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**How Policy Matters:
Germany's Parental Leave Benefit
Reform and Fathers' Behavior
1999-2009**

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**How Policy Matters:
Germany's Parental Leave Benefit Reform and Fathers' Behavior
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Abstract

In 2007, Germany enacted a radical new parental leave benefit scheme that grants parents 67 percent of their previous income, and includes two “daddy months.” In this paper, we use data from the German Microcensus for the period 1999 to 2009 to explore how this reform has changed fathers’ use of parental leave. We find strong overall increase in parental leave usage among men. Two groups of men in particular changed their behavior: highly educated men and fathers who are on fixed-term employment contracts.

Keywords: Fathers’ Involvement, Germany, Paternal Leave, Parental Leave, Family Policies

Men's participation in childrearing tasks has attracted considerable public and academic attention. Greater involvement of fathers in the upbringing of their children has been welcomed, not only because it alleviates women's challenges in reconciling work and family life, but also because children are assumed to benefit in their mental and social development from having active and involved fathers (King 1994; Aldous, Mulligan and Bjarnason 1998; Harris, Furstenberg and Marmer 1998; Carlson 2006). So far, however, the empirical evidence on paternal involvement is not conclusive. Studies that map men's involvement in the upbringing of their children regularly show that attitudes have undergone significant changes in recent decades, with men and women agreeing to a more equal division of household labor. However, men's behavioral changes have been less profound, as women have continued to do a greater share of the childrearing and domestic tasks. The slow pace at which men's behavior is changing has prompted researchers to diagnose a "stalled" (Hochschild and Machung 1989) or an "incomplete" (Esping-Andersen 2009) revolution.

Social policies can be an important force that either accelerate or hinder this development. All European countries are committed to supporting gender equality and the equal participation of men and women in the labor market. In recent decades, expanding public day care for children under age three has been one of the primary measures used to reach this policy goal (Leon 2009). In other words, policy makers have tried to achieve gender equality on the labor market mainly by shifting childcare to public institutions. Only a few countries—notably, the Scandinavian countries—have enacted policies that more directly influence the involvement of fathers in childcare through parental leave schemes with high income replacement rates, and through "proactive policies," such as a paternity quota (Sundström and Duvander

2002). In 2007, Germany followed the Swedish role model and introduced a parental leave benefit scheme that grants an earnings-related benefit of 67 percent of prior earnings, as well as two “daddy months” (the paternity quota). According to government officials, the main goals of the parental leave benefit reform are to increase the rate at which women return to work after childbirth, and to establish financial incentives for fathers to use parental leave (Bundestag 2006; Erler 2009).

The aim of this paper is to investigate how the benefit reform of 2007 has shaped fathers’ use of parental leave. We compare patterns of fathers’ parental leave usage before and after the reform by drawing on data from the German Microcensus, which we have pooled for the period 1999-2009. Due to the low share of fathers who are using parental leave in Germany, most empirical evidence on the topic has come from earlier qualitative studies or opinion polls (Vaskovics and Rost 1999; Oberndörfer and Rost 2002). Recently, a few quantitative studies have been made available that address fathers’ uptake of parental leave after the reform (BMFSFJ 2006; Pfahl and Reuyß 2009; Reich 2010; Vogt and Pull 2010; Trappe 2012). So far, however, there have been no studies that compare behavior before and after the reform. By pooling several years of Microcensus data, we are able to close this research gap. Our main research question is whether the determinants of parental leave have been changing since the reform. In particular, we are interested in determining whether fathers who have profited more from the reform (such as highly educated fathers) are also more likely to have changed their behavior.

The Policy Context

Like other European countries, Germany has modified its parental leave regulations since the introduction of this policy in 1986.¹ The length of leave was extended bit by bit over the years, from 10 months in 1986 to 36 months in 1992, which meant that Germany came to have one of the longest parental leaves in Europe (Ray, Gornick and Schmitt 2010). Parental leave benefits were, however, not paid for the whole duration of the leave. Only until the child reached age two, parents received a flat rate payment of DM600 (later, €300) per month. The level of the benefit remained almost the same over the years.² Since the very beginning, the parental leave regulation was meant to be gender-neutral; i.e., mothers *and* fathers were both granted the right to reduce their working time to take care of their children. Nevertheless, these parental leave regulations can be regarded as one of the pillars that cemented the male breadwinner regime in Germany. The leave was too long and the benefits too low to guarantee an independent livelihood to parents who took advantage of it (Waldfogel 1998; Budig, Misra and Boeckmann 2012). Finally, in 2007, the benefit system was radically reformed. The duration of paid leave was shortened and the benefit payments were made dependent on prior earnings. Since then, parents have been eligible to receive 67 percent of their former net income for 14 months after the birth of their children.³ Additionally, a paternity quota has been introduced. Two months of the leave are reserved for each partner; if they are not used, the couple loses them.

¹ Since 1952, (West) German policies have included a maternity protection period, which comprised six weeks before giving birth and eight weeks after giving birth. Between 1979 and 1986, a paid maternity leave was granted for working mothers for the period of six months after giving birth. During this time, mothers were entitled to a benefit equivalent to their previous net income (with a ceiling of DM750 until 1983 and DM510 since 1984). Fathers were not eligible.

The new parental leave scheme constitutes a significant reform for German family policies. In the past, Germany had been labeled a prototypical conservative welfare state regime in many comparative welfare state studies (Esping-Andersen 1999; Treas and Widmer 2000). The new regulations raise the question of whether this reform represents a turning point in German family policies. Is Germany losing its identity as a conservative welfare state? If so, does this challenge the notion,

East Germany introduced maternal leave regulations (the so-called “*Babyjahr*”) in 1972. The *Babyjahr* was a year-long maternity leave with a benefit equal to the level of sickness benefits. East German regulations granted only mothers, and not fathers, the right to take the leave.

² Initially, parental leave benefits were paid for the whole duration of the parental leave period. Parents were eligible for 10 months of benefits starting in 1986, and for 12 months starting in 1988. However, when the duration of leave increased to 36 months in 1992, the benefit payments and the duration of leave were no longer the same. While parents could take up to three years of leave, payment was reduced to the period of 18 months (two years from 1993 onwards). Some flexibility was introduced in 2001, when parents could increase their benefit to a maximum of DM900 (€450) if they used the benefit only one instead of two years. The benefit was means-tested and dependent on the household income. When the parental leave benefit was introduced in 1986, the income thresholds were quite high, but they were reduced to lower levels over time. Between 1986 and 2000 there was no income limit for the first six months, and after the sixth month, the income limits for couples were DM29,400 (€15,032) net income per year (BMJFFG 1989: 32). Between 2001 and 2003 they were €51,130 for the first six months and €16,470 from the seventh month (BMFSFJ 2002: 74). From 2004 until 2006 the income limits were drastically reduced to €30,000 per year for the first six months BMFSFJ (2006),

³ There is an income ceiling for the parental leave benefits. The maximum amount is €1,800 per month. Furthermore, men who have very a low income (of less than €1,000) are eligible to receive more than 67 percent of their prior income. In 2011, the benefit was gradually reduced to 65% for individuals with a net income higher than €1,200, and individuals who had a gross household income of more than €500,000 were no longer eligible to receive the benefit.

widely held in comparative welfare state research, that family policy regimes are “path-dependent” and resistant to sudden and comprehensive changes (Pierson 1996)?

Scholars have observed that European social policies are gradually moving away from supporting the male breadwinner model. Benefits that have supported this model in the past are being curtailed, and social policies are being redesigned to provide more support for the “adult worker model” (Annesley 2007; Hobson and Fahlén 2009; Lewis 2001; Mätzke and Ostner 2010: 388; Daly 2011). While a policy shift in this direction has been reported for some countries, developments in other countries have been less consistent (Daly 2011). This inconsistency and ambivalence that can also be found in the development of German family policies. On the one hand, the 2007 reform supports a more rapid return of mothers to the labor market (Spiess and Wrohlich 2008). Likewise, German childcare policies are designed to facilitate the balancing of work and family life. The reform of the maintenance regulations in 2008, in which it was stipulated that the generous alimony payments for non-working divorcees were to be curtailed, must also be seen as a move towards the adult worker model. On the other hand, a number of policies that support the male breadwinner model are still in place. The tax system still generously favors the one-earner family model, and the social security system covers the health care and pension contributions of non-working wives. The childrearing benefit (*Betreuungsgeld*), a bonus for parents who do not use public childcare that is due to be introduced in 2013, is a measure that also supports the male breadwinner model. This ambivalence in family support policies provides a unique opportunity for studying how policy changes may affect behavior. In particular, it could help us to determine whether the findings on men’s parental leave usage, which are mainly for the Nordic countries, could be transferred to a more ambiguous policy context.

Determinants of Fathers' Parental Leave Usage

The overwhelming majority of studies that investigate the use of parental leave among fathers have been conducted for the Nordic countries. These studies have provided evidence that men's education increases the chances that fathers will use parental leave (Näsman 1992; Sundström and Duvander 2002; Lappegard 2008). There is also evidence that workplace characteristics and type of occupation are related to parental leave usage (Näsman 1992; Haas, Allard, and Hwang 2002; Bygren and Duvander 2006). Bygren and Duvander (2006) showed that fathers who work in the public sector or in larger companies are more likely to use parental leave than fathers in the private sector or in small companies. Using Swedish survey data, Haas, Allard, and Hwang (2002) found that the "organizational culture" of a company is another vital factor in men's parental leave usage rates. Their study also showed that it is important to consider the mother's characteristics and her attitudes when seeking to understand men's behavior. This finding is in line with the results of an investigation based on Finnish register data by Lammi-Taskula (2008), which found that the mother's characteristics are even more important in determining the duration of leave than the father's.

Regarding the effects of policy changes on men's behavior, there is consistent evidence showing that fathers' usage of parental leave increased after the implementation of the paternity quota in Sweden (Björnberg 2002; Sundström and Duvander 2002). However, there is some dispute about how great and how durable the impact has been. Duvander and Johansson (2010) looked at the behavioral changes after the introduction of the paternity quota in Sweden, and following the

extension of the quota from one to two months. They further investigated the effectiveness of the “gender equality bonus,” introduced in 2008, which provides tax credits for couples who share their parental leave equally. They found that the initial introduction of the paternity quota had the most pervasive influence on fathers’ use of leave. Neither the extension of the quota nor the introduction of the gender equality bonus resulted in any significant behavioral changes. Duvander and Johansson (2010) also investigated how different population subgroups responded to policy changes. They found that fathers with tertiary education changed their behavior the most after the introduction of the paternity quota. A similar pattern emerged after the introduction of the gender equality bonus. However, they did not find that highly educated fathers responded differently than other fathers when the paternity quota was extended from one to two months.

For Germany, there are only a few quantitative studies that have investigated the determinants of parental leave usage among men. Based on Microcensus data for the period 1999-2005, Geisler and Kreyenfeld (2011) found that men’s education was unrelated to fathers’ chances of using parental leave. However, “relative education” was found to increase fathers’ usage of leave, as men who were more highly educated than their female partners were shown to be less likely to be on leave than others. A study commissioned by the family ministry (BMFSFJ 2008) which used the responses of women on their partner’s behavior found that fathers’ education had a positive effect on men’s parental leave usage for the period after the reform. Reich (2010), who used data from the German Microcensus 2008, found a U-shaped relationship between men’s education and leave usage. Based on a non-representative online survey with fathers who received parental leave benefits after 2007, Pfahl and Reuyß (2009) found that fathers on leave tended to be highly educated and have a higher

occupational status. The study also suggested that workplace characteristics may play an important role in a father's decision to take leave, as a large share of the fathers who participated in the survey were employed in the public sector or by firms with a works council. Similarly, a non-representative online survey by Vogt and Pull (2010) found that men who were better educated than their partners were less likely to use parental leave. Using register data of fathers who received parental leave benefits in two German states, Trappe (2012) showed that men's prior earnings were only loosely associated with their parental leave usage. She also found, however, that relative earnings could explain fathers' behavior. According to this study, men who had significantly higher earnings than their female partners were more likely to take longer periods of leave.

The evidence seems to suggest that fathers with higher education and higher earnings are more likely than other fathers to use the leave, or to take longer periods of it. This finding is in line with results of prior studies for Scandinavian countries, and it also lends support to the idea that highly educated men represent the "vanguard" of involved fatherhood. However, empirical evidence for Germany is still sketchy, as it frequently rests on non-representative samples, online surveys, or women's incomplete reports on male behavior. Furthermore, most of the presented quantitative evidence refers to the period after the reform. What is still unclear is if this pattern did not emerge until recently, when the new regulations were introduced, or whether this is a consistent empirical finding that is independent of the policy context. Accordingly, the question of whether different subgroups of the population have responded differently to the change in policy context remains unanswered.

Differential Response to Policy Change

The German parental leave benefit reform constitutes a shift away from a flat-rate benefit system towards an earnings-related system. This policy change has obviously altered the economic incentives for parents to take parental leave. For unemployed and other non-working men, the reform constitutes no change in the amount of benefits they receive, which remains at a flat rate of €300. Currently, however, this benefit can only be claimed for up to 14 months. Before the reform, it could be claimed for 24 months, which meant that the unemployed and non-working population experienced a reduction in transfer payments. For all working fathers, the amount of benefits they receive during parental leave has significantly increased. As the payment is earnings-related, however, the group that has profited the most in absolute terms are the higher earners. We could, therefore, conclude that this is the reason why higher earners changed their behavior the most. However, people do not make their employment decisions solely based on the absolute amount of transfer payments. Instead, economic theory would tell us that they would likely weigh the transfer payments against the earnings they would have received if they had continued to be employed. Even under the new system, higher income men still face higher opportunity costs when taking leave than lower earners. Higher earners usually pursue career tracks that are more sensitive to career interruptions. Thus, the opportunity costs of foregone income are relatively high for this group of men. Moreover, the German parental leave benefit only covers 67 percent of prior net income, and an income ceiling is built into the system. Men who have net earnings of more than €2,700 will only receive the maximum benefit of €1,800. For men with a net income of less than €1,000, parental leave benefits are topped-up and exceed 67 percent of prior income (see also footnote 3). After taking these factors into account, we would

likely conclude that highly educated men should be more reluctant to take advantage of parental leave than less educated men.

However, parental employment decisions are not influenced by economic determinants alone; instead, they are embedded in our cultural and moral understanding of what is appropriate parenthood (Duncan and Edwards 1997; Duncan et al. 2003; Pfau-Effinger 2004). People make “care decisions” based on moral and socially negotiated views about proper behavior, and these views vary by population subgroups. Less educated men are usually assumed to adhere to traditional gender roles, while the highly educated are seen as being at the forefront of a trend toward greater involvement of fathers in childrearing (Juby and Le Bourdais 1998: 163; Sayer, Gauthier and Furstenberg 2004). The fact that highly educated men only rarely live up to this ideal is explained by the fact that their high income pushes them towards acting as male breadwinners (Kaufman and Uhlenberg 2000). In particular, highly educated men who are partnered with less educated women are subject to these forces. They are obliged to act as breadwinners, regardless of the extent to which they believe in the concepts of involved fatherhood. The parental leave benefit reform opened up new behavioral options for these fathers, in particular. Although the new system does not provide full income replacement, it allows men to temporarily step back from the breadwinner role. Highly educated men may be expected to be more eager to embrace this opportunity, as it reduces the tension between their ideals and their actual behavior. If this assertion were true, we would assume that highly educated men would have indeed changed their behavior more radically after the parental leave benefit reform in Germany than other educational groups. This particularly applies to highly educated men who are partnered with less educated women.

Data, Method and Variables

In order to investigate the determinants of fathers' parental leave usage before and after the reform, we use data from the German Microcensus. The Microcensus is a one percent sample of the population living in Germany. It has been conducted in western Germany since 1957, and in eastern Germany since 1991. We restricted the analysis to the period 1999 to 2009. This restriction was made because earlier Microcensuses did not include precise information on the use of parental leave, and later Microcensuses are not yet available. We further restricted the analysis to men between the ages of 18 and 50 who have a child under age three who lives in the same family unit. In principle, it is possible to use parental leave until the child's eighth birthday; however, we believe that restricting the analysis to fathers with children under age three is sensible, as relatively few parents use the leave when the child is older than three⁴. We also had to exclude unemployed and inactive fathers from our sample, as our dependent variable is parental leave usage. Unemployed and inactive fathers are eligible to collect parental leave benefits, but they are not eligible to take parental leave. We also excluded the small number of single fathers and fathers in same-sex unions from the sample. The total sample size consisted of 99,361 respondents. Out of these, 703 fathers, or 0.7 percent of the study population, were on parental leave.

We decided to use a binary logistic regression to study the probability that a father was on leave. The Microcensus is a rotating panel in which one-quarter of the

⁴ In 2001, parental leave regulations have become more flexible allowing parents to use parental leave until the child reaches age eight. However, a study commissioned by the German family ministry suggests that only few parents planned to take advantage of this option (BMFSFJ 2004).

sample are replaced every year, which means that households stay in the sample for four years. Thus, some of the respondents might have been included in the study several times. Unfortunately, we cannot account for multiple observations, since the data do not provide personal identifiers that allow us to track individuals across the survey years. However, we conducted several checks for the robustness of our results, in which we only included survey years that were at least four years apart. The results were very much in line with the results reported in this paper.

One of the key independent variable is the father's education. We created the following categories: no degree, vocational degree, and university degree. We also considered relative education. We made distinctions between men living in partnerships in which neither partner had a degree, both partners had a vocational degree, both had a university degree, the man had more education than his partner, and the woman had more education than her partner. We further accounted for workplace characteristics. We included two variables to gauge employment stability: the sector (public or private sector) and the type of contract (temporary, permanent, self-employed). The control variables in the model are age, region (eastern or western Germany), nationality (German or non-German), and partnership status. Moreover, we considered the child's age and the sex of the youngest child. In addition to the categories of "girls" and "boys," we considered a category that accounts for multiples (see Table 1 for the distribution of the sample).

[Table 1 about here]

Results

Our analytical strategy consisted of two steps. First, we investigated the determinants of parental leave usage for the period 1999-2009. In a second step, we explored whether the role of education in leave usage has changed over time. In this part of the analysis, we present models in which we interacted the independent variables with a dummy variable that distinguishes the period before (1999-2006) and after the reform (2007-2009). Our key variable of interest is the father's education. However, we also present estimates for relative education and workplace characteristics that have been shown to be influential in the decision to take leave.

Table 2 provides the results of the first part of the analysis. While Model 1 in Table 2 only includes individual characteristics, Model 2 also accounts for relative education; i.e., the difference in the educational levels of the father and mother. Let us first turn to Model 1 and its control variables. As expected, we found an increase in fathers' uptake of leave over time. The model also indicated that foreigners were less likely to be on leave than Germans. Eastern Germans were more likely to be on leave than their western German counterparts, which corresponds to prior research showing that eastern German men have more egalitarian gender role ideals than western German men (Cooke 2006). Regarding the socio-demographic controls, the model suggested a positive association between the father's age and leave usage. The child's age was, as expected, shown to be negatively associated with leave usage. The sex of the child and whether the youngest children were multiples were not found to influence fathers' use of leave. We furthermore found that men in non-marital unions seemed to be more likely to be on leave than fathers in marital unions. This contradicts prior research for Scandinavian countries (Sundström and Duvander

2002), but it is in line with findings for Germany, which showed that the division of housework is more equal in non-marital than in marital unions (Lois 2008).

Workplace characteristics also seem to affect father's chances of being on leave. Men on temporary contracts and the self-employed were shown to be less likely to use parental leave, while fathers employed in the public sector were found to have higher chances of being on leave. This is in line with prior research for both the Nordic countries and Germany (Pfahl and Reuyß 2009; Geisler and Kreyenfeld 2011; Reich 2011). Education, our key variable of interest, was not, however, shown to be related to men's leave usage. Based on the findings of this model, we must reject the hypothesis that highly educated fathers represent the vanguard of involved fatherhood.

However, Model 2, which includes the relative education of the partners, presents a different image of the role of education in men's leave usage. The results of the model indicated that men who were highly educated, but had a less educated partner, were less likely to be on leave. There are two groups who stand out as the vanguard of leave usage. The first group had made up of the small share of men whose partners had more education than they did. The second group consisted of men with a university education who had equally educated partners.

[Table 2 about here]

How did the reform change fathers' behavior?

Our main research question is whether the determinants of leave usage have changed since the introduction of the reform. In order to investigate this question, we estimated models that include an interaction term that distinguishes the time before

(years 1999-2006) and after the reform (years 2007-2009). We have chosen a graphical representation to display the results of the interaction models. For improved comparability, we standardized the results. Figure 1 (Panel 1) provides the results for education, standardized for medium education (i.e., in both periods, medium education serves as the reference category). We can see from this figure that fathers' education and leave usage was largely unrelated in the period 1999-2006. For the period 2007-2009, however, we can discern a steep positive educational gradient, as men with a university degree had much higher chances of being on parental leave than other fathers. These results seem to suggest that the new parental leave benefit has encouraged highly educated fathers in particular to take leave. In order to better depict the time trend, we also provided standardized results for period in Figure 1 (Panel 2). In this figure, the period 1999-2006 serves as the reference category for all educational groups. This allows us to see more clearly how the different subgroups have responded to the reform. The figure shows that all of the fathers significantly altered their behavior after the reform. However, the behavioral changes have been most pronounced among highly educated fathers.

[Figure 1 about here]

Figure 2 presents the results for relative education. For the period before the reform, we observe a pattern that we have already seen in the initial model (see Figure 2, Panel 1): men who had less education than their female partners were more likely to take leave, while fathers who had more education were the least likely to do so. Even after the reform, the latter group continued to be reluctant to take advantage of

the leave benefits. However, we can still see that this group have changed their behavior the most (Figure 2, Panel 2). We have assumed that men who are more highly educated than their female partners are under economic pressure to act as breadwinners. The result from this analysis suggests that the new parental leave regulations have enabled these men to temporarily step back from their role as male breadwinner.

[Figure 2 about here]

While we had predicted that the role of fathers' education in leave usage may have changed after the reform, it is less clear whether we should also expect to see significant changes for other factors. Workplace characteristics have been shown to be quite influential for leave usage behavior. In particular, men in more stable and secure working situations have been found to use parental leave more frequently than men employed in the private sector. This association may, however, have weakened following the reform. Before the reform, the use of parental leave by fathers was a very rare event, seen more frequently among men in stable public sector employment. Men in private sector employment often feared, probably with good reason, that their request to take leave would send a negative signal to their employers (Institut für Demoskopie Allensbach 2005, Vaskovics and Rost 1999). With the parental leave benefit reform, the family ministry launched campaigns promoting fathers' involvement in childcare. These campaigns, combined with an overall increase in the share of fathers on leave, may have created an atmosphere in which the use of leave by fathers has become more tolerated in private companies.

Against this background, Figure 3 provides results for sector of employment. It shows that leave usage was more common among public sector employees before the reform (Figure 3, Panel 1). Since the reform, public and private sector employees have both experienced an increase in the likelihood of taking leave, however, the increase was more pronounced among men working in the public than in the private sector (Figure 3, Panel 2). This contradicts our assumption that the association between workplace characteristics and men's leave taking behavior has weakened after the reform.

Figure 4 provides the results by type of contract. Men who had been on a temporary working contract were very reluctant to go on parental leave before the reform (Figure 4, Panel 1). After the reform, there was a strong increase in parental leave usage among men on temporary working contracts (Figure 4, Panel 2). The same applies to self-employed men, among whom we also observed significant changes in behavior. These findings could lead us to conclude that men in unstable working conditions have altered their behavior in response to the parental leave benefit reform. This interpretation is, however, in conflict with our findings for sector of employment showing that men in stable public sector employment are still more likely to take leave than men in private sector employment.

[Figure 3 & 4 about here]

Summary and Discussion

The aim of this paper has been to evaluate men's response to the parental leave benefit reform that was enacted by the German government in 2007.

Specifically, we investigated whether different population subgroups, particularly highly educated fathers, have responded differently to the reform than less educated fathers.

The analyses showed that there has been an strong overall increase in fathers' uptake of parental leave since the reform. This finding might not come as a great surprise, but it is still worth mentioning given the continued ambivalence of German family policy. Policies like the parental leave benefit reform, which was adopted from the Swedish model, have been regarded not only as alien to the German system, but also as premature in the absence of real behavioral changes (Lewis 2001: 158; Lewis et al 2008; Schutter and Zerle-Elsäßer 2012: 218). Against this background, it could easily be assumed that the parental leave benefit reform would have been completely ineffective in changing behavioral patterns. The finding that parental leave usage increased for all educational groups after the reform provides some evidence to refute this claim.

Our investigations also showed that the increase in parental leave usage was strongest among highly educated fathers. Furthermore, men who were more highly educated than their female partners were shown to have had the greatest increases in parental leave usage. This finding is compatible with the fact that highly educated men have profited the most in absolute terms from the new reform. It is, however, also compatible with the observation that highly educated men hold more liberal gender role attitudes and have a greater commitment to caring for their children (Craig 2006; Esping-Andersen and Bonke 2007). They are often unable to live up to these ideals because their high earning power pushes them into the role of breadwinner. The German parental leave benefit reform may have thus enabled highly educated men, who were previously obliged to act as breadwinners, to live up to their ideal of being

an involved father, albeit temporarily. This finding may have wider significance for understanding the interplay of gender role changes and economic constraints. It suggests that changes in gender role attitudes alone will not lead to behavioral change if the economic dimensions that govern behavior are not considered.

Our analysis also supports prior research that showed that workplace characteristics, sector of employment, and the type of contract are important determinants for father's parental leave usage. The new system can be seen as providing greater financial security to men who are in unstable employment positions. Therefore, the association between workplace characteristics and leave usage should have weakened with the reform. However, our analysis provided only mixed evidence that this has been the case. Public sector employees were more likely than private sector employees to take leave before the reform. Since the reform, this gap has widened even further. We must therefore conclude that men's leave usage is still more frequent among public than among private sector employees. The results for type of contract are, however, more in line with our hypothesis. Self-employed men and men on temporary working contracts only rarely took leave before the reform. For this group of men, we observed large increases in parental leave uptake. This finding may indicate that the new system provides greater financial security for men in unstable employment positions. It is, however, also compatible with the idea that the new parental leave system allows individuals on term-limited working contracts to avoid unemployment. This interpretation is only speculation, and cannot be investigated with the type of data that we have available. To confirm this hypothesis, we would need data that contain detailed information on fathers' employment careers. Data of this kind are available for Germany, but do not yet contain sufficient numbers of

fathers on parental leave. However, with the growing share of fathers using parental leave, this kind of quantitative analysis will become more feasible in the future.

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Table 1. Composition of the Sample, Column %

	1999-2006	2007-2009	Total
Region			
Western Germany	87.7	85.5	87.2
Eastern Germany	12.3	14.5	12.8
Citizenship			
German	86.6	85.2	86.3
Other	13.4	14.8	13.7
Age of respondent			
Age 18-25	5.3	4.5	5.1
Age 26-30	19.3	17.7	18.9
Age 31-35	36.3	30.9	35.0
Age 36-40	27.2	29.4	27.8
Age 41-50	11.9	17.5	13.3
Partnership status			
Married	88.7	84.4	87.6
Cohabiting	11.3	15.6	12.4
Age of youngest child in years			
Age 0	34.4	35.1	34.6
Age 1	34.8	34.8	34.8
Age 2	30.8	30.1	30.6
Sex of youngest child			
1 boy	50.1	49.9	50.1
1 girl	48.0	48.2	48.0
Multiples	1.9	1.9	1.9
Education			
No degree	12.3	13.1	12.5
Vocational degree	63.5	61.7	63.0
University	20.4	24.8	21.5
Not available	3.8	0.4	2.9
Type of contract			
Temporary	7.2	8.0	7.4
Permanent	79.9	78.3	79.5
Self-employed	12.7	13.7	12.9
Not available	0.2	0.1	0.2
Sector of employment			
Public sector	13.0	12.1	12.8
Private sector	87.0	87.9	87.2
Not available	<0.1	<0.1	<0.1
Relative education			
Both no degree	8.0	7.7	7.9
Both vocational degree	50.6	47.9	49.9
Both university degree	9.7	13.3	10.6
Woman < man	19.4	19.7	19.5
Woman > man	7.4	10.6	8.2
Not available	4.9	0.6	3.9
Number of cases	74,382	24,979	99,361
Number of fathers on parental leave	380	323	703

Source: Scientific-Use-File of the German Microcensuses 1999-2009.

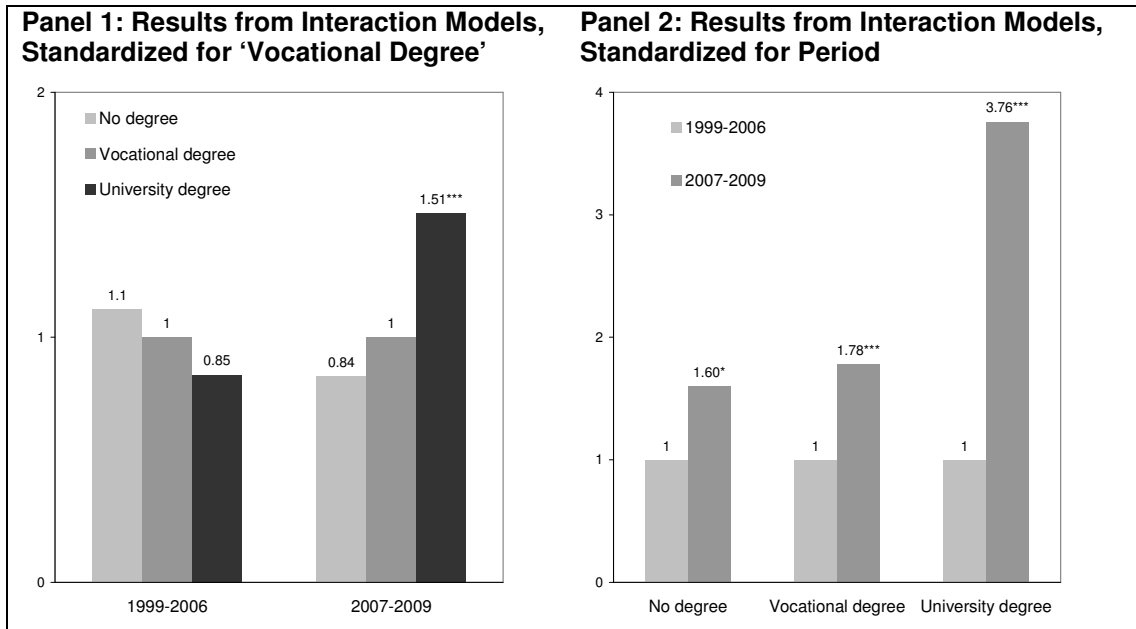
Table 2. Results from Logistic Regression Model, Odds Ratios, Dependent Variable: (1) Using Parental Leave (0) Not Using Parental Leave

	Model 1		Model 2	
	Exp(B)	Sig.	Exp(B)	Sig.
Year				
1999-2000	0.82		0.85	
2001-2003	0.89		0.92	
2004-2006	1		1	
2007-2009	2.23	***	2.14	***
Region				
Western Germany	1		1	
Eastern Germany	1.34	***	1.28	**
Citizenship				
German	1		1	
Other	0.69	**	0.71	**
Age of respondent				
Age 18-25	0.65	**	0.73	
Age 26-30	0.66	***	0.70	***
Age 31-35	1		1	
Age 36-40	0.94		0.92	
Age 41-50	1.28	***	1.26	**
Partnership status				
Married	1		1	
Cohabiting	1.60	***	1.58	***
Age of youngest child				
Age 0	1		1	
Age 1	0.69	***	0.70	***
Age 2	0.41	***	0.42	***
Sex of youngest child				
One boy	1		1	
One girl	1.07		1.06	
Multiples	1.07		1.07	
Education				
No degree	0.99			
Vocational degree	1			
University	1.14			
Type of contract				
Temporary working contract	0.55	***	0.53	***
Permanent working contract	1		1	
Self-employed	0.61	***	0.57	***
Sector of employment				
Public sector	1.71	***	1.64	***
Private sector	1		1	
Relative education				
Both no degree			0.54	***
Both vocational degree			1	
Both university degree			1.80	***
Woman < man			0.58	***
Woman > man			2.36	***
Model summary				
Log likelihood (starting model)	8362		8362	
Log likelihood (final model)	7990		7857	
Number of cases	99,361		99,361	
Number of fathers on parental leave	703		703	

Notes: * p<0.1; ** p<0.5; *** p<0.01. Controlled for missing values in the variables type of contract, sector of employment, education, and relative education.

Source: Scientific-Use-File of the German Microcensuses 1999-2009.

Figure 1. Results from Logistic Regression Model, Odds Ratios, Dependent Variable: (1) Using Parental Leave (0) Not Using Parental Leave, Interaction of Period and Education



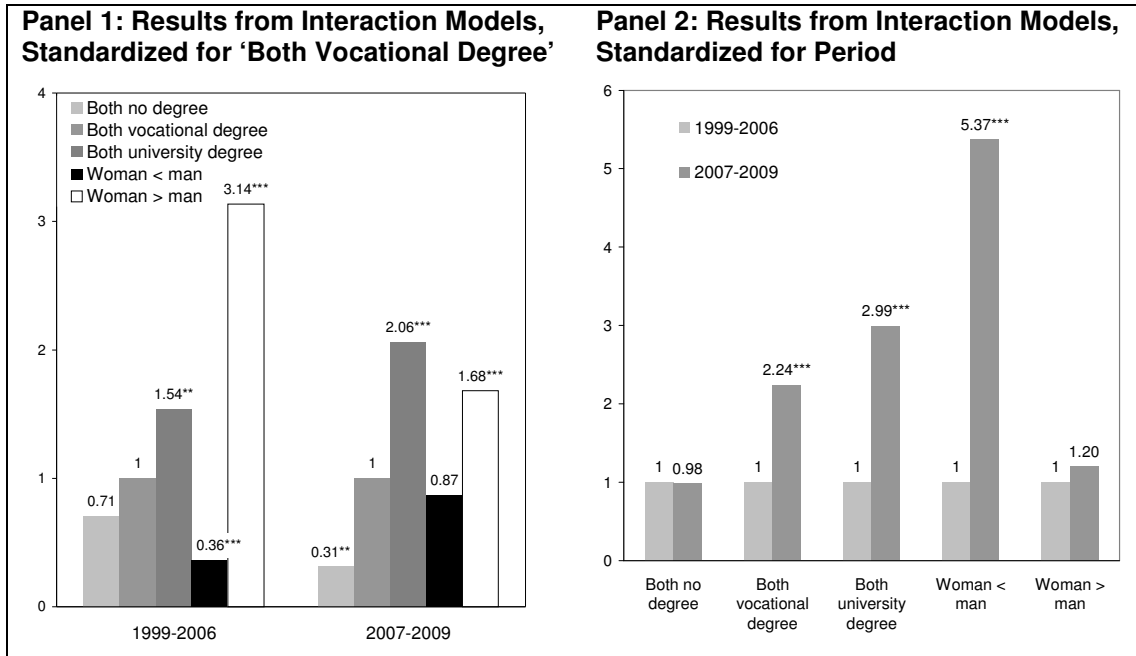
Notes: The graph shows standardized results. In Panel 1, we see the results from two regression models. In the first model, 'vocational degree & years 1999-2006' has been used as a reference category. In the second model, 'vocational degree & years 2007-2009' is the reference. In Panel 2, the graph shows the results from separate regression models in which the years 1999-2006 and the respective level of education have been used as reference categories.

Controlled for: region, nationality, age of respondent, partnership status, age of youngest child, sex of youngest child, type of contract, sector of employment.

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Source: Scientific-Use-File of the German Microcensuses 1999-2009.

Figure 2. Results from Logistic Regression Model, Odds Ratios, Dependent Variable: (1) Using Parental Leave (0) Not Using Parental Leave, Interaction of Period and Relative Education



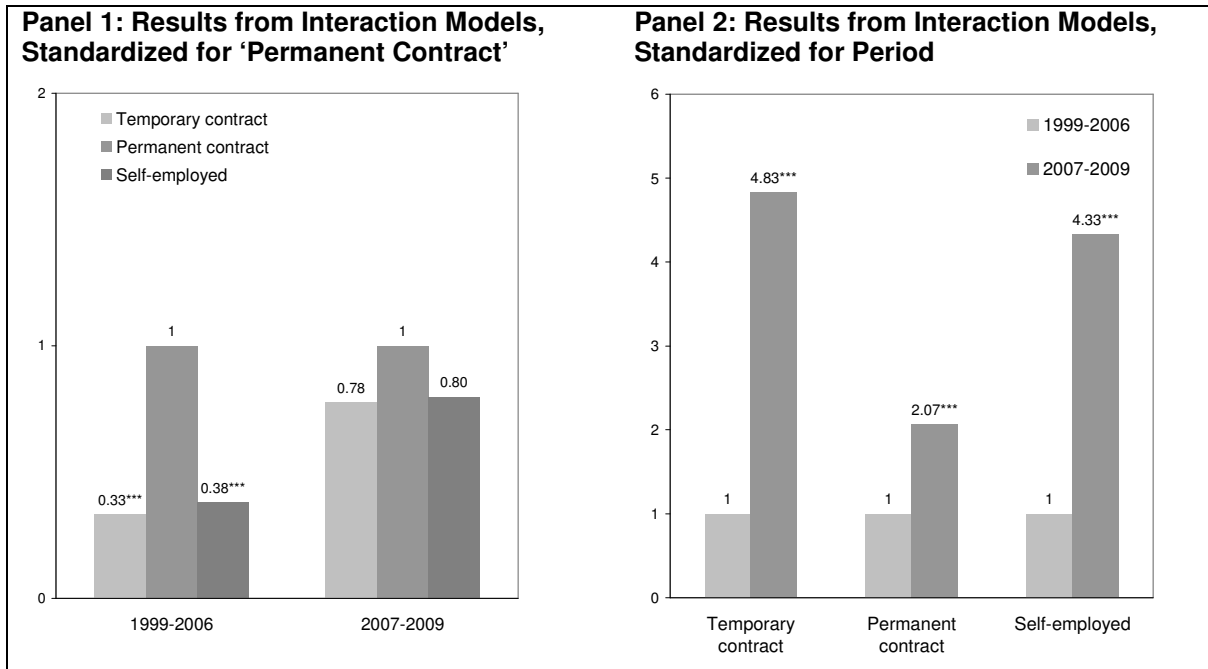
Notes: The graph shows standardized results. In Panel 1, we see the results from two regression models. In the first model, 'both vocational degree & years 1999-2006' has been used as a reference category. In the second model, 'both vocational degree & years 2007-2009' is the reference. In Panel 2, the graph shows the results from separate regression models in which the years 1999-2006 and the respective level of education have been used as reference categories.

Controlled for: region, nationality, age of respondent, partnership status, age of youngest child, sex of youngest child, type of contract, sector of employment.

* p<0.1; ** p<0.5; *** p<0.01

Source: Scientific-Use-File of the German Microcensuses 1999-2009.

Figure 3. Results from Logistic Regression Model, Odds Ratios, Dependent Variable: (1) Using Parental Leave (0) Not Using Parental Leave, Interaction of Period and Type of Contract



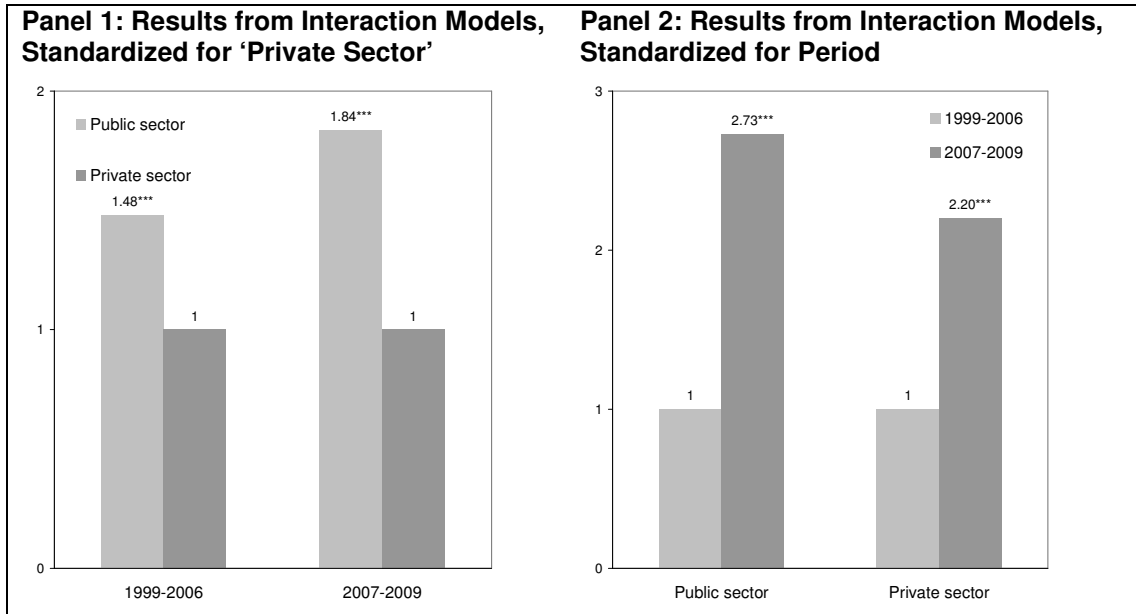
Notes: The graph shows standardized results. In Panel 1, we see the results from two regression models. In the first model, 'permanent contract & years 1999-2006' has been used as a reference category. In the second model, 'permanent contract & years 2007-2009' is the reference. In Panel 2, the graph shows the results from separate regression models in which the years 1999-2006 and the respective type of contract have been used as reference categories.

Controlled for: education, region, nationality, age of respondent, partnership status, age of youngest child, sex of youngest child, sector of employment

* $p < 0.1$; ** $p < 0.5$; *** $p < 0.01$

Source: Scientific-Use-File of the German Microcensuses 1999-2009.

Figure 4. Results from Logistic Regression Model, Odds Ratios, Dependent Variable: (1) Using Parental Leave (0) Not Using Parental Leave, Interaction of Period and Sector of Employment



Notes: The graph shows standardized results. In Panel 1, we see the results from two regression models. In the first model, 'private sector & years 1999-2006' has been used as a reference category. In the second model, 'private sector & years 2007-2009' is the reference. In Panel 2, the graph shows the results from separate regression models in which the years 1999-2006 and the respective sector of employment have been used as reference categories.

Controlled for: education, region, nationality, age of respondent, partnership status, age of youngest child, sex of youngest child, type of contract

* p<0.1; ** p<0.5; *** p<0.01

Source: *Scientific-Use-File of the German Microcensuses 1999-2009.*