observations. Panels 1 and 2 use a Gaussian kernel without boundary correction and a bandwidth of 2 months.

Figure A.2 Full-time Employment of Mothers after Childbirth: Smoothed Hazard and Survivor Function

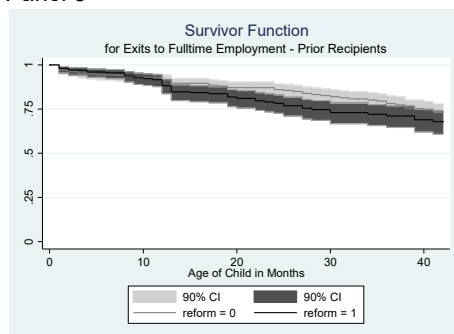
Panel 1



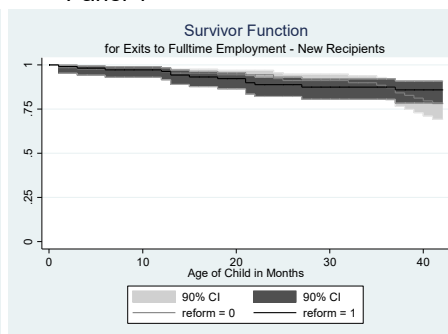
Panel 2



Panel 3



Panel 4



Note: Panels 1 and 3 use 441 observations and Panels 2 and 4 244 observations. Panels 1 and 2 use a Gaussian kernel without boundary correction and a bandwidth of 2 months.

Table A.1 Basic Specification with Quadratic Time Trend

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.005 (0.0114)	1.036*** (0.0131)	1.010 (0.0206)
Maternal schooling in years	1.025 (0.0234)	1.097*** (0.0267)	1.091** (0.0411)
East-Germany	1.560*** (0.185)	1.633*** (0.222)	2.225*** (0.422)
Not German citizenship	0.430*** (0.110)	0.305*** (0.123)	0.316** (0.182)
First child	1.353*** (0.143)	1.563*** (0.186)	1.923*** (0.361)
Single mother	1.110 (0.199)	0.645* (0.154)	0.817 (0.244)
Time trend	0.999 (0.0179)	1.006 (0.0203)	1.025 (0.0334)
Time trend^2	1.000 (0.000217)	1.000 (0.000243)	1.000 (0.000390)
Reform&1-11 months& prior recipient	0.950 (0.286)	0.882 (0.317)	1.093 (0.547)
Reform&12-14 months& prior recipient	3.307*** (1.073)	1.789 (0.667)	2.588* (1.454)
Reform&15-21 months& prior recipient	2.006* (0.757)	1.078 (0.462)	2.072 (1.405)
Reform&22-25 months& prior recipient	0.557 (0.290)	0.895 (0.429)	3.893* (2.997)
Reform&26-36 months& prior recipient	0.678 (0.322)	0.794 (0.380)	1.346 (0.824)
Reform&37-42 months& prior recipient	0.964 (0.472)	0.979 (0.576)	1.346 (1.048)
Reform&1-11 months& new recipient	0.686 (0.304)	0.647 (0.304)	1.015 (0.932)
Reform&12-14 months& new recipient	3.725*** (1.543)	2.238* (0.966)	1.291 (1.045)
Reform&15-21 months& new recipient	2.063 (0.983)	1.153 (0.592)	6.144 (7.240)
Reform&22-25 months& new recipient	0.520 (0.430)	0.489 (0.423)	0.524 (0.639)
Reform&26-36 months& new recipient	1.015 (0.619)	0.783 (0.500)	0.846 (1.098)
Reform&37-42 months& new recipient	1.122 (0.575)	0.655 (0.370)	0.278 (0.350)
Number of Subjects	685	685	685

Table A.2 Basic Specification with Cubic Time Trend

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.005 (0.0113)	1.036*** (0.0131)	1.011 (0.0206)
Maternal schooling in years	1.025 (0.0234)	1.098*** (0.0268)	1.088** (0.0409)
East-Germany	1.560*** (0.185)	1.633*** (0.222)	2.231*** (0.423)
Not German citizenship	0.430*** (0.110)	0.305*** (0.123)	0.313** (0.181)
First child	1.353*** (0.143)	1.562*** (0.185)	1.952*** (0.367)
Single mother	1.110 (0.199)	0.645* (0.154)	0.801 (0.239)
Time trend	0.998 (0.0317)	1.009 (0.0364)	0.921 (0.0514)
Time trend^2	1.000 (0.000913)	1.000 (0.00101)	1.003* (0.00165)
Time trend^3	1.000 (0.00000798)	1.000 (0.00000867)	1.000** (0.0000145)
Reform&1-11 months& prior recipient	0.949 (0.288)	0.885 (0.319)	0.989 (0.534)
Reform&12-14 months& prior recipient	3.303*** (1.141)	1.810 (0.712)	1.827 (1.101)
Reform&15-21 months& prior recipient	2.003* (0.790)	1.092 (0.492)	1.470 (1.035)
Reform&22-25 months& prior recipient	0.557 (0.292)	0.904 (0.438)	3.081 (2.389)
Reform&26-36 months& prior recipient	0.678 (0.324)	0.794 (0.380)	1.324 (0.781)
Reform&37-42 months& prior recipient	0.966 (0.505)	0.965 (0.586)	2.242 (1.696)
Reform&1-11 months& new recipient	0.686 (0.304)	0.645 (0.302)	1.112 (1.051)
Reform&12-14 months& new recipient	3.720*** (1.583)	2.264* (1.020)	0.927 (0.772)
Reform&15-21 months& new recipient	2.060 (1.014)	1.168 (0.622)	4.405 (5.241)
Reform&22-25 months& new recipient	0.520 (0.431)	0.493 (0.428)	0.416 (0.499)
Reform&26-36 months& new recipient	1.016 (0.620)	0.782 (0.500)	0.934 (1.117)
Reform&37-42 months& new recipient	1.124 (0.584)	0.644 (0.379)	0.454 (0.569)
Number of Subjects	685	685	685

Table A.3 Information used for Calculation of Elasticities

Panel 1: Duration indicators:				
	Probability being out of the labor force after 6 months (ln)	Probability being out of the labor force after 12 months (ln)	Probability being out of the labor force after 24 months (ln)	Probability being out of the labor force after 36 months (ln)
	(1)	(2)	(3)	(4)
Pre-reform, prior recipient	0.861 (-.150)	0.739 (-.302)	0.551 (-.596)	0.313 (-1.162)
Post-reform, prior recipient	0.86 (-.151)	0.597 (-.516)	0.423 (-.860)	0.279 (-1.277)
Pre-reform, new recipient	0.894 (-.112)	0.833 (-.183)	0.676 (-.392)	0.466 (-.764)
Post-reform, new recipient	0.92 (-.083)	0.745 (-.294)	0.538 (-.620)	0.358 (-1.027)

Panel 2: Monthly income indicators					
	Leave benefit in first 12 months (ln)	Leave benefits averaged over 24 months (ln)	Pre-birth gross personal income (ln)	Lost income (during first 12 months) (ln)	Lost income (during first 24 months) (ln)
	(1)	(2)	(3)	(4) =(3)-(1)	(5) =(3)-(2)
Pre-reform, prior recipient	300 (5.704)	300 (5.704)	855 (6.751)	555 (6.319)	555 (6.319)
Post-reform, prior recipient	447 (6.103)	194 (5.268)	839 (6.732)	451 (6.111)	645 (6.469)
Pre-reform, new recipient	0	0	1260 (7.139)	1260 (7.139)	1260 (7.139)
Post-reform, new recipient	642 (6.465)	321 (5.771)	1390 (7.237)	748 (6.617)	1069 (6.974)

Note: Duration indicators are based on the simulated models depicted in **Figure 4**, based on average characteristics of the respective sample. Pre-birth income is given by GSOEP. Benefits are calculated based on eligibility rules. The elasticity of the probability to be out of the labor force after t months with respect to a given income is calculated as the ratio of the difference of the post minus pre-reform log probabilities for a given recipient group (see Panel 1) divided by the difference of the post minus pre-reform log income measure for that recipient group (see Panel 2).

Table A.4 Approximate Reciprocity Status via Income Tertiles and Consider Interactions

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	0.977* (0.0121)	1.011 (0.0140)	0.970 (0.0224)
Maternal schooling in years	1.009 (0.0234)	1.077*** (0.0272)	1.045 (0.0452)
East-Germany	1.764*** (0.201)	1.827*** (0.237)	2.711*** (0.523)
Not German citizenship	0.558** (0.152)	0.425** (0.176)	0.472 (0.274)
First child	1.073 (0.130)	1.172 (0.163)	1.497* (0.309)
Single mother	1.051 (0.203)	0.573** (0.156)	0.786 (0.275)
Time trend	0.991 (0.00721)	1.001 (0.00835)	0.998 (0.0134)
Reform&1-11 months& first tercile	0.699 (0.319)	0.258 (0.290)	0.693 (0.887)
Reform&12-14 months& first tercile	2.618* (1.370)	1.279 (0.749)	2.101 (1.952)
Reform&15-21 months& first tercile	0.999 (0.660)	0.318 (0.264)	0.761 (0.996)
Reform&22-25 months& first tercile	0.503 (0.406)	1.272 (0.824)	6.500* (7.260)
Reform&26-36 months& first tercile	0.345 (0.275)	0.905 (0.705)	1.774 (2.431)
Reform&37-42 months& first tercile	1.061 (0.500)	1.045 (0.551)	0.653 (0.743)
Reform&1-11 months& second tercile	1.070 (0.387)	1.095 (0.451)	2.003 (1.390)
Reform&12-14 months& second tercile	6.572*** (3.323)	2.960** (1.597)	2.507 (2.224)
Reform&15-21 months& second tercile	2.313* (0.993)	1.040 (0.504)	1.418 (1.065)
Reform&22-25 months& second tercile	0.464 (0.300)	0.535 (0.386)	0.266 (0.307)
Reform&26-36 months& second tercile	0.507 (0.260)	0.569 (0.304)	1.791 (1.437)
Reform&37-42 months& second tercile	0.519 (0.275)	0.689 (0.507)	0.492 (0.437)
Reform&1-11 months& third tercile	0.840 (0.306)	0.735 (0.287)	1.023 (0.612)
Reform&12-14 months& third tercile	2.350** (0.831)	1.792 (0.740)	1.511 (0.954)
Reform&15-21 months& third tercile	3.372** (1.953)	2.760* (1.601)	1.919e+14*** (1.191e+14)
Reform&22-25 months& third tercile	0.523 (0.414)	0.585 (0.420)	2.313 (3.041)
Reform&26-36 months& third tercile	2.627 (1.794)	1.768 (1.224)	0.311 (0.362)
Reform&37-42 months& third tercile	0.603 (0.652)	0.312 (0.340)	0.192 (0.226)
Number of Subjects	644	644	644

Table A.5 Interact Child Care Availability with Age of the Child

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	1.068 (0.301)	1.048 (0.358)	1.560 (0.719)
Reform&12-14 months& prior recipient	3.243*** (1.050)	1.749 (0.649)	2.520* (1.410)
Reform&15-21 months& prior recipient	1.979* (0.773)	1.058 (0.465)	2.048 (1.448)
Reform&22-25 months& prior recipient	0.489 (0.242)	0.794 (0.363)	2.896 (2.337)
Reform&26-36 months& prior recipient	0.549 (0.241)	0.575 (0.264)	1.009 (0.560)
Reform&37-42 months& prior recipient	1.189 (0.582)	1.474 (0.866)	0.933 (0.676)
Reform&1-11 months& new recipient	0.819 (0.348)	0.779 (0.351)	1.653 (1.485)
Reform&12-14 months& new recipient	4.290*** (1.804)	2.674** (1.169)	1.344 (1.091)
Reform&15-21 months& new recipient	2.402* (1.177)	1.398 (0.735)	6.305 (7.539)
Reform&22-25 months& new recipient	0.528 (0.436)	0.531 (0.456)	0.462 (0.571)
Reform&26-36 months& new recipient	1.445 (0.636)	0.953 (0.461)	0.423 (0.525)
Reform&37-42 months& new recipient	0.241 (0.256)	0.182 (0.194)	0.240 (0.279)
1-11 months& child care share	0.995 (0.00862)	0.991 (0.0101)	0.980 (0.0164)
12-14 months& child care share	1.027*** (0.00901)	1.035*** (0.0106)	1.045** (0.0187)
15-21 months& child care share	1.016 (0.0106)	1.026** (0.0120)	1.013 (0.0204)
22-25 months& child care share	1.023* (0.0122)	1.033** (0.0139)	1.040* (0.0223)
26-36 months& child care share	1.015 (0.0121)	1.035** (0.0142)	1.022 (0.0187)
37-42 months& child care share	1.002 (0.0125)	1.007 (0.0172)	1.007 (0.0202)
Number of Subjects	679	680	683

Note: The number of observations varies because depending on the considered outcome individual observations stay non-censored for different periods of time, which modifies the probability of matching regional information. We use the same set of covariates as in Table 5.

Table A.6 Interact Child Care Availability with Age of the Child and Reform Period

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	0.994 (0.292)	1.040 (0.363)	1.541 (0.748)
Reform&12-14 months& prior recipient	3.848*** (1.498)	1.997 (0.897)	4.579* (3.912)
Reform&15-21 months& prior recipient	2.630** (1.033)	1.384 (0.615)	4.289* (3.716)
Reform&22-25 months& prior recipient	0.376* (0.223)	0.674 (0.378)	4.539* (4.020)
Reform&26-36 months& prior recipient	0.574 (0.266)	0.618 (0.305)	0.835 (0.593)
Reform&37-42 months& prior recipient	0.995 (0.567)	0.995 (0.710)	0.948 (0.827)
Reform&1-11 months& new recipient	0.895 (0.382)	0.847 (0.387)	1.971 (1.773)
Reform&12-14 months& new recipient	4.470*** (1.862)	2.770** (1.203)	1.794 (1.472)
Reform&15-21 months& new recipient	2.357* (1.170)	1.433 (0.761)	7.540* (8.521)
Reform&22-25 months& new recipient	0.516 (0.444)	0.511 (0.455)	0.578 (0.769)
Reform&26-36 months& new recipient	1.466 (0.641)	0.975 (0.470)	0.389 (0.511)
Reform&37-42 months& new recipient	0.230 (0.246)	0.163* (0.179)	0.244 -0.315
1-11 months& child care share	0.985 (0.00978)	0.983 (0.0124)	0.962* (0.0215)
12-14 months& child care share	1.036*** (0.0127)	1.041*** (0.0135)	1.064** (0.0273)
15-21 months& child care share	1.030** (0.0124)	1.037*** (0.0135)	1.048* (0.0274)
22-25 months& child care share	1.019 (0.0134)	1.028* (0.0164)	1.052** (0.0265)
6-36 months& child care share	1.016 (0.0135)	1.037** (0.0167)	1.017 (0.0206)
37-42 months& child care share	0.991 (0.0152)	0.978 (0.0225)	1.007 (0.0204)
Reform&1-11 months& child care share	1.024** (0.0116)	1.018 (0.0158)	1.033 (0.0245)
Reform&12-14 months& child care share	0.987 (0.0131)	0.990 (0.0150)	0.971 (0.0274)
Reform&15-21 months& child care share	0.965** (0.0173)	0.972 (0.0198)	0.942* (0.0323)
Reform&22-25 months& child care share	1.019 (0.0255)	1.013 (0.0244)	0.976 (0.0337)
Reform&26-36 months& child care share	0.996 (0.0208)	0.994 (0.0221)	1.013 (0.0296)
Reform&37-42 months& child care share	1.03 (0.0253)	1.068** (0.0328)	1.000 (0.0421)
Number of Subjects	679	680	683

Note: The number of observations varies because depending on the considered outcome individual observations stay non-censored for different periods of time, which modifies the probability of matching regional information. We use the same set of covariates as in Table 5.

Table A.7 Interact Child Care Availability with Age of the Child and Urban/Rural Agglomeration

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	1.076 (0.304)	1.045 (0.357)	1.572 (0.720)
Reform&12-14 months& prior recipient	3.341*** (1.078)	1.750 (0.647)	2.511* (1.401)
Reform&15-21 months& prior recipient	1.852 (0.744)	1.017 (0.454)	2.048 (1.435)
Reform&22-25 months& prior recipient	0.482 (0.232)	0.787 (0.359)	2.882 (2.334)
Reform&26-36 months& prior recipient	0.548 (0.240)	0.535 (0.257)	0.998 (0.554)
Reform&37-42 months& prior recipient	1.210 (0.585)	1.376 (0.805)	0.929 (0.673)
Reform&1-11 months& new recipient	0.820 (0.348)	0.772 (0.348)	1.663 (1.497)
Reform&12-14 months& new recipient	4.290*** (1.807)	2.649** (1.157)	1.328 (1.074)
Reform&15-21 months& new recipient	2.347* (1.151)	1.343 (0.711)	6.234 (7.451)
Reform&22-25 months& new recipient	0.519 (0.430)	0.535 (0.459)	0.455 (0.563)
Reform&26-36 months& new recipient	1.436 (0.629)	0.984 (0.469)	0.430 (0.535)
Reform&37-42 months& new recipient	0.254 (0.269)	0.192 (0.205)	0.239 (0.280)
1-11 months& child care share	0.989 (0.00946)	0.984 (0.0114)	0.971 (0.0192)
12-14 months& child care share	1.019** (0.00986)	1.027** (0.0116)	1.041** (0.0201)
15-21 months& child care share	1.024** (0.0119)	1.033*** (0.0129)	1.017 (0.0244)
22-25 months& child care share	1.024* (0.0147)	1.028 (0.0175)	1.044* (0.0260)
26-36 months& child care share	1.015 (0.0160)	1.025 (0.0182)	1.016 (0.0244)
37-42 months& child care share	0.987 (0.0149)	0.993 (0.0202)	1.006 (0.0278)
1-11 months& child care share & rural	1.013 (0.0131)	1.016 (0.0163)	1.020 (0.0242)
12-14 months& child care share & rural	1.015 (0.0101)	1.015 (0.0122)	1.005 (0.0159)
15-21 months& child care share & rural	0.973 (0.0178)	0.975 (0.0211)	0.989 (0.0268)
22-25 months& child care share & rural	0.995 (0.0175)	1.009 (0.0196)	0.991 (0.0240)
26-36 months& child care share & rural	0.999 (0.0186)	1.022 (0.0208)	1.011 (0.0229)
37-42 months& child care share & rural	1.027 (0.0214)	1.032 (0.0312)	1.000 (0.0268)
Number of Subjects	679	680	683

Note: The number of observations varies because depending on the outcome individual observations stay non-censored for different periods of time, which modifies the probability of matching regional information. We use the same set of covariates as in Table 5.

Table A.8 Interact Child Care Availability with Age of the Child and Single Mother Status

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	1.083 (0.304)	1.037 (0.358)	1.563 (0.719)
Reform&12-14 months& prior recipient	3.115*** (1.008)	1.674 (0.626)	2.377 (1.340)
Reform&15-21 months& prior recipient	1.942* (0.765)	1.025 (0.457)	2.010 (1.435)
Reform&22-25 months& prior recipient	0.451 (0.231)	0.795 (0.371)	3.249 (2.520)
Reform&26-36 months& prior recipient	0.519 (0.244)	0.586 (0.270)	0.958 (0.530)
Reform&37-42 months& prior recipient	1.106 (0.574)	1.379 (0.823)	0.913 (0.655)
Reform&1-11 months& new recipient	0.835 (0.353)	0.770 (0.347)	1.670 (1.497)
Reform&12-14 months& new recipient	4.309*** (1.806)	2.639** (1.158)	1.316 (1.067)
Reform&15-21 months& new recipient	2.418* (1.183)	1.378 (0.730)	6.206 (7.406)
Reform&22-25 months& new recipient	0.534 (0.439)	0.525 (0.450)	0.467 (0.576)
Reform&26-36 months& new recipient	1.435 (0.632)	0.936 (0.453)	0.417 (0.518)
Reform&37-42 months& new recipient	0.238 (0.252)	0.170* (0.182)	0.238 (0.276)
1-11 months& child care share	0.994 (0.00855)	0.991 (0.0105)	0.977 (0.0177)
12-14 months& child care share	1.032*** (0.00917)	1.040*** (0.0108)	1.052*** (0.0186)
15-21 months& child care share	1.020* (0.0109)	1.034*** (0.0125)	1.019 (0.0214)
22-25 months& child care share	1.032** (0.0129)	1.035** (0.0150)	1.033 (0.0227)
26-36 months& child care share	1.020 (0.0146)	1.037** (0.0156)	1.027 (0.0191)
37-42 months& child care share	1.007 (0.0150)	1.018 (0.0189)	1.010 (0.0215)
1-11 months& child care share & single	1.015 (0.0167)	0.999 (0.0228)	1.015 (0.0279)
12-14 months& child care share & single	0.962** (0.0164)	0.947*** (0.0168)	0.902** (0.0366)
15-21 months& child care share & single	0.981 (0.0257)	0.918*** (0.0227)	0.941*** (0.0175)
22-25 months& child care share & single	0.970 (0.0281)	0.980 (0.0224)	1.026 (0.0233)
26-36 months& child care share & single	0.990 (0.0213)	0.982 (0.0223)	0.968 (0.0356)
37-42 months& child care share & single	0.986 (0.0296)	0.900*** (0.0369)	0.981 (0.0309)
Number of Subjects	679	680	683

Note: The number of observations varies because depending on the outcome individual observations stay non-censored for different periods of time, which modifies the probability of matching regional information. We use the same set of covariates as in Table 5.

Table A.9 Hazard Models - Differential Effects by Financial Independence

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.004 (0.0139)	1.027 [*] (0.0156)	0.991 (0.0266)
Maternal schooling in years	0.997 (0.0266)	1.069 ^{**} (0.0298)	1.062 (0.0468)
East-Germany	1.807 ^{***} (0.246)	1.689 ^{***} (0.262)	2.306 ^{***} (0.525)
Not German citizenship	0.455 ^{**} (0.152)	0.359 ^{**} (0.174)	0.539 (0.315)
First child	1.327 ^{**} (0.178)	1.519 ^{***} (0.223)	1.897 ^{***} (0.446)
Single mother	0.991 (0.260)	0.632 (0.212)	0.688 (0.289)
Time trend	0.992 (0.00853)	1.003 (0.00943)	0.993 (0.0147)
Financial independence	1.095 (0.189)	1.065 (0.208)	1.104 (0.329)
Reform&1-11 months& prior recipient	1.762 (0.648)	1.527 (0.675)	2.713 [*] (1.622)
Reform&12-14 months& prior recipient	2.413 ^{**} (1.007)	1.327 (0.655)	0.774 (0.736)
Reform&15-25 months& prior recipient	0.650 (0.333)	0.494 (0.269)	0.851 (0.831)
Reform&26-42 months& prior recipient	0.460 [*] (0.205)	0.980 (0.445)	1.329 (0.905)
Reform&1-11 months& new recipient	0.926 (0.484)	0.893 (0.505)	3.528 (3.636)
Reform&12-14 months& new recipient	3.244 ^{**} (1.536)	1.908 (0.986)	0.591 (0.756)
Reform&15-25 months& new recipient	0.999 (0.515)	0.538 (0.310)	0.663 (0.767)
Reform&26-42 months& new recipient	0.792 (0.387)	0.674 (0.355)	0.304 (0.351)
Reform&1-11 months& financial independence	0.401 ^{**} (0.164)	0.426 [*] (0.188)	0.384 (0.228)
Reform&12-14 months& financial independence	1.307 (0.412)	1.465 (0.569)	2.608 (2.204)
Reform&15-25 months& financial independence	1.907 (0.902)	2.465 [*] (1.235)	3.938 (3.339)
Reform&26-42 months& financial independence	1.380 (0.664)	0.622 (0.325)	0.664 (0.487)
Number of Subjects	496	496	496

Note: See Table 2. The number of observations is reduced because the question on finances is not asked in every wave. Due to the reduced number of observations and additional interaction effects we had to aggregate the time periods of 26-36 and 37-42 months of the interaction effects.

Table A.10 Hazard Models - Differential Effects with Respect to Maternal Income Share

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	0.984 (0.0133)	1.020 (0.0154)	0.978 (0.0245)
Maternal schooling in years	1.039 (0.0266)	1.095*** (0.0291)	1.086* (0.0462)
East-Germany	1.569*** (0.200)	1.652*** (0.240)	2.278*** (0.475)
Not German citizenship	0.486*** (0.135)	0.390** (0.157)	0.413 (0.232)
First child	1.097 (0.135)	1.217 (0.171)	1.412* (0.294)
Maternal income share	2.205** (0.778)	3.945*** (1.579)	6.189*** (3.340)
Time trend	0.992 (0.00777)	1.002 (0.00872)	0.993 (0.0143)
Reform&1-11 months& prior recipient	0.674 (0.309)	0.393 (0.241)	0.573 (0.515)
Reform&12-14 months& prior recipient	2.171** (0.839)	1.549 (0.714)	3.295* (2.238)
Reform&15-21 months& prior recipient	0.823 (0.432)	0.721 (0.385)	2.234 (1.805)
Reform&22-25 months& prior recipient	0.444 (0.317)	1.259 (0.756)	10.04*** (9.821)
Reform&26-36 months& prior recipient	0.340* (0.198)	1.077 (0.576)	2.526 (1.801)
Reform&37-42 months& prior recipient	0.714 (0.362)	2.386 (1.535)	0.967 (0.977)
Reform&1-11 months& new recipient	0.544 (0.255)	0.404* (0.218)	0.842 (0.821)
Reform&12-14 months& new recipient	3.171*** (1.379)	2.202* (1.002)	1.730 (1.503)
Reform&15-21 months& new recipient	1.211 (0.679)	0.949 (0.530)	6.224 (7.989)
Reform&22-25 months& new recipient	0.418 (0.350)	0.575 (0.495)	0.910 (1.277)
Reform&26-36 months& new recipient	0.639 (0.419)	0.848 (0.564)	1.920 (2.903)
Reform&37-42 months& new recipient	0.768 (0.410)	0.791 (0.443)	4.68e-15*** (3.34e-15)
Reform&1-11 months& maternal income share	1.993 (1.514)	3.932 (3.524)	3.385 (4.522)
Reform&12-14 months& maternal income share	1.991 (1.017)	1.164 (0.747)	0.328 (0.316)
Reform&15-21 months& maternal income share	9.613*** (8.368)	2.678 (1.941)	0.617 (0.677)
Reform&22-25 months& maternal income share	1.395 (2.195)	0.248 (0.341)	0.0423 (0.0999)
Reform&26-36 months& maternal income share	7.065* (7.578)	0.736 (0.583)	0.184 (0.200)
Reform&37-42 months& maternal income share	2.128 (1.902)	0.0450** (0.0692)	0.943 (1.466)
Number of Subjects	590	590	590

Note: See Table 2.

Table A.11 Test for Response Heterogeneity by Educational Attainment

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	1.125 (0.327)	1.001 (0.358)	1.496 (0.736)
Reform&12-14 months& prior recipient	3.086*** (1.038)	1.590 (0.636)	2.488 (1.522)
Reform&15-21 months& prior recipient	1.960* (0.779)	1.057 (0.480)	2.501 (1.776)
Reform&22-25 months& prior recipient	0.390 (0.249)	0.772 (0.406)	3.409 (2.862)
Reform&26-36 months& prior recipient	0.614 (0.268)	0.688 (0.316)	0.890 (0.574)
Reform&37-42 months& prior recipient	1.149 (0.628)	1.379 (0.912)	0.799 (0.696)
Reform&1-11 months& new recipient	0.937 (0.449)	0.814 (0.453)	1.628 (1.578)
Reform&12-14 months& new recipient	3.186*** (1.449)	1.784 (0.897)	1.154 (1.117)
Reform&15-21 months& new recipient	1.977 (1.114)	1.108 (0.758)	9.493* (12.69)
Reform&22-25 months& new recipient	0.259 (0.241)	0.355 (0.326)	0.441 (0.573)
Reform&26-36 months& new recipient	1.820 (0.979)	1.102 (0.695)	0.277 (0.370)
Reform&37-42 months& new recipient	0.216 (0.222)	0.143* (0.153)	0.161 (0.213)
Reform&1-11 months& highly educated	0.705 (0.238)	0.768 (0.303)	0.820 (0.427)
Reform&12-14 months& highly educated	1.297 (0.362)	1.367 (0.476)	1.352 (0.777)
Reform&15-21 months& highly educated	1.073 (0.448)	1.066 (0.556)	0.535 (0.425)
Reform&22-25 months& highly educated	2.442 (1.805)	1.519 (0.942)	1.078 (0.843)
Reform&26-36 months& highly educated	0.699 (0.342)	0.856 (0.467)	1.644 (1.199)
Reform&37-42 months& highly educated	1.067 (0.690)	1.216 (0.873)	1.487 (1.460)
Number of Subjects	685	685	685

Note: See Table 2. We use the same set of covariates as in Table 2.

Table A.12 Hazard Models - Test for Response Heterogeneity by Value of Success at Work

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.008 (0.0131)	1.039*** (0.0149)	1.005 (0.0244)
Maternal schooling in years	1.012 (0.0261)	1.087*** (0.0298)	1.088** (0.0467)
East-Germany	1.752*** (0.222)	1.699*** (0.249)	2.382*** (0.518)
Not German citizenship	0.425** (0.143)	0.349** (0.173)	0.558 (0.325)
First child	1.374*** (0.169)	1.508*** (0.204)	1.859*** (0.393)
Single mother	0.877 (0.174)	0.568** (0.149)	0.706 (0.231)
Time trend	0.997 (0.00823)	1.010 (0.00943)	1.002 (0.0141)
Values being successful at work	0.997 (0.202)	1.182 (0.299)	3.075* (1.894)
Reform&1-11 months& prior recipient	0.997 (0.555)	1.134 (0.730)	5.062 (5.036)
Reform&12-14 months& prior recipient	0.899 (0.612)	0.586 (0.453)	2.346 (3.084)
Reform&15-42 months& prior recipient	0.412 (0.199)	0.321* (0.199)	0.729 (0.950)
Reform&1-11 months& new recipient	0.660 (0.387)	0.759 (0.479)	5.551 (7.409)
Reform&12-14 months& new recipient	1.338 (0.848)	0.856 (0.599)	1.169 (1.636)
Reform&15-42 months& new recipient	0.636 (0.339)	0.332* (0.202)	0.312 (0.425)
Reform&1-11 months&value job success	1.063 (0.491)	0.767 (0.387)	0.242* (0.207)
Reform&12-14 months&value job success	3.269** (1.865)	2.713 (1.764)	0.686 (0.846)
Reform&15-42 months&value job success	1.886 (0.817)	2.403* (1.280)	1.410 (1.716)
Number of Subjects	546	546	546

Note: See Table 2. The number of observations is reduced because the question on “values success at career” is not asked in every wave. Due to the reduced number of observations and additional interaction effects we had to aggregate the time periods of 15-42 months of the interaction effects.

Table A.13 Test for Response Heterogeneity by Locus of Control
("Others Make Crucial Decisions")

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Others make crucial decisions	1.165 (0.193)	0.948 (0.200)	0.682 (0.235)
Reform&1-11 months& prior recipient	1.015 (0.299)	0.878 (0.304)	1.377 (0.647)
Reform&12-14 months& prior recipient	2.961*** (0.993)	1.600 (0.610)	2.400 (1.421)
Reform&15-25 months& prior recipient	1.176 (0.406)	0.833 (0.312)	1.898 (1.152)
Reform&26-42 months& prior recipient	0.750 (0.257)	0.846 (0.331)	1.037 (0.511)
Reform&1-11 months& new recipient	0.714 (0.308)	0.655 (0.296)	1.424 (1.294)
Reform&12-14 months& new recipient	3.287*** (1.384)	1.972 (0.868)	0.912 (0.823)
Reform&15-25 months& new recipient	1.322 (0.535)	0.825 (0.359)	1.530 (1.177)
Reform&26-42 months& new recipient	1.030 (0.417)	0.699 (0.299)	0.322 (0.289)
Reform&1-11 months& others make c. decisions	1.187 (0.437)	1.115 (0.532)	0.761 (0.627)
Reform&12-14 months& others make c. decisions	1.490 (0.474)	1.496 (0.649)	1.639 (1.233)
Reform&15-25 months& others make c. decisions	1.210 (0.624)	1.795 (0.876)	2.801 (1.875)
Reform&26-42 months& others make c. decisions	0.698 (0.495)	0.712 (0.570)	0.594 (0.674)
Number of Subjects	665	665	665

Note. See Table 2. The number of observations is reduced because the question on the locus of control is not asked in every wave. Due to the reduced number of observations and additional interaction effects we had to aggregate the time periods of 26-36 and 37-42 months of the interaction effects.

Table A.14 Test for Response Heterogeneity by Region of Residence
(East vs. West)

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	1.587 (0.606)	1.305 (0.654)	2.284 (1.588)
Reform&12-14 months& prior recipient	2.817*** (0.995)	1.593 (0.644)	2.531* (1.369)
Reform&15-21 months& prior recipient	0.921 (0.477)	0.540 (0.311)	0.991 (0.812)
Reform&22-25 months& prior recipient	0.507 (0.337)	0.888 (0.529)	1.737 (1.358)
Reform&26-36 months& prior recipient	0.583 (0.320)	0.514 (0.296)	1.026 (0.717)
Reform&37-42 months& prior recipient	2.849 (2.569)	2.215 (2.080)	1.023 (0.965)
Reform&1-11 months& new recipient	0.786 (0.396)	0.604 (0.365)	0.638 (0.624)
Reform&12-14 months& new recipient	2.678** (1.042)	1.581 (0.733)	1.151 (1.017)
Reform&15-21 months& new recipient	0.797 (0.495)	0.474 (0.290)	0.821 (0.712)
Reform&22-25 months& new recipient	0.309 (0.266)	0.262 (0.224)	0.458 (0.539)
Reform&26-36 months& new recipient	1.034 (0.611)	0.698 (0.410)	0.194 (0.227)
Reform&37-42 months& new recipient	0.562 (0.712)	0.523 (0.652)	0.439 (0.498)
Reform&1-11 months & west	0.577 (0.228)	0.769 (0.397)	0.732 (0.527)
Reform&12-14 months & west	1.457 (0.639)	1.471 (0.733)	1.294 (1.177)
Reform&15-21 months & west	3.325*** (2.001)	3.342 (2.095)	11.67 (15.00)
Reform&22-25 months & west	1.178 (0.937)	1.293 (0.941)	2.189 (2.484)
Reform&26-36 months & west	1.006 (0.603)	1.388 (0.832)	1.299 (1.116)
Reform&37-42 months & west	0.319 (0.320)	0.346 (0.364)	0.518 (0.569)
Number of Subjects	685	685	685

Note: See Table 2. We use the same set of covariates as in Table 2.

Table A.15 Test for Response Heterogeneity by Rural Residence

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Rural area	1.248 (0.191)	1.453** (0.244)	1.572* (0.408)
Reform&1-11 months& prior recipient	0.991 (0.302)	1.008 (0.363)	1.805 (0.895)
Reform&12-14 months& prior recipient	2.792*** (0.968)	1.442 (0.584)	2.736* (1.643)
Reform&15-21 months& prior recipient	1.610 (0.526)	1.174 (0.424)	3.249** (1.884)
Reform&26-42 months& prior recipient	0.893 (0.343)	1.022 (0.407)	1.164 (0.624)
Reform&1-11 months& new recipient	0.749 (0.323)	0.722 (0.327)	1.668 (1.508)
Reform&12-14 months& new recipient	3.397*** (1.454)	2.007 (0.891)	1.455 (1.174)
Reform&15-25 months& new recipient	1.632 (0.681)	1.030 (0.467)	2.139 (1.720)
Reform&26-42 months& new recipient	1.064 (0.426)	0.744 (0.323)	0.326 (0.298)
Reform&1-11 months& rural area	1.084 (0.355)	0.734 (0.293)	0.496 (0.284)
Reform&12-14 months& rural area	1.884** (0.546)	1.867* (0.654)	1.162 (0.698)
Reform&15-25 months& rural area	0.211*** (0.161)	0.543 (0.287)	0.543 (0.344)
Reform&26-42 months& rural area	0.543 (0.283)	0.465 (0.245)	0.697 (0.458)
Number of Subjects	685	685	685

Note: See Table 2. We use the same set of covariates as in Table 2. We aggregate the cells for 15-21 and 22-25 as well as 26-36- and 37-42-months interaction terms due to the low number of observed exits in these cells.

Table A.16 Testing Several Hypotheses Jointly

	Exit into laborforce participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.002 (0.0115)	1.036*** (0.0136)	1.021 (0.0214)
Maternal schooling in years	1.019 (0.0241)	1.093*** (0.0276)	1.080** (0.0410)
East-Germany	1.123 (0.273)	0.991 (0.277)	1.674 (0.781)
Not German citizenship	0.418*** (0.108)	0.292*** (0.120)	0.304** (0.174)
First child	1.304* (0.193)	1.416** (0.249)	2.748*** (0.742)
Single mother	0.933 (0.175)	0.578** (0.147)	0.822 (0.256)
Local child-care share	1.012 (0.00712)	1.017** (0.00825)	1.012 (0.0141)
Time trend	0.989 (0.00929)	0.996 (0.0101)	0.990 (0.0148)
Values being able to afford s.th.	0.998 (0.160)	1.309 (0.243)	1.110 (0.322)
Observed father on parental leave	0.984 (1.042)	1.632 (1.670)	0.620 (0.769)
Missing in father on parental leave	0.835 (0.168)	0.973 (0.226)	1.649* (0.493)
Reform&1-11 months& c.-r. ben.	1.307 (0.467)	1.399 (0.586)	2.619* (1.395)
Reform&12-14 months& c.-r. ben.	2.084* (0.815)	1.154 (0.525)	1.654 (1.178)
Reform&15-21 months& c.-r. ben.	1.890 (0.934)	0.909 (0.514)	3.483 (2.643)
Reform&22-25 months& c.-r. ben.	0.253 (0.285)	0.754 (0.588)	3.021 (3.483)
Reform&26-36 months& c.-r. ben.	0.528 (0.271)	0.623 (0.334)	2.714 (1.675)
Reform&37-42 months& c.-r. ben.	1.389 (0.767)	1.951 (1.348)	1.601 (1.571)
Reform&1-11 months& no c.-r. ben.	0.902 (0.407)	0.944 (0.456)	2.274 (2.095)
Reform&12-14 months& no c.-r. ben.	3.302** (1.548)	2.036 (1.061)	0.837 (0.824)
Reform&15-21 months& no c.-r. ben.	2.098 (1.107)	1.127 (0.678)	10.54* (13.11)
Reform&22-25 months& no c.-r. ben.	0.302 (0.283)	0.543 (0.471)	0.382 (0.565)
Reform&26-36 months& no c.-r. ben.	1.477 (0.738)	1.156 (0.632)	1.076 (1.468)
Reform&37-42 months& no c.-r. ben.	0.249 (0.273)	0.191 (0.211)	0.360 (0.388)
Reform&1-11 months& first child	0.789 (0.257)	1.044 (0.390)	0.557 (0.278)
Reform&12-14 months& first child	1.097 (0.312)	1.216 (0.430)	0.855 (0.477)
Reform&15-21 months& first child	1.248 (0.525)	1.488 (0.678)	0.354 (0.234)
Reform&22-25 months& first child	3.617	1.621	0.400

	Exit into laborforce participation	Exit into substantial employment	Exit into full time employment
	(3.232)	(1.067)	(0.345)
Reform&26-36 months& first child	1.743	1.140	0.327
	(0.826)	(0.580)	(0.265)
Reform&37-42 months& first child	0.818	0.495	0.709
	(0.594)	(0.482)	(0.702)
Reform&1-11 months& father in leave	1.212	0.788	2.548
	(1.364)	(0.867)	(3.392)
Reform&12-14 months& father in leave	0.865	0.679	3.346
	(0.977)	(0.749)	(4.597)
Reform&15-21 months& father in leave	1.590	0.720	2.463
	(1.862)	(0.848)	(3.638)
Reform&22-42 months& father in leave	0.414	0.256	2.121
	(0.554)	(0.333)	(3.195)
Reform&1-11 months& child born 2008	0.713	0.535*	0.602
	(0.226)	(0.196)	(0.291)
Reform&12-14 months& child born 2008	1.599*	1.717*	2.411
	(0.420)	(0.554)	(1.299)
Reform&15-21 months& child born 2008	0.896	1.388	0.850
	(0.369)	(0.635)	(0.610)
Reform&22-25 months& child born 2008	0.998	1.044	3.459
	(0.768)	(0.666)	(3.157)
Reform&26-42 months& child born 2008	0.734	1.209	0.304
	(0.307)	(0.508)	(0.249)
Reform&1-11 months& value able to afford s.	1.128	0.826	0.482
	(0.464)	(0.392)	(0.377)
Reform&12-14 months& value able to afford s.	1.754*	1.259	1.022
	(0.548)	(0.521)	(0.782)
Reform&15-21 months& value able to afford s.	0.441	0.438	1.068
	(0.309)	(0.330)	(0.898)
Reform&22-42 months& value able to afford s.	0.937	0.920	0.659
	(0.404)	(0.417)	(0.469)
Number of Subjects	670	670	670

Note: See Table 2. Due to the small sample size in cells of the triple interaction terms we had to aggregate some time periods. Due to many missings in the variable father in paternal leave a missing variable was included in order to capture these cases.

Table A.17 Difference-in-Differences Estimation Controlling for Time Trend

	Exit into labor force participation	Exit into substantial employment	Exit into fulltime employment
Reform	1.093 (0.247)	0.838 (0.220)	0.599 (0.272)
Reform&treat&1-11 months& prior recipient	0.696 (0.182)	0.882 (0.283)	1.614 (0.809)
Reform&treat&12-14 months& prior recipient	2.309*** (0.716)	1.752 (0.642)	3.284** (1.928)
Reform&treat&15-21 months& prior recipient	1.361 (0.499)	1.046 (0.444)	2.401 (1.680)
Reform&treat&22-25 months& prior recipient	0.365*** (0.185)	0.863 (0.397)	4.040* (3.171)
Reform&treat&26-36 months& prior recipient	0.401** (0.174)	0.650 (0.291)	1.256 (0.751)
Reform&treat&37-42 months& prior recipient	0.823 (0.417)	1.406 (0.882)	1.069 (0.845)
Reform&treat&1-11 months& new recipient	0.496* (0.202)	0.637 (0.283)	1.563 (1.404)
Reform&treat&12-14 months& new recipient	2.550** (1.033)	2.147* (0.929)	1.633 (1.432)
Reform&treat&15-21 months& new recipient	1.375 (0.625)	1.093 (0.541)	6.883* (8.027)
Reform&treat&22-25 months& new recipient	0.336 (0.275)	0.455 (0.389)	0.520 (0.641)
Reform&treat&26-36 months& new recipient	0.931 (0.381)	0.915 (0.411)	0.460 (0.566)
Reform&treat&37-42 months& new recipient	0.153* (0.163)	0.157* (0.169)	0.251 (0.291)
Number of Subjects	1030	1030	1030

Note: See Table 8. We use the same set of covariates as in Table 8 with the additional time trend variable. In the DiD-estimations the baseline hazards are stratified by treatment group affiliation and for those belonging to the treatment group by potential child rearing benefit eligibility status.

Table A.18 Difference-in-Differences Estimation with Duration Varying Reform Effect

	Exit into labor force participation	Exit into substantial employment
Reform&1-11 months duration	1.333 (0.343)	1.066 (0.334)
Reform&12-14 months duration	0.557 (0.378)	0.343 (0.280)
Reform&15-22 months duration	0.949 (0.447)	1.010 (0.579)
Reform&22-25 months duration	0.873 (0.638)	0.660 (0.419)
Reform&26-42 months duration	0.474 (0.282)	0.379 (0.257)
Reform&treat&1-11 months& prior recipient	0.562** (0.160)	0.692 (0.248)
Reform&treat&12-14 months& prior recipient	4.463** (3.162)	4.272* (3.628)
Reform&treat&15-21 months& prior recipient	1.546 (0.856)	0.867 (0.576)
Reform&treat&22-25 months& prior recipient	0.451 (0.389)	1.094 (0.818)
Reform&treat&26-42 months& prior recipient	1.171 (0.760)	1.798 (1.326)
Reform&treat&1-11 months& new recipient	0.401** (0.170)	0.500 (0.236)
Reform&treat&12-14 months& new recipient	4.923** (3.725)	5.235* (4.618)
Reform&treat&15-21 months& new recipient	1.560 (0.968)	0.906 (0.644)
Reform&treat&22-25 months& new recipient	0.414 (0.444)	0.577 (0.598)
Reform&treat&26-42 months& new recipient	1.489 (0.987)	1.410 (1.080)
Number of Subjects	1030	1030

Note: See Table 8. We use the same set of covariates as in Table 8. In the DiD-estimations the baseline hazards are stratified by treatment group affiliation and for those belonging to the treatment group by potential child rearing benefit eligibility status. As this specification has an additional set of interaction terms with durations and there is only a small number of exits to full time employment this flexible specification could not be estimated for full time employment. In addition we had to aggregate the time periods of 26-36 and 37-42 months of the interaction effects.

Table A.19 Difference-in-Differences Estimation Controlling for Yearly Quarters

	Exit into labor force participation	Exit into substantial employment	Exit into fulltime employment
Reform&treat&1-11 months& prior recipient	0.616 ⁺ (0.149)	0.682 (0.204)	0.995 (0.432)
Reform&treat&12-14 months& prior recipient	2.284 ^{***} (0.683)	1.420 (0.489)	2.011 (1.116)
Reform&treat&15-21 months& prior recipient	1.415 (0.511)	0.849 (0.352)	1.502 (1.014)
Reform&treat&22-25 months& prior recipient	0.345 ⁺ (0.176)	0.645 (0.304)	2.280 (1.768)
Reform&treat&26-36 months& prior recipient	0.454 ⁺ (0.209)	0.579 (0.261)	0.969 (0.530)
Reform&treat&37-42 months& prior recipient	0.990 (0.551)	1.188 (0.749)	2.134 (1.782)
Reform&treat&1-11 months& new recipient	0.402 ⁺ (0.158)	0.441 ⁺ (0.187)	0.877 (0.759)
Reform&treat&12-14 months& new recipient	2.553 ^{***} (0.992)	1.855 (0.750)	1.047 (0.872)
Reform&treat&15-21 months& new recipient	1.282 (0.586)	0.839 (0.420)	4.581 (5.390)
Reform&treat&22-25 months& new recipient	0.363 (0.298)	0.415 (0.351)	0.342 (0.430)
Reform&treat&26-36 months& new recipient	0.975 (0.434)	0.748 (0.362)	0.509 (0.589)
Reform&treat&37-42 months& new recipient	0.173 (0.188)	0.136 ⁺ (0.154)	0.461 (0.581)
+ control for yearly quarters	yes	yes	yes
Number of Subjects	1030	1030	1030

Note: See Table 8. We use the same set of covariates as in Table 8. In the DiD-estimations the baseline hazards are stratified by treatment group affiliation and for those belonging to the treatment group by potential child rearing benefit eligibility status.

Table A.20 Estimation of Table 2 with Controls for County Level Unemployment

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Local unemployment rate	1.007 (0.0174)	1.019 (0.0201)	1.048 (0.0349)
Reform&1-11 months& prior recipient	1.024 (0.296)	0.956 (0.333)	1.531 (0.727)
Reform&12-14 months& prior recipient	3.380*** (1.103)	1.834 (0.689)	2.994* (1.688)
Reform&15-21 months& prior recipient	1.988* (0.753)	1.081 (0.466)	2.110 (1.456)
Reform&22-25 months& prior recipient	0.529 (0.272)	0.871 (0.410)	3.458 (2.696)
Reform&26-36 months& prior recipient	0.562 (0.243)	0.644 (0.289)	1.048 (0.586)
Reform&37-42 months& prior recipient	1.127 (0.556)	1.398 (0.841)	0.884 (0.646)
Reform&1-11 months& new recipient	0.713 (0.303)	0.636 (0.285)	1.339 (1.211)
Reform&12-14 months& new recipient	3.807*** (1.590)	2.223* (0.967)	1.417 (1.181)
Reform&15-21 months& new recipient	2.050 (0.981)	1.122 (0.577)	5.672 (6.723)
Reform&22-25 months& new recipient	0.499 (0.412)	0.465 (0.401)	0.418 (0.515)
Reform&26-36 months& new recipient	1.391 (0.608)	0.936 (0.442)	0.367 (0.453)
Reform&37-42 months& new recipient	0.222 (0.236)	0.159* (0.171)	0.196 (0.224)
Number of Subjects	678	680	681

Note: See Table 2. We use the same set of covariates as in Table 2. The number of observations varies across columns because, first, depending on the considered outcome individual observations stay non-censored for different periods of time, which, second, modifies the probability of matching regional information.

Table A.21 Estimation of Table 2 with Controls for Age Varying, County Level Unemployment

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	0.946 (0.283)	0.822 (0.295)	1.234 (0.597)
Reform&12-14 months& prior recipient	3.750*** (1.280)	2.110* (0.838)	3.475** (2.098)
Reform&15-21 months& prior recipient	2.007* (0.750)	1.117 (0.480)	2.297 (1.605)
Reform&22-25 months& prior recipient	0.565 (0.294)	0.907 (0.434)	3.729* (2.944)
Reform&26-36 months& prior recipient	0.562 (0.242)	0.650 (0.289)	1.084 (0.596)
Reform&37-42 months& prior recipient	1.018 (0.519)	1.421 (0.850)	1.094 (0.845)
Reform&1-11 months& new recipient	0.678 (0.287)	0.588 (0.262)	1.214 (1.087)
Reform&12-14 months& new recipient	4.012*** (1.662)	2.366** (1.027)	1.534 (1.262)
Reform&15-21 months& new recipient	2.057 (0.991)	1.140 (0.588)	5.930 (6.933)
Reform&22-25 months& new recipient	0.516 (0.425)	0.474 (0.408)	0.430 (0.532)
Reform&26-36 months& new recipient	1.386 (0.605)	0.937 (0.442)	0.376 (0.463)
Reform&37-42 months& new recipient	0.216 (0.230)	0.161* (0.172)	0.167 (0.189)
1-11 months& unemployment rate	0.985 (0.0224)	0.977 (0.0266)	0.984 (0.0403)
12-14 months& unemployment rate	1.037 (0.0292)	1.059* (0.0343)	1.082 (0.0607)
15-21 months& unemployment rate	1.012 (0.0345)	1.031 (0.0370)	1.070 (0.0665)
22-25 months& unemployment rate	1.064* (0.0400)	1.049 (0.0416)	1.076 (0.0697)
26-36 months& unemployment rate	1.011 (0.0402)	1.029 (0.0429)	1.054 (0.0592)
37-42 months& unemployment rate	0.928 (0.0516)	1.035 (0.0641)	1.224** (0.104)
Number of Subjects	678	680	681

Note: See Table 2. We use the same set of covariates as in Table 2. The number of observations varies across columns because, first, depending on the considered outcome individual observations stay non-censored for different periods of time, which, second, modifies the probability of matching regional information.

Table A.22 Estimation of Table 2 with Controls for Month of Birth

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	0.867 (0.262)	0.748 (0.282)	0.912 (0.469)
Reform&12-14 months& prior recipient	2.911*** (0.997)	1.510 (0.603)	1.907 (1.12)
Reform&15-21 months& prior recipient	1.736 (0.687)	0.906 (0.412)	1.418 (1.004)
Reform&22-25 months& prior recipient	0.464 (0.244)	0.731 (0.356)	2.473 (1.942)
Reform&26-36 months& prior recipient	0.507 (0.227)	0.556 (0.261)	0.779 (0.445)
Reform&37-42 months& prior recipient	1.006 (0.507)	1.222 (0.761)	0.677 (0.508)
Reform&1-11 months& new recipient	0.628 (0.271)	0.546 (0.252)	0.949 (0.879)
Reform&12-14 months& new recipient	3.243*** (1.414)	1.860 (0.862)	0.991 (0.862)
Reform&15-21 months& new recipient	1.726 (0.846)	0.939 (0.499)	4.154 (4.946)
Reform&22-25 months& new recipient	0.418 (0.349)	0.385 (0.335)	0.321 (0.388)
Reform&26-36 months& new recipient	1.141 (0.512)	0.744 (0.369)	0.285 (0.356)
Reform&37-42 months& new recipient	0.181 (0.192)	0.124 (0.133)	0.154 (0.180)
Birth in January	0.919 (0.228)	0.792 (0.216)	0.752 (0.308)
Birth in February	0.810 (0.225)	0.590 (0.202)	0.531 (0.268)
Birth in April	0.855 (0.222)	0.610 (0.176)	0.846 (0.330)
Birth in May	0.858 (0.208)	0.744 (0.203)	0.845 (0.340)
Birth in June	1.193 (0.280)	0.869 (0.231)	0.752 (0.306)
Birth in July	0.974 (0.251)	0.776 (0.204)	0.273** (0.142)
Birth in August	0.929 (0.239)	0.561 (0.173)	0.457 (0.212)
Birth in September	0.927 (0.237)	0.676 (0.192)	0.514 (0.228)
Birth in October	0.890 (0.224)	0.645 (0.180)	0.542 (0.240)
Birth in November	0.698 (0.213)	0.549 (0.186)	0.483 (0.247)
Birth in December	0.570 (0.177)	0.516 (0.172)	0.391 (0.206)
Number of Subjects	685	685	685

Note: See Table 2. We use the same set of covariates as in Table 2.

Table A.23 Estimation of Table 2 only with Births 12 months Before and After Reform

	Exit into labor force participation	Exit into substantial employment
Reform&1-11 months& prior recipient	0.964 (0.269)	1.159 (0.375)
Reform&12-14 months& prior recipient	1.490 (0.552)	0.682 (0.329)
Reform&15-21 months& prior recipient	2.113* (0.867)	0.807 (0.390)
Reform&22-25 months& prior recipient	0.914 (0.657)	1.384 (0.916)
Reform&26-36 months& prior recipient	1.059 (0.563)	0.635 (0.401)
Reform&37-42 months& prior recipient	1.055 (0.526)	2.563 (2.094)
Reform&1-11 months& new recipient	0.519 (0.301)	0.918 (0.611)
Reform&12-14 months& new recipient	4.456** (3.283)	3.875* (2.900)
Reform&15-21 months& new recipient	0.424 (0.300)	0.426 (0.307)
Reform&22-25 months& new recipient	0.354 (0.444)	0.389 (0.480)
Reform&26-36 months& new recipient	1.007 (0.704)	0.875 (0.643)
Reform&37-42 months& new recipient	0.532 (0.717)	0.556 (0.745)
Number of Subjects	327	327

Note: See Table 2. We use the same set of covariates as in Table 2. Due to the low number of exits to full-time employment, we cannot report these results.

Table A.24 Estimation of Table 2 without Births around Reform:
Dec 2006 and Jan 2007

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	1.015 (0.299)	0.959 (0.342)	1.285 (0.630)
Reform&12-14 months& prior recipient	3.621*** (1.249)	2.206** (0.881)	3.253** (1.946)
Reform&15-21 months& prior recipient	1.798 (0.712)	1.101 (0.496)	2.085 (1.481)
Reform&22-25 months& prior recipient	0.541 (0.281)	0.879 (0.434)	2.992 (2.419)
Reform&26-42 months& prior recipient	0.709 (0.243)	0.857 (0.336)	0.828 (0.434)
Reform&1-11 months& new recipient	0.807 (0.348)	0.771 (0.352)	1.395 (1.274)
Reform&12-14 months& new recipient	3.816*** (1.622)	2.334* (1.039)	1.453 (1.224)
Reform&15-21 months& new recipient	2.426* (1.200)	1.417 (0.754)	6.063 (7.265)
Reform&22-25 months& new recipient	0.543 (0.450)	0.542 (0.470)	0.709 (0.909)
Reform&26-42 months& new recipient	1.020 (0.424)	0.720 (0.325)	0.293 (0.265)
Number of Subjects	661	661	661

Note: See Table 2. We use the same set of covariates as in Table 2. We aggregated the cells for 26-36- and 37-42-months interaction terms due to the small number of observed exits in these cells.

Table A.25 Estimation of Table 2 with Alternative Thresholds for Prior Benefit Eligibility

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.004 (0.0108)	1.036*** (0.0121)	1.020 (0.0196)
Maternal schooling in years	1.036 (0.0225)	1.115*** (0.0260)	1.117*** (0.0393)
East-Germany	1.583*** (0.178)	1.711*** (0.224)	2.282*** (0.425)
Not German citizenship	0.441*** (0.106)	0.367*** (0.130)	0.314** (0.179)
First child	1.331*** (0.138)	1.524*** (0.177)	2.044*** (0.376)
Single mother	1.133 (0.198)	0.680 (0.161)	0.836 (0.241)
Time trend	0.991 (0.00687)	1.001 (0.00783)	0.993 (0.0120)
Reform&1-11 months& prior recipient	1.148	1.087 (0.347)	1.395 (0.624)
Reform&12-14 months& prior recipient	3.154*** (1.010)	1.850* (0.678)	3.376** (1.831)
Reform&15-21 months& prior recipient	1.835* (0.676)	1.068 (0.460)	1.738 (1.173)
Reform&22-25 months& prior recipient	0.432 (0.245)	0.975 (0.490)	3.466 (2.685)
Reform&26-36 months& prior recipient	0.800 (0.313)	0.947 (0.392)	1.297 (0.675)
Reform&37-42 months& prior recipient	1.090 (0.541)	1.893 (1.186)	1.079 (0.817)
Reform&1-11 months& new recipient	0.564 (0.234)	0.557 (0.246)	0.710 (0.657)
Reform&12-14 months& new recipient	4.703*** (1.847)	2.672** (1.113)	2.439 (1.919)
Reform&15-21 months& new recipient	1.671 (0.725)	1.263 (0.590)	2.518 (2.431)
Reform&22-25 months& new recipient	0.486 (0.323)	0.482 (0.334)	0.804 (1.032)
Reform&26-36 months& new recipient	1.113 (0.476)	0.828 (0.386)	0.257 (0.297)
Reform&37-42 months& new recipient	0.652 (0.437)	0.445 (0.299)	0.239 (0.272)
Number of Subjects	775	775	775

Note: See Table 2. The number of observations increases because the paternal income information is now gathered in the year of birth, for which we have more observations.

Table A.26 Estimation of Table 2 with Alternative Prior Benefit Eligibility Groups

	Exit into labor force participation	Exit into substantial employment
Reform&1-11 months& certainly full prior benefit	1.447 (0.499)	2.984* (1.857)
Reform&12-14 months& certainly full prior benefit	5.341*** (2.998)	1.848 (1.170)
Reform&15-25 months& certainly full prior benefit	0.946 (0.459)	0.565 (0.294)
Reform&26-42 months& certainly full prior benefit	0.380* (0.206)	0.477 (0.285)
Reform&1-11 months& certainly part prior benefit	0.496 (0.565)	0.401 (0.462)
Reform&12-14 months& certainly part prior benefit	5.810* (5.919)	2.293 (2.547)
Reform&15-25 months& certainly part prior benefit	0.509 (0.585)	0.360 (0.408)
Reform&26-42 months& certainly part prior benefit	0.889 (0.494)	2.171 (1.647)
Reform&1-11 months& probably prior benefit	0.751 (0.272)	0.666 (0.263)
Reform&12-14 months& probably prior benefit	2.576** (0.991)	1.839 (0.820)
Reform&15-25 months& probably prior benefit	1.716 (0.661)	1.875 (0.797)
Reform&26-42 months& probably prior benefit	1.116 (0.564)	1.022 (0.539)
Reform&1-11 months& no prior benefit	0.732 (0.309)	0.681 (0.304)
Reform&12-14 months& no prior benefit	3.771*** (1.568)	2.308* (0.998)
Reform&15-25 months& no prior benefit	1.388 (0.573)	0.941 (0.422)
Reform&26-42 months& no prior benefit	0.974 (0.386)	0.683 (0.291)
Number of Subjects	685	685

Note: See Table 2. We use the same set of covariates as in Table 2. Due to the small number of observed exits to full time employment in many cells, we cannot report these results. In addition, we aggregate the cells for 15-21 and 22-25 months as well as 26-36- and 37-42-months interaction terms.

Table A.27 Estimation of Table 2 accounting for Potential Maternity Leave Misreporting

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Reform&1-11 months& prior recipient	1.049 (0.298)	0.900 (0.308)	1.277 (0.593)
Reform&12-14 months& prior recipient	3.327*** (1.063)	1.733 (0.631)	2.603* (1.451)
Reform&15-21 months& prior recipient	1.861* (0.697)	1.135 (0.481)	1.897 (1.300)
Reform&22-25 months& prior recipient	0.471 (0.240)	0.866 (0.407)	3.214 (2.491)
Reform&26-36 months& prior recipient	0.547 (0.237)	0.582 (0.257)	1.002 (0.556)
Reform&37-42 months& prior recipient	1.101 (0.542)	1.398 (0.841)	0.851 (0.626)
Reform&1-11 months& new recipient	0.717 (0.317)	0.669 (0.317)	1.931 (1.913)
Reform&12-14 months& new recipient	3.726*** (1.560)	2.233* (0.974)	1.360 (1.129)
Reform&15-21 months& new recipient	2.184* (1.031)	1.260 (0.636)	5.704 (6.751)
Reform&22-25 months& new recipient	0.495 (0.409)	0.479 (0.413)	0.438 (0.538)
Reform&26-36 months& new recipient	1.363 (0.594)	0.943 (0.445)	0.388 (0.481)
Reform&37-42 months& new recipient	0.217 (0.230)	0.159* (0.170)	0.207 (0.238)
Number of Subjects	685	685	685

Note: See Table 2. We use the same set of covariates as in Table 2.

Table A.28 Estimation of Table 2 controlling for a "January" - Seam Effect

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Seam	2.676*** (0.361)	2.645*** (0.404)	4.218*** (0.822)
Reform&1-11 months& prior recipient	1.072 (0.298)	0.951 (0.321)	1.515 (0.689)
Reform&12-14 months& prior recipient	3.518*** (1.132)	1.856* (0.684)	2.970** (1.632)
Reform&15-21 months& prior recipient	2.090* (0.788)	1.121 (0.481)	2.265 (1.544)
Reform&22-25 months& prior recipient	0.553 (0.286)	0.904 (0.426)	3.677* (2.868)
Reform&26-36 months& prior recipient	0.608 (0.261)	0.678 (0.298)	1.147 (0.621)
Reform&37-42 months& prior recipient	1.303 (0.654)	1.552 (0.933)	1.015 (0.744)
Reform&1-11 months& new recipient	0.775 (0.328)	0.687 (0.307)	1.481 (1.339)
Reform&12-14 months& new recipient	3.969*** (1.648)	2.328* (1.006)	1.597 (1.321)
Reform&15-21 months& new recipient	2.180 (1.039)	1.223 (0.631)	7.589* (8.895)
Reform&22-25 months& new recipient	0.533 (0.442)	0.509 (0.440)	0.515 (0.624)
Reform&26-36 months& new recipient	1.375 (0.598)	0.941 (0.443)	0.466 (0.575)
Reform&37-42 months& new recipient	0.239 (0.257)	0.174 (0.192)	0.248 (0.289)
Number of Subjects	685	685	685

Note: See Table 2. We use the same set of covariates as in Table 2.

Table A.29 Estimation of Table 2 with Reduced Sample - No Control for Employment Prior to Childbirth (cf. Table EA.29)

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	1.004 (0.0123)	1.040*** (0.0143)	1.006 (0.0232)
Maternal schooling in years	1.006 (0.0245)	1.075*** (0.0281)	1.080* (0.0439)
East-Germany	1.742*** (0.212)	1.759*** (0.247)	2.358*** (0.472)
Not German citizenship	0.421*** (0.116)	0.307*** (0.133)	0.373* (0.215)
First child	1.449*** (0.161)	1.684*** (0.207)	2.073*** (0.413)
Single mother	0.862 (0.175)	0.497** (0.137)	0.636 (0.217)
Time trend	0.996 (0.00745)	1.008 (0.00845)	1.000 (0.0132)
Reform&1-11 months& prior recipient	0.904 (0.268)	0.801 (0.288)	1.241 (0.610)
Reform&12-14 months& prior recipient	2.698*** (0.880)	1.483 (0.560)	2.015 (1.121)
Reform&15-21 months& prior recipient	1.916 (0.786)	0.933 (0.414)	1.435 (0.987)
Reform&22-25 months& prior recipient	0.420* (0.217)	0.686 (0.327)	2.354 (1.832)
Reform&26-36 months& prior recipient	0.535 (0.250)	0.748 (0.363)	1.097 (0.695)
Reform&37-42 months& prior recipient	0.586 (0.258)	0.761 (0.433)	0.729 (0.498)
Reform&1-11 months& new recipient	0.682 (0.298)	0.628 (0.294)	1.628 (1.633)
Reform&12-14 months& new recipient	3.383*** (1.447)	1.984 (0.888)	1.134 (0.947)
Reform&15-21 months& new recipient	1.920 (0.950)	1.070 (0.569)	4.796 (5.716)
Reform&22-25 months& new recipient	0.428 (0.354)	0.408 (0.352)	0.375 (0.463)
Reform&26-36 months& new recipient	0.905 (0.543)	0.742 (0.469)	1.040 (1.509)
Reform&37-42 months& new recipient	0.849 (0.426)	0.515 (0.281)	- (4.67e-17)
Number of Subjects	625	625	625

Note: See Table 2. We use the same set of covariates as in Table 2.

Table A.30 Estimation of Table 2 with Reduced Sample - With Control for Employment Prior to Childbirth

	Exit into labor force participation	Exit into substantial employment	Exit into full time employment
Maternal age in years	0.997 (0.0123)	1.033** (0.0145)	0.995 (0.0232)
Maternal schooling in years	1.009 (0.0249)	1.079*** (0.0284)	1.088** (0.0446)
East-Germany	1.741*** (0.207)	1.798*** (0.248)	2.375*** (0.472)
Not German citizenship	0.489** (0.139)	0.384** (0.168)	0.443 (0.256)
First child	1.142 (0.138)	1.269* (0.172)	1.645** (0.342)
Single mother	0.963 (0.186)	0.563** (0.149)	0.713 (0.234)
Employed before birth	1.916*** (0.251)	2.258*** (0.353)	2.030*** (0.465)
Time trend	0.992 (0.00742)	1.004 (0.00855)	0.998 (0.0132)
Reform&1-11 months& prior recipient	0.973 (0.290)	0.862 (0.312)	1.319 (0.646)
Reform&12-14 months& prior recipient	2.883*** (0.941)	1.596 (0.606)	2.127 (1.181)
Reform&15-21 months& prior recipient	2.107* (0.863)	1.034 (0.462)	1.531 (1.067)
Reform&22-25 months& prior recipient	0.483 (0.249)	0.788 (0.377)	2.563 (1.991)
Reform&26-36 months& prior recipient	0.605 (0.282)	0.837 (0.406)	1.169 (0.743)
Reform&37-42 months& prior recipient	0.667 (0.295)	0.849 (0.487)	0.753 (0.503)
Reform&1-11 months& new recipient	0.708 (0.307)	0.644 (0.300)	1.616 (1.614)
Reform&12-14 months& new recipient	3.530*** (1.499)	2.039 (0.909)	1.132 (0.943)
Reform&15-21 months& new recipient	2.047 (1.004)	1.151 (0.609)	4.910 (5.860)
Reform&22-25 months& new recipient	0.458 (0.378)	0.439 (0.378)	0.389 (0.482)
Reform&26-36 months& new recipient	0.982 (0.587)	0.820 (0.517)	1.124 (1.623)
Reform&37-42 months& new recipient	0.945 (0.484)	0.586 (0.329)	2.10e-19*** (1.21e-19)
Number of Subjects	625	625	625

Note: See Table 2. We use the same set of covariates as in Table 2.