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Economic instability and mothers' employment: A comparison of Germany and the U.S.

Daniela Grunow^{a,*}, Silke Aisenbrey^{b,1}^a Goethe University, Social Sciences, Theodor-W.-Adorno-Platz 6, D-60629 Frankfurt am Main, Germany^b Yeshiva University, Department of Sociology, 500 W. 185th St, New York, NY 10033, USA

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ABSTRACT

Do economic fluctuations change the labour market attachment of mothers? How is the reentry process into the labour market after childbirth dependent on the country context women live in? Are these processes affected by occupational status? We address these questions using data from the National Longitudinal Study of Youth and the German Life History Study. Event history analyses demonstrate that in Germany and the United States, mothers who work in high occupational status jobs before birth return more quickly to their jobs and are less likely to interrupt their careers. During legally protected leave periods, mothers return at higher rates, exemplifying that family leaves strengthen mothers' labour force attachment. Economic fluctuations mediate this latter finding, with different consequences in each country. In the United States, mothers tend to return to their jobs faster when unemployment is high. In Germany, mothers on family leave tend to return to their jobs later when unemployment is high. The cross-national comparison shows how similar market forces create distinct responses in balancing work and care. © 2015 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

1. Introduction

The impact of childbirth on women's employment is mediated by the welfare state regime in which mothers have to negotiate employment reentry processes. Reentry processes depend on a number of micro and macro level factors, which operate at the same time and influence each other. Micro level factors include mothers' socio-economic background, access to childcare and individual preferences regarding work and family. Macro level factors include the availability of family leave, access to paid leave, and the economic situation on the labour market. Specific combinations of both micro and macro level factors may shape mothers' return to work after childbirth differently within a certain welfare state setting and between different welfare state settings. For instance, first findings on the latest recession in the U.S. imply that employment of women and minorities is most at risk (Boushey, Davenport, Moses, & Boteach, 2010) and at the same time mothers were found to be drawn into the labour market (Mattingly & Smith, 2010). These opposite trends may or may not be the outcome of the same political strategy: marginal welfare state support, combined with a liberal labour market in the United States. Many Western European countries, in contrast, have adopted extensive policy packages to meet challenges of economic

fluctuation and employment risk in recent decades. The trend in Europe to expand caring time policies, such as maternity and parental leaves, has been identified as a governmental strategy to fight unemployment by making labour supply more flexible (Morgan, 2009; Grunow, 2006; Ellingsæter, 2000). The main argument is that by offering working women a wider range of work-family balance options, expanded leave policies spread available employment across more people, thereby reducing unemployment. If such policies were effective, we would expect recessions to affect women's employment and unemployment indirectly through leave utilization and time out durations of mothers. Specifically, more women would utilize family leaves during recessions, and time out durations would have to be longer in order to yield the politically intended effects. However, this link between the economic cycle and time out durations of mothers in the European countries has never been established empirically. From an individual rational choice perspective, it is also unclear why mothers would stay on leave longer when the economy is low. We argue that such choices need to be seen in context of the welfare state and the available family policies. In general, family policies have been found to both increase mothers' labour market attachment and, paradoxically, enforce mothers' role as homemakers by increasing gender inequality in the labour market (e.g., Mandel & Semyonov, 2005; Mandel & Semyonov, 2006; Ruhm, 1998; Sørensen, 1983; Waldfogel, 1997). This body of cross-sectional research casts doubt on the functioning of family leave policies and the role of state intervention in private matters. A cross-sectional view on family leave undervalues two interrelated

* Corresponding author. Tel.: +49 6979836535.

E-mail addresses: grunow@soz.uni-frankfurt.de (D. Grunow), silke.aisenbrey@yu.edu (S. Aisenbrey).¹ Tel.: +1 2129605400.

features of any stratification system: social class differences, which translate into women's individual positions in the labour market, and the welfare state. Longitudinal comparative research has shown that a strong interrelationship between individual incentives and national level opportunity structures leads to asymmetries in the long-term impact of events, such as family formation (DiPrete & McManus, 2000). These long-term effects are difficult to separate from short-term effects in a cross-sectional analysis. Even though cross-national longitudinal research is becoming more widespread (i.e. Blossfeld & Hofmeister, 2006; Aisenbrey, Evertsson, & Grunow, 2009), the role played by parental leave policies in mitigating – or exacerbating – the impact of economic turmoil in a certain social welfare policy context is still empirically unclear. Given the immense cost of European paid parental leave policies and other public transfer mechanisms, it is important to gain greater clarity about the effects of existing policies.

This article seeks to contribute to closing this research gap in several ways. First, by studying how new mothers in western Germany and the U.S. – two distinct contexts with respect to the “welfare triangle” (Esping-Andersen, 2002) – combine work and family, we aim to contribute to the small but growing body of research that focuses on the social context of mothers' time out after birth¹. We selected Germany and the United States because these countries display significant differences in national welfare policies and labour markets, yet both range among the world's largest economies, with comparable economic turmoil during the period under study (cp. McManus & DiPrete, 2000). Second, we study whether and how the availability of family leaves in a country mitigates the effects of social class and economic recessions on mothers' time out duration. Thereby we provide empirical evidence to the ongoing scholarly debate about the boon and bane of family leave provision².

The event of giving birth is especially salient because it connects women's employment to specific national family policies, namely maternity and parental leaves. Our focus on new mothers also has a methodological advantage for cross-national research because we compare women in similar stages of their life course. Earlier comparisons tend to lump all working age women in a country together, thereby mixing up country-specific developments of female labour force participation, educational expansion, occupational upgrading and family policy changes. Our approach separates these forces so that effects of specific policy changes and economic cycles can be traced. Empirically, we measure the impact of the economic situation and legal availability of leaves on mothers' actual time away from work after giving birth in western Germany and the United States. In particular, we investigate whether mothers' usage and duration of time out varies depending on economic fluctuations. By using harmonized longitudinal life course data from the National Longitudinal Survey of Youth (NLSY) and the German Life History Study (GLHS), we test several hypotheses as to how the two types of welfare states foster distinct responses by new mothers to economic recession.

2. Conceptual framework

We frame the social forces at work from a rational choice perspective (Coleman, 1990), assuming the timing of return to the labour market after childbirth as a rational decision towards

¹ Since our data cover the time period before German reunification and because our contextual arguments explicitly refer to the situation in western Germany, we limit our analysis to western Germany (the former FRG). We use the terms Germany and western Germany interchangeably.

² We use the term family leave as leave policies differ greatly among the countries, but also because our focus in this article is on time away from work, an activity status that may extend beyond the legal parental leave period (cp. Aisenbrey et al., 2009).

“maximizing welfare” (Becker, 1992). A rational choice perspective assumes specific institutional settings influence individuals' decisions on the micro level. In our case, a specific country context, the availability of parental leave, the economic situation, but also a certain class location, can influence the decision on when to return to the labour market (Mandel & Shalev, 2009). Within the rational choice framework, we look at mothers' agency as context dependent choices about timing of return to the labour market. On the one hand, the rational decision about timing can be driven by the mother's own individual traits and preferences as well as institutional opportunities and constraints. On the other hand, mother's agency can be influenced by the employer, who makes a rational decision and suggestion to the mother about when it is best to return to work, thereby enacting own agency by using mothers on leave as a labour reserve.

Describing new mothers as a potential labour reserve, we extend earlier theoretical attempts to describe the female workforce as part of the “reserve army of labour” (reviewed in Acker, 1980), thereby linking new mothers' labour supply to the specific role played by national institutions in mediating the fluctuating demand for workers (Morgan & Zippel, 2003). The national institutional context should furthermore account for different degrees of within-country diversity in mothers' responses to economic recession, in particular social class. We see our comparative study of mothers' time out durations in the German and U.S. context in the tradition of Kalleberg and Rosenfeld (1990), who argued that observed differences in how women and men actually combine work and family reflect national variation in institutions, labour markets, and policies. We focus on the historical period from the early 1980s to the early 21st century. Thereby, we compare Germany and the U.S. at a time when female employment is the norm but mothers' roles in society are contested, as is illustrated by the distinct family policies available in both countries (Misra, Budig, & Moller, 2007; Aisenbrey et al., 2009). We assess whether the contexts of Germany and the U.S. involve different types of mothers' agency during a recession.

3. Family leave policies in Germany and the U.S.

Paid family leave can be regarded as a policy measure responding to two major challenges in industrialized societies: cyclical fluctuation on the labour market and workers' needs to balance work and family obligations. While the latter function of family leave has dominated scholarly discussion in recent years, the former function received very little attention during the last few decades. Most notably, policy researchers have argued that rising unemployment helped build coalitions in Europe for policies that would reduce women's labour supply. German family leave policies have been described as mirroring this trend, while an opposite development of family policies can be seen in the United States (Morgan & Zippel, 2003). Hence, family leave policies in the two countries are very different, with Germany scoring much higher with respect to eligibility, duration, and compensation, compared to the United States. An analysis of parental leave schemes in 21 “high income economies” found the U.S. to be the only country lacking a nationwide financial compensation scheme for mothers on leave (Ray, Gornick, & Schmitt, 2009). The first national option for parental leave was introduced in 1993, with the Family and Medical Leave Act (FMLA). The FMLA requires that employers with 50 or more employees provide 12 weeks of leave to mothers who have been employed at least 1250 h in the previous 12 months. Because of these restrictions, less than half (45%) of the female labour force are eligible (Waldfoegel, 2001). In stark contrast to European maternity leave policies, the FMLA leave is unpaid. Mothers in high prestige occupations and mothers with higher education are more likely to have access to the FMLA and/or to additional employer-specific

parental leave arrangements (Han, Ruhm, & Waldfogel, 2009; Ray et al., 2009; Boushey, 2008). Selective access to family leave may amplify existing socio-economic differences among U.S. mothers in how they enact agency under recession. In Germany, in contrast, maternity leave has been mandatory since 1952 and is fully paid (Gornick, Meyers, & Ross, 1997). Additional paid parental leave was introduced in 1986. Its duration was extended several times to a maximum of three years per child from 1992 onwards. In contrast to the U.S., where access to family leave is restricted and more often available to women with a high occupational status, more than 90% of new families in Germany are eligible for paid parental leave (Dressel, Cornelißen, & Wolf, 2005).

Family leave policies are part of path-dependent national political strategies with which welfare states seek to support different goals. Germany is often referred to as a primary caregiver or secondary earner state, in support of women's care rather than employment (Misra et al., 2007). Over the past 20 years, Germany introduced some major changes to their family policies, such as a legal right to daycare for children and the possibility of taking part-time parental leave. On the one hand, these policy changes increased the ambiguity of the German primary caregiver model (Leitner, Ostner, & Schratzenstaller, 2004). On the other, the long-established combination of leave-related child benefits and part-time daycare places, available mostly for children aged three years and older, is still valid and continues to produce long time outs for mothers (Sainsbury, 1999; Aisenbrey et al., 2009). The political intent of long time outs is further documented by the extensions of parental leave in Germany throughout the 1980s and 1990s.

The United States, in contrast, exemplifies a primary earner nation (Misra et al., 2007). Both parents are seen as invested in continuous employment while the state relies on market-based care in addition to unpaid in-family care. The minimal family policy course taken by the U.S. has long been criticized by scholars who demanded more extensive work-family reconciliation policies (Gornick & Meyers, 2003; Gornick & Meyers, 2009). More recently, however, scholars have argued that the U.S. course can also be seen as part of a welfare state strategy aimed at supporting gender equality (Orloff, 2009). In this vein, researchers have pointed out that the U.S. is a pioneer in matters of antidiscrimination laws and leader in integrating women in traditionally male occupations, such as management positions and universities (Orloff, 2009). From this point of view the FMLA has been interpreted as being geared towards a modern family context, in which family time out can be taken by both male and female workers to provide care for other family members (not only children) in need³.

4. State of research

Welfare state support of families in terms of legal parental leave coverage is often considered to be a key factor in strengthening mothers' position in the workforce (Lewis, 2009; Misra, Budig, & Boeckmann 2011). However, welfare state intervention in family policies has also been found to increase gender inequality in employment in a country (e.g., Mandel & Semyonov, 2005; Mandel & Semyonov, 2006; Ruhm, 1998). Because these studies draw on cross-sectional data they do not allow separating the effects of changing policies from other recent developments on national labour markets, such as the composition of the female workforce. Therefore, more recent comparative studies looked at individual consequences of distinct family policy settings (Gangl & Ziefle, 2009; Aisenbrey et al., 2009). This research shows that country specific leave policies "work" in terms of giving mothers the opportunity of an extended time to care for their newborns and, at

the same time, granting them the chance to maintain their pre-birth occupational position (Aisenbrey et al., 2009). Research also demonstrates that the timing of return and the consequences for mothers' earnings are highly dependent on the country-specific policy structure in which these careers are embedded (Budig & England, 2001; Anderson, Binder, & Krause, 2002; Lundberg & Rose, 2000; Gangl & Ziefle, 2009; Baum, 2002; Waldfogel, 1997; Kenjoh, 2005; Grunow, Hofmeister, & Buchholz, 2006; BMFSFJ, 2005; Engelbrech, 1997; Pettit & Hook, 2009). In the U.S., 40% of all mothers do not leave the labour market at all after the birth of their first child (Aisenbrey et al., 2009, Appendix Fig. A2). After 3 months, 65% are back at work. Only 20% stay out longer than one year. The picture is very different for Germany, where 17% return right after the compulsory maternity leave period of eight weeks. After one year, only 30% are back at work, indicating that the vast majority claim extended family leave. After three years, only half of previously employed German mothers returned. Even though U.S. mothers display a much higher labour force attachment than German mothers, research identified a stronger career punishment for U.S. mothers in terms of a higher downward mobility risk (Aisenbrey et al., 2009). The wage penalty per child appears to be smaller in the U.S. than in Germany, but more recently the U.S. figures have been rising (Gangl & Ziefle, 2009). While the penalty remained stable across German cohorts, with 16–18% per child, U.S. mothers have seen a growth in the wage penalty, from 9% for those born in the late 1950s to 16% for mothers born in the late 1960s. While motherhood penalties were found to be largely unrelated to German mothers' career interruptions, interruptions appear to play a major role for the motherhood penalty in the United States (Gangl & Ziefle, 2009). Research also shows that highly educated mothers and those with high levels of occupational prestige return faster to the labour market, as compared to mothers with lower labour market resources (Grunow, Aisenbrey, & Evertsson, 2011). These findings point to the importance of social class differences in structuring within-country variation in mothers' time out. Even though the current state of research is illuminating with respect to understanding cross-national and within-country variation in mothers' placement in the labour force, none of the studies looked at the effects of economic recession on mothers' time out.

5. Recession and labour markets in Germany and the United States

During the period studied in this paper, between the late 1970s and 2005, the National Bureau of Economic Research identifies three periods of economic recession in the United States; the early nineteen eighties, the early nineteen nineties and the beginning of the new century. In Germany, the Federal Statistical Office (Raeth, 2009) also identifies three periods of economic recession, even though these periods are delayed for a couple of years compared to the U.S. Appendix Fig. A1 presents an overview of the macroeconomic situation in Germany and the United States, based on yearly economic growth and the unemployment rates. Unemployment rates are a well-established indicator for a recession (Saxton, 2008), since they directly reflect the cyclical demand for labour. Hence, in our analysis we use these national time-varying unemployment rates as our main indicator of economic recession⁴.

Earlier research, based on cohort studies, suggests that mothers' employment became more vulnerable over time due to increased globalization pressures on national labour markets, arguing that

³ To be sure, though both the U.S. FMLA and the German parental leave are available to both men and women, men's usage is still exceptional.

⁴ In our models we use the general unemployment rate and not the female unemployment rate because the female unemployment rate is already an outcome of the interplay between the national macro-economic situation and parental leave policies. As we are looking empirically at time out durations right after birth, and thus at the use of family leaves (not unemployment spells), we believe that endogeneity is not a major issue for our analyses.

women with care obligations are less flexible workers (Hofmeister & Blossfeld, 2006). Others have argued that time out of the labour market leads to the depreciation of women's human capital (Mincer & Polachek, 1974). Both arguments should contribute to weaken mothers' relative position in the labour force during recession. In the U.S. context, where mothers play a more central role in the paid labour force, their income is also a more substantial part of the household income, as compared to western Germany (DiPrete & McManus, 2000; Ehlert, 2011). In a more equal multiple earner household, the responsibility for contributing to the household income is shared, and at the same time, the risk of losing the entire household income is decreased. Multiple earner strategies are more important in the U.S. than in Germany (DiPrete & McManus, 2000; Ehlert, 2011). In Germany, the state plays a more important role in securing women's and men's incomes through tax and transfer payments (DiPrete & McManus, 2000; Ehlert, 2011). The risk of unemployment in general is lower in Germany than in the U.S. (Gangl, 2003) and the state subsidies in case of job loss are more generous in Germany than in the U.S. (DiPrete & McManus, 2000; Gangl, 2006). Consequently, German mothers find themselves in a context that strengthens reliance on state support under recession, while offering mothers paid extended time away from work. U.S. mothers, in comparison, can rely to a much lesser extent on the state or their own (or their partner's) job security during a recession. Even for those U.S. mothers eligible for maternity leave, usage comes with income loss.

6. Recession and fertility

Macro trends in economic cycles and fertility indicate that fertility rates tend to be endogenous to economic recession in most developed countries (i.e. Livingston & Cohn, 2010; Wang, Yip, & Scotese, 1994). The relationship between economic cycles and individual fertility is important for our study because different groups of women might select into pregnancy in different economic situations (Vikat, 2004). Theoretical arguments about potential selection go both ways though, some proposing declining fertility under employment uncertainty and others proposing increasing fertility under employment uncertainty. Consequently, the fertility rate could be associated with a recession in two ways. First, women might postpone birth in order not to endanger their employment. In this case, the fertility rate would decline as a response to high unemployment or employment uncertainty. Second, mothers on parental leave may decide to have another child when unemployment is high because this would extend their leave entitlement and help them bridge alternative phases of unemployment. In this latter case the fertility rate would slightly increase as a response to high unemployment. Evidence based on macro-level data about economic cycles and fertility has been found to be susceptible, however, to temporary fluctuations in marriage rates, age at first marriage, educational composition, and other individual-level characteristics (Adsera, 2005; Mocan, 1990). Hence, more recently social scientists turned to using individual-level longitudinal data to assess the impact of economic uncertainty on transitions to parenthood and childbirth (for a recent review see Özcan, Mayer, & Luedicke, 2010). Longitudinal evidence for Germany suggests no overall effect of economic uncertainty on women's fertility (Kreyenfeld, 2009; Gebel & Giesecke, 2009). Kreyenfeld (2009) reports variation in the relationship between economic uncertainty and first birth only for highly educated mothers. Using the same data, Gebel and Giesecke (2009) found no such effect. Also for the U.S., no effect of unemployment on women's fertility was found (Rindfuss, Morgan, & Swicegood, 1988). However, evidence suggests a changing effect of educational level on fertility over time (Rindfuss, Morgan, & Offutt, 1996). Even though these findings are reassuring with respect to our sample composition over time, we control for the main

determinants of individual selection into motherhood (age, partnership status, education) and checked their interaction with economic recession. The interactions between an economic recession and age, partnership status and education were not statistically significant and were therefore dropped from the final models presented in this paper.

7. Empirical hypotheses

The cross-national differences between Germany and the U.S. of multiple earner dependency and policy setting should lead to differences in how new mothers and employers practice agency in times of recession. Policy analysts have put forward – but did not test empirically – the argument that European family leaves serve as a governmental strategy to fight unemployment by making labour supply more flexible (Morgan, 2009; Ellingsæter, 2000). Under this assumption, employers in Germany would enact agency by trying to negotiate with mothers to stay out as long as possible under a given parental leave scheme when unemployment is high. We acknowledge that mothers' own agency remains unclear in this framework of labour reserve. The institutional setting, in particular the state support granted in times of recession, would contribute to mothers aligning their own interest with their employers' interest. In the U.S., where women maintain a central position in the labour force upon entering motherhood, we should not find that recessions have this effect on the timing of reentry. Even under the FMLA, the United States grants only very limited access to family leave. Low levels of employment protection in the U.S. further supersede the cyclical function of family leave because employers can more easily lay employees off. Hypotheses one and two summarize these arguments:

H1a. In Germany, economic recessions should slow down the reentry process for mothers on legally protected family leave.

H2a. In the U.S., economic recessions should not slow down the reentry process for mothers on legally protected family leave.

In contrast, a focus on mothers' own agency would counterbalance the previous hypotheses about labour reserve. In particular, the legal right to claim leave and to decide about its exact duration lies with the mother, not the employer. Hence, it could be argued that the German parental leave puts mothers in the position to choose their time out, independent of a recession or employer's preferences. Variations in return patterns may well depend on individual preferences or family or career related rational choices but not on economic cycles. Independence of the economic cycle would be provided by the German welfare state in which individuals and households do not anticipate major income losses when the economy is down. In the U.S., in contrast, where employment protection is weak, leave is unpaid, and families depend on a more equally distributed responsibility for the household income, mothers' agency is, on average, more likely aimed at financially supporting the family, rather than staying at home for an extended period of time. Recessions would therefore lead to fewer and shorter time out periods among U.S. mothers.

H1b. In Germany, the macroeconomic situation at childbirth should have no influence on mothers' labour market reentry process.

H2b. In the U.S., the worsening of the macroeconomic situation at childbirth should shorten mothers' time out.

8. Data and methods

8.1. Data

Our main data sources are the longitudinal data from the National Longitudinal Study of Youth (NLSY) for the U.S. and the

German Life History Study West (GLHS-West) for the German part of our study. From both data sources, we constructed a subsample of women who were gainfully employed at least one out of seven months before their first child was born.

The NLSY is a nationally representative sample of 12,686 young men and women born between 1957 and 1964. The sample was first interviewed in 1979 and re-interviewed every two years (for a detailed description of the NLSY, see [Bureau of Labor Statistics, 2004](#)). Even though the NLSY79 is ongoing, the observation window for our analysis closes in 2000 due to harmonization of the data with the German sample.

For Germany, we use the West German component of the German Life History Study (GLHS West; [Brückner & Mayer, 1995](#)). These data contain detailed retrospective life course information for seven cohorts of Germans born between 1919 and 1971 in a representative sample of 8,639 realized interviews. In this study, we include previously employed mothers born in 1954–1956, 1964 and 1971. For these cohorts, we have life course data up to the age of 35 (for the 1971 cohort up to 34). The retrospective data were collected in the period between 1988 and 2005, resulting in an observation window for birth related employment interruptions which opens in the late 1970s. For all cohorts, the survey instruments contained detailed questions about education, work life, work interruptions, and family formation, including the formation and dissolution of marital and non-marital unions, as well as children. The time period covered by our subsample (beginning with transitions to motherhood in the late 1970s), compares well with the time window used in the U.S. study⁵.

To harmonize the two national samples and thereby maximize the comparability of the results, we show all models for the population up to age 35. This type of age censoring implies that highly educated women are underrepresented in the risk set, as they on average have their first child later than women with a lower education level ([Rindfuss et al., 1996](#); [Özcan et al., 2010](#)). Consequently, our findings can be generalized only for younger mothers, not all mothers. In spite of this data restriction, previous studies of mothers' careers using the GLHS found similar effects and came up with similar substantial conclusions, as compared to studies drawing on other longitudinal data sets without explicit age bounds ([Kenjoh, 2005](#); [Gangl & Ziefle, 2009](#)).

In order to capture times of recession in our models, we merged the individual level data with yearly unemployment statistics from the U.S. National Bureau of Economic Research and German Federal Statistical Office.

8.2. Methods and variables

In order to explore whether the length of mothers' employment interruptions in Germany and the U.S. varies with economic cycles, we use a Cox proportional hazards model ([Blossfeld, Golsch, & Rohwer, 2007](#)) to estimate job reentry probabilities. In order to account for the possibility of changing hazards of labour market reentry for higher order births, we also ran Cox models with frailty but the substantial findings did not change (Tables available upon request). We attribute the stability of effects to the fact that we are closing the observation window rather early, thereby limiting the occurrence of higher-order births. We present models with and without interaction terms. The main effect models serve the

purpose of assessing whether economic cycles and legal family leaves have an overall effect on mothers' time out durations, controlling for individual characteristics (agency, H1b and H2b). The models containing interaction effects are supposed to address our labour reserve hypotheses (H1a and H2a)⁶.

8.2.1. Dependent variable

The dependent variable in the analyses is the length of time women interrupt their employment after childbirth. The process time begins at childbirth and continues until a mother is returning to either her previous job or to a different job (event: reentry). If a second or higher order child is born while the mother is still out, the process time is right-censored at childbirth. These women are removed from the risk set upon having another child but reenter it afresh after every single birth observed. This set up of our model mirrors the eligibility for family leave in both countries. Mothers giving birth to several children have multiple time out episodes. At the same time, the model is controlled for the number of children. Right censoring further occurs when a mother does not return to work within our window of observation or within 100 months after giving birth. Our strategy of right-censoring enables us to keep all previously working mothers in the analysis, irrespective of whether they finally return to work or not. This is important because the group who chooses not to return to work and the group whose jobs are no longer available are analytically important groups. We consider all kinds of birth-related phases of "not being present at work" as an employment interruption, hence as time out. Some women, especially in the U.S., do not interrupt their employment at all upon giving birth (40%). Because these women are theoretically part of the risk set, we include them in the analysis by ascribing them a 2-week artificial time out duration. These cases account for the steep drop in survival curves within the first month after giving birth (Appendix Fig. A2). The hypothesized effects of legal family leave provision and macroeconomic recession are modeled as independent variables, which may significantly affect the duration of birth-related employment interruptions.

8.2.2. Independent variables

The independent variable measuring the macroeconomic situation in the specific country is the annual unemployment rate (Appendix Fig. A1). In our multivariate models we lag the annual unemployment by one year to ensure that we correctly specify that the cause – a high unemployment rate – precedes the effect of prolonged or shortened time out ([Mills, 2011](#); [Box-Steffensmeier & Jones, 2004](#)). The unemployment rate measures are based on data from the Bureau of Economic Analysis in the U.S. Department of Commerce and from the German Federal Statistical Office⁷.

We include legal family leave protection as a time-varying individual level dummy variable, indicating if mothers are still within the maximum family leave period granted by law. We do not know for sure whether a woman has indeed been eligible for family leave, as this information is not contained in the data sets. Rather, we proxy individual leave eligibility by ascribing all previously working mothers out the maximum legal leave length covered by law at childbirth. The fact that we have to rely on a proxy of legal protection likely underestimates the true sheltering effect of such policies for mothers on leave. Underestimation should be stronger in the U.S., where access to leave is more

⁵ There are two main advantages of using the GLHS for our purposes, compared to other German data sets, such as the German Socioeconomic Panel (GSOEP), which didn't start until 1984. First, our subset of the GLHS covers the additional period from the late 1970s to 1986, which is the time period before parental leave was introduced in Germany. Second, only the GLHS adequately covers the onset of the first economic recession in the 1980s. In comparative terms, being able to observe the full period of the 1980s for Germany and the U.S. is essential to see the impact of a major recession (cp. Appendix 1).

⁶ We also estimated a separate model for only mothers with partners, to see if we find different estimates by only including households with two potential earners, but the effects and their significance hardly change.

⁷ For the U.S. we also ran all models presented here with the unemployment rate measured on a quarterly basis. We also ran analyses controlling for the annual change in employment rates. These alternative modeling strategies didn't change the substantive results. We therefore decided to present the more straight-forward yearly measurement of the economic situation for both countries.

selective than in Germany. Our measure accurately captures the legal changes in leave length and leave provision in both countries. For Germany, this includes several extensions that took place during the 1980s and 1990s. For the U.S. this variable captures the introduction of the FMLA in the U.S. in 1994. For the U.S., for instance, this variable is 1 for a period of three months after giving birth for all mothers under study after 1994.

Occupational status is measured for the last job held before childbirth, using Treiman's Standard International Occupational Prestige Scale (SIOPS) (Treiman, 1977; Ganzeboom & Treiman, 1996). We use prestige as an indicator for several reasons. First, in contrast to income or earnings, which both fluctuate over time and context, SIOPS has been found to be remarkably consistent both across time and countries (Hout & DiPrete, 2006). Second, especially in Germany, where a majority of women switch to part-time as long as kids are small, but start a second career when children get older, occupational prestige is an important concept in assessing mothers' future potential to realize a career and to provide for themselves and their children, if needed, without a breadwinning spouse. For all mothers, occupational prestige also serves as a proxy for their ability to enact agency. Following Cronbach (1987) we centered the prestige and unemployment measures at their mean value in order to avoid multicollinearity between the main variables and their interaction terms.

8.2.3. Control variables

Several individual characteristics may potentially impact access to family leave and time out durations. These characteristics also control the models for differences in sample composition between Germany and the United States. Within-country sample composition may vary over time, due to processes of self-selection into motherhood. In our analyses, we therefore control for factors contributing to these variations⁸.

We include two variables to capture the effects of family structure on career moves. The first variable measures the number of children in the household. The second variable is a time-varying dummy, indicating the presence of a partner. This variable indicates cohabitation, not necessarily legally defined marriage⁹.

Dummy variables for level of general schooling are introduced to capture differences in mothers' skill levels and career chances. We distinguish three levels of education: low, medium and high. For the U.S., these levels are indicated by "no high school degree," "only high school degree," and "at least some college." We used different educational categories in our U.S. models, but the results are robust to any changes in the categories. For Germany, we distinguish between "Volks-/Hauptschule" (low), "Realschule" (medium), and "Abitur" (high).

We control for women's labour force experience by including a variable measuring the cumulative time spent in the labour force, as measured at childbirth. In addition, mothers' year of birth is

⁸ For Germany we ran all models presented here, controlling in addition for the fertility rate. The fertility rate would be an indicator of the degree of selfselection into motherhood over time and thus pick up otherwise unobserved sample variation in time-out durations. Previous studies, however, found that the effects of a change in female population composition on the fertility trend were either small (Vikat, 2004, in a study on Finland) or non-existent (Kreyenfeld, 2009; Gebel and Giesecke, 2009 for Germany). In line with recent research on the relationship between fertility and employment uncertainty in Germany, our control for the general fertility rate remained insignificant. It also did not alter the robustness of any of the other coefficients. We therefore decided to drop this variable from the analysis.

⁹ For the U.S. we also estimated all models, while controlling for partner's weekly income. As expected partner's income as a variable is significant in all models, but all other indicators hardly changed and the significant levels all stayed the same. Because of the retrospective nature of the German data, partners' income cannot be reconstructed for all cases as a time-varying measure. In order to keep the national models as similar as possible, we don't show the effects for U.S. partners' weekly income.

included as a control variable. For Germany, this measure distinguishes the birth cohorts contained in the GLHS, women born around 1955, in 1964 and 1971. For the U.S., the measure is a continuous variable of mothers' year of birth. For the U.S., we also include a dummy variable for race, distinguishing between African American women and others. For Germany we have no data on race. Our sample is restricted to women of German or U.S. nationality. Historical time dummy variables indicate in which time periods children are born. These time periods are supposed to reflect major political changes in family leave policy in the two countries. For the U.S. one dummy variable marks the introduction of the first nationwide parental leave policy (FMLA) in 1994. For Germany, two dummy variables mark the period before 1987, with short protected maternity leave in Germany, and the period from 1987 to 1992. This period coincides with the introduction of German parental leave policy. The third period in Germany, from 1993 on, marks the longest parental leave thus far. In Appendix Table A1 we present a figure with descriptive statistics for all variables included in our models.

9. Results

Our results follow in the sequence of models displayed in Table 1. We first look at the contributing factors to mothers' transitions back into employment (Model 1, Table 1) and then move to the hypothesized conditional impact of the unemployment rate on mothers' time out, based on legal leave protection in the U.S. and Germany (Model 2, Table 1). We present exponentiated coefficients, which can be interpreted as the estimated chance of survival after adjustment for all other explanatory variables that are included in the models. Values above one indicate a positive effect on mothers' return to employment, hence shorter interruptions. Values below one indicate a negative effect on mothers' return to work, hence longer interruptions. For example, the coefficient for African American, $\exp(b) = 1.2$, (Table 1, second column) reflects that African Americans return to the labour market about 1.2 times quicker than non African Americans after childbirth.

Mothers on both sides of the Atlantic show remarkable similarities in their patterns of return to employment after giving birth. Most notably, mothers in Germany and the U.S. working in occupations with higher prestige return to the labour market faster and every additional child makes mothers' return to the labour market slower (Table 1, Model 1).

In Germany, the unemployment rate seems to have no effect on the reentry process. This finding suggests that even though mothers were found to be the more vulnerable employees compared to childless women (Blossfeld & Hofmeister, 2006), this disadvantage does not seem to be a cyclical effect for new mothers in general.

For the U.S. we show that mothers return to the labour market faster if unemployment is higher. This significant effect of the unemployment rate for the U.S. confirms the expectation formulated in H2b, that U.S. mothers do, in general, return faster when unemployment is high. In Germany, some groups of mothers tend to return faster than others, independently of the unemployment rate. In particular, mothers with higher education and higher occupational status tend to interrupt for shorter periods than their lower educated and lower occupationally positioned peers. These findings confirm earlier research on the labour market attachment and career continuity of mothers from different social classes (Grunow et al., 2011). Living with a partner does not seem to impact mothers' time out experience in either country. In Germany though, childbearing singles are still an exception. Consequently, the percentage of partnerless new mothers remains in the single digits (93% report living with a partner at the beginning of an

Table 1
Predictors of mothers' timing of return to work after childbirth in the U.S. and Germany.

	United States		Germany	
	Model 1	Model 2	Model 1	Model 2
Unemployment rate, lag(1)	1.053*** (0.013)	1.049*** (0.013)	0.968 (0.023)	1.030 (0.042)
Education middle (ref. lowest)	1.098* (0.052)	1.098* (0.052)	1.337** (0.114)	1.330** (0.114)
Education highest (ref. lowest)	1.060 (0.055)	1.059 (0.055)	1.456** (0.165)	1.437** (0.163)
Occupational prestige prior to birth	1.005*** (0.001)	1.005*** (0.001)	1.011** (0.003)	1.010** (0.003)
Labour force experience	1.093*** (0.006)	1.093*** (0.006)	0.983 (0.016)	0.982 (0.016)
No. of children	0.802*** (0.016)	0.802*** (0.016)	0.653*** (0.038)	0.654*** (0.038)
Partner (ref. no partner)	1.001 (0.043)	1.003 (0.043)	0.862 (0.111)	0.871 (0.113)
Mother's year of birth	0.988 (0.007)	0.988 (0.008)	1.064*** (0.014)	1.064*** (0.014)
Legal leave available/extended:				
Germany, 1987-92 (ref. <1986)			0.487*** (0.063)	0.489*** (0.063)
USA, >1993 (ref. <1994) Germany, >1992 (ref. <1986)	0.438*** (0.051)	0.434*** (0.051)	0.441*** (0.074)	0.461*** (0.078)
Out within legally protected leave period	1.901*** (0.229)	2.040*** (0.248)	1.440* (0.213)	1.343 (0.204)
African American	1.200*** (0.045)	1.199*** (0.045)		
Interaction terms				
Unemployment rate × legally protected		1.086		0.914*
Number of failure events	3977	3977	790	790
-2 × log L	-30,498	-30,497	-5358	-5355

Notes: Exponentiated coefficients; robust standard errors in parentheses. Source: GLHS-West birth cohorts 1954–1956, 1964, 1971, NLSY birth cohorts 1957–1964.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

episode, cp. Appendix Table A1). Even though single motherhood is more common in the U.S. (81% of U.S. mothers report living with a partner), we find no partner effects here either. We estimated an additional model in which we controlled for the partner's income for the U.S. sample. However, this variable did not change the effects of other variables on mothers' time out duration as reported here¹⁰ For Germany, the significant effect for 'mother's year of birth' indicates the presence of a cohort effect, which is in line with previous research (Grunow, 2006). The number of children in the household slows down mothers' return to work after giving birth in Germany and in the U.S. This suggests that combining paid work and care work becomes more difficult when more children need to be cared for. Perhaps extended time out also becomes a more attractive alternative to arranging costly daycare for several children after a higher order birth. U.S. mothers, in contrast to German mothers, return faster, the more labour force experience they have. This finding might indicate that U.S. women with more labour force experience (and higher prestige occupations) can afford the – usually expensive – day care in the U.S. In Germany, where access to maternity leave is mandatory and family leave almost universal, such an effect cannot be detected. In both countries, extensions of legal leave availability tend to result in longer time out durations. In Germany, after the introduction of parental leave in 1987, mothers stay out longer than in the previous period. We find no indication, though, that later reforms resulted in even longer time outs in Germany. In the U.S., we observe longer employment interruptions after the enactment of the FMLA in 1994. In both countries, mothers have a higher likelihood of returning to employment as long as they do not exhaust the officially granted family leave length. This positive effect of legal protection can be interpreted as an indication that family leave policies help mothers to maintain their ties to the labour market after an employment interruption (Ondrich, Spiess, & Yang, 1996; Ondrich, Spiess, Yang, & Wagner, 2003). Even though not all mothers are eligible for family leave, the existence of a legal norm for protected time out might increase the legitimacy of short-term interruptions in general.

In the second model (Model 2, Table 1) we address the labour reserve hypothesis by including an interaction term for the unemployment rate and the legally protected family leave time. The main effects for the variable "out within legally protected leave

period" refer to the impact of leave protection when the centered unemployment rate has a value of zero. For both countries, this effect is positive. For the U.S. it is also statistically significant. The interaction coefficient of $\exp(b) = 0.914$ for Germany is significant and below one, indicating that mothers on legally protected family leave return more slowly in times when unemployment is high. For the U.S., unemployment rates do not seem to change the return rates for mothers interrupting for the official maternal leave period. These results are in line with H1a and H2a. Hence, our findings support the claim about the cyclical function of German family leave in creating a labour reserve, while such a function is lacking in the United States. To the best of our knowledge, this is the first empirical test of whether European family policies indeed make mother's labour supply elastic to the economic cycle. Even though our test is admittedly crude, given our use of a country-level unemployment measure and the fact that we only look at one European country, our finding points to the importance of studying more in depth the process by which this elasticity is reached in the individual negotiations between mothers and employers.

We now turn to the findings relating to agency (H1b and H2b). Recall that our expectation that U.S. mothers return, on average, faster in times of high unemployment, has been confirmed by the data (H2b). For Germany, we expected mothers' choice to go back to work to be independent from the labour market situation (H1b). As we find no main effect of high unemployment rates, this hypothesis is supported. Taken together our findings confirm our claim that the welfare state context leads to different types of agency under recession.

10. Discussion

European and U.S. welfare state policies of recent decades have followed distinct pathways in terms of securing individuals and families against market risks and helping parents to balance work and care. Against the background of recurrent recessions and increases in mothers' labour force participation on both sides of the Atlantic, the minimal family policy course adopted by the U.S. and the growing prevalence of expanded family policies in Europe draw attention to the importance of understanding how family policies work in times of economic recession and high unemployment. We used harmonized longitudinal data from the

¹⁰ Model not shown, results available on request.

NLSY and the GLHS to assess whether changes in mothers' time out in the U.S. and Germany corresponded with changes in economic growth and recession, and whether family policies minimized or amplified these effects. We followed the subsequent return to employment of women who gave birth to a child. We estimated the effects of family leave availability and their interactions with unemployment rates on the duration of mothers' time out after childbirth.

Our empirical results tested four hypotheses about the role that welfare state policies play in mothers' position in the workforce in times of high unemployment. In line with the predictions of policy analysts, the availability of long parental leaves in Germany seems to work as a buffer for the highly regulated German labour market by linking mothers' time out durations to the macro economic situation. In other words, mothers on family leave tend to return to their jobs later when unemployment is high. Because mothers on leave are considered gainfully employed according to official registers, their cyclical labour surplus is hidden from official statistics. German mothers who have already exhausted their legally protected leave duration are not affected in the same way. They show no sensitivity to economic turmoil. Hence, German mothers on leave can be regarded as a modern form of a cyclical labour reserve (Simeral, 1978). Different from previous generations in the female reserve though, the legal right to return to the same or a similar job in their company mutually binds mothers with their former employer and creates a legal tie to the labour market. We interpreted this as evidence highlighting the cyclical function of expanded caring time policies (Morgan, 2009; Grunow, 2006; Ellingsæter, 2000). In the U.S., where legal family leaves are short and available only to a minority of women, recessions have an effect on mothers' time out in general. This finding is in line with our expectation that the U.S. context, with its weak employment protection and dual earner policy framework, has no need for a reserve. In both countries, mothers who worked in high occupational status jobs before birth returned more quickly and were less likely to interrupt their careers, independent of economic cycles.

As far as we know we presented here the first empirical test of the cyclical function of European family policies. To be sure, the fact that we apply a country-level unemployment measure and that our analysis is limited to one European country, clearly restricts our ability to draw wider conclusions. Nevertheless, our finding suggests that future research should investigate in further depth the process by which this politically intended cyclical effect is established. So far, no convincing micro-level argument has been presented that would make it rational for mothers to stay out longer when unemployment is high, as compared to more prosperous times. Most importantly, the question whether employers force mothers to stay out longer against their will when the economy is down, or whether the German institutional setting somehow creates a range of decision situations in which both employers and employees both embrace longer time out on parental leave, is politically relevant. With the recent increase in paternal take-up rates of parental leave in Germany, the conditions under which time out is claimed or negotiated become relevant for an ever broader group of employees.

At this point, we can only speculate about the causal micro-level processes that link mothers' time out decisions to cyclical labour demand in Germany. Qualitative studies indicate that pregnant women have clear and explicit knowledge about their bosses' preferences concerning their take up and duration of parental leave and that conflict of interest between employer and employee on this issue does not seem to be a rare exception (Blossfeld, Grunow, Jabsen, Rost, Rupp, & Schulz, 2008, unpublished data). Because pregnant employees have to file an application for parental leave with their employer, direct communication between both parties is institutionalized. So even

though the decision to take parental leave legally rests with the employee, employers can interfere in this process. Future research should investigate in depth how these communication processes work in practice, and how they influence new parents leave-taking behaviour.

Our findings for Germany and the U.S. support our hypotheses that both contexts create different kinds of agency for mothers during recession. In the U.S., where employment protection is weak, leave is unpaid, and most families depend on two full-time incomes, we hypothesized that mothers' agency is mostly aimed at returning to work as soon as possible when the economy is down. We therefore expected recessions to come with fewer and shorter time out periods among U.S. mothers. We found this to be true. In Germany, in contrast, mothers' placement in the labour force is institutionally weaker (DiPrete & McManus, 2000; Ehlert, 2011). Even in a recession, jobs are rather well protected and breadwinner wages appear secure. We conclude that the German and US institutional contexts foster distinct rational strategies for mothers seeking to maximize welfare (Becker, 1992; Coleman, 1990).

11. Conclusion

Until recently, the scholarly debate about welfare state intervention mainly focused on the importance of family leave to help parents, especially mothers, to balance work and care (Gornick & Meyers, 2009). Such claims may appear difficult to maintain in times of major economic shocks, when welfare states seek to cut expenditure and firms struggle to survive. Such claims have further been weakened by cross-national studies suggesting that high levels of welfare state intervention increase gender gaps in earnings and female occupational attainment (Pettit & Hook, 2009; Mandel & Semyonov, 2006). We argue that a narrowly defined care perspective on family policies tends to overlook the fact that in the past family policies also served as an instrument to make the labour force more flexible and to reduce unemployment (Morgan, 2009; Morgan & Zippel, 2003). Our analyses have shown that both functions can be met in practice. However, as long as family policies continue to affect women more than men and mothers more than fathers they possibly contribute to the creation of a new cyclical reserve of labour, whose members may be disadvantaged in their careers later on. Especially in Germany, where previous research failed to explain the motherhood penalty based on mothers' observable labour market behaviour (Gangl & Ziefle, 2009), future research about the role of informal consent between employers and employees in negotiating time out durations and return conditions might be illuminating to understand the intended and unintended effects of family policies.

Our findings may, of course, be constricted by limitations in our data. The German data, even though suitable for this study in many respects, did not allow for including births and related time-out durations for mothers older than age 35. As a result, highly educated women, who usually have their children at later ages, are underrepresented in the analysis. Our conclusions are therefore limited to younger mothers at early career stages. For the U.S. we were able to run additional models for the total sample of mothers and found that the substantial conclusions relating to our hypotheses do not depend on these sample restrictions though. Another data restriction concerns our inability to distinguish mothers' return to full-time and part-time work. Due to the retrospective nature of the German data, information on work hours is not reliable. We know however from previous research that part time working women tend to be marginalized on the labour market and that mothers work part-time in much higher numbers as compared to their childless peers (Budig & England, 2001; Bardasi & Gornick, 2000). This effect is stronger in Germany,

where 38% of working women were part-time employed in 2009 as compared to 19% in the U.S. (United Nations Statistics Division, 2010). A recent study on German mothers' reentry patterns further shows that the determinants of full-time and part-time work differ substantially (Frodermann, Müller, & Abraham, 2013). Thus, future research might be able to substantiate further our argument about the impact of the centrality of mothers' own earnings to secure the family income when the economy is low.

We have argued that the national institutional frameworks in both countries account for mothers' distinctive responses to economic cycles. Against this background, the dynamics we identified in this paper are important in understanding the effects of recessions. In Germany, certain groups of workers are more affected than others: Mothers on parental leave who

constitute a modern, institutionally protected version of a labour reserve. In the U.S., with hardly any welfare state interventions, all mothers return faster to the labour market when unemployment is high.

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Appendix A

Figs. A1 and A2.

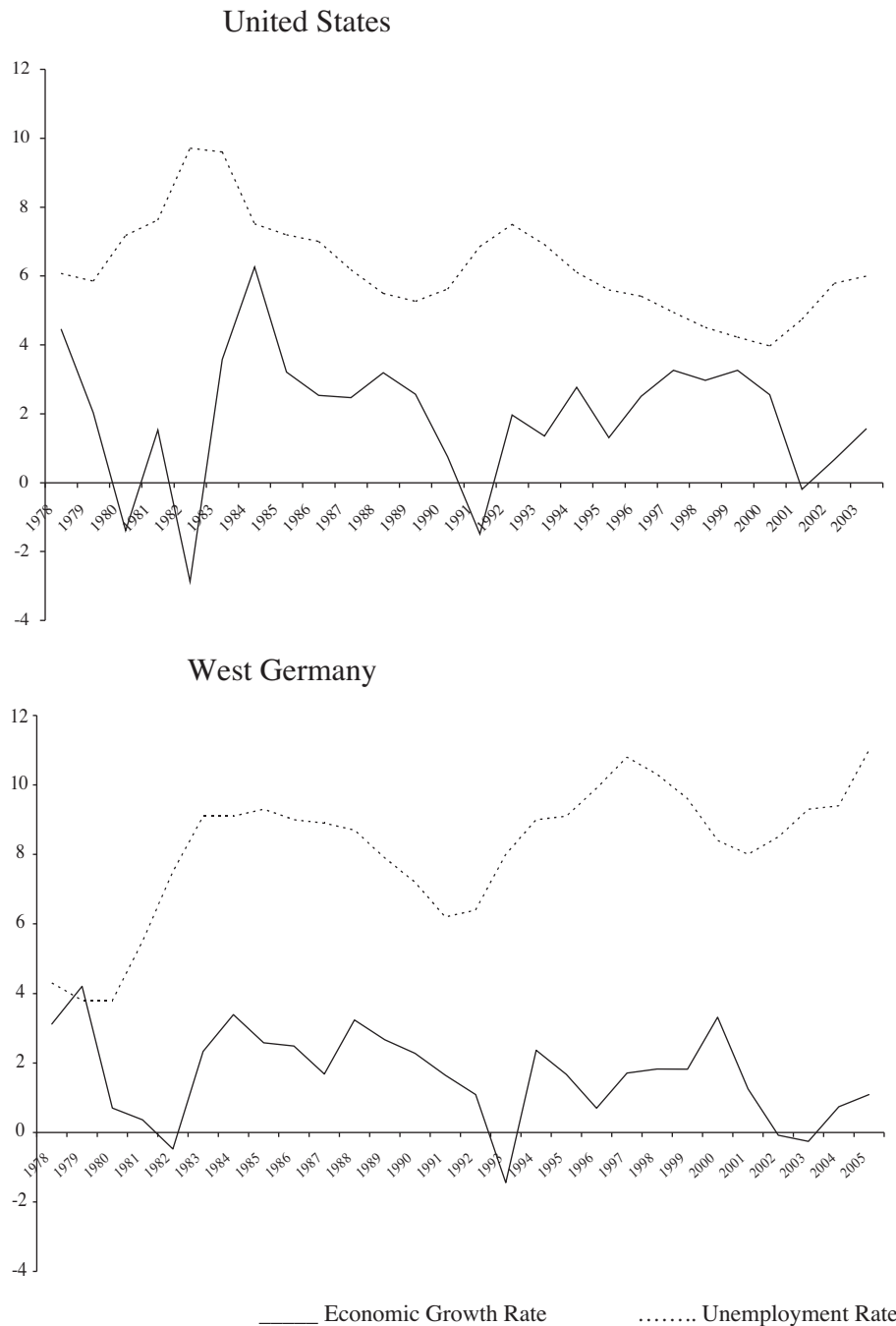


Fig. A1. The macroeconomic situation in the United States and in Germany and during the time of analysis. Annual economic growth rates and unemployment rates in percentages. Source: U.S. National Bureau of Economic Research and German Federal Statistical Office.

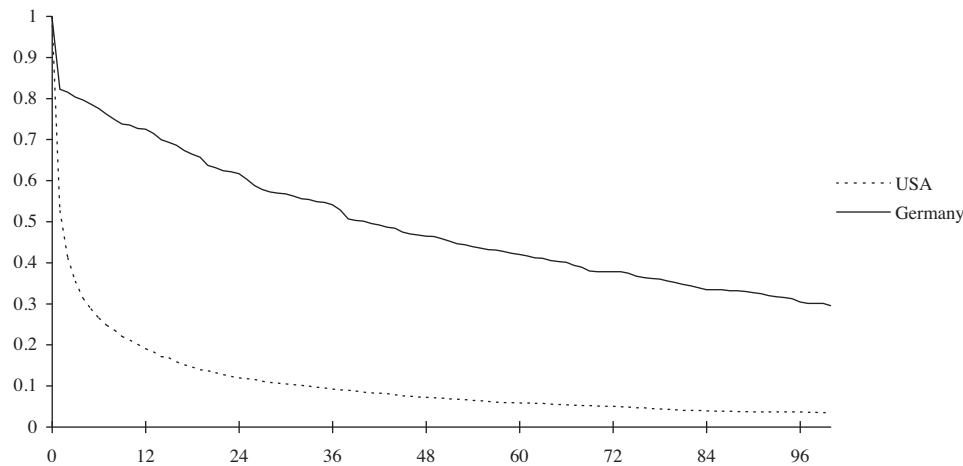


Fig. A2. Kaplan–Meier Survival Curves of Mothers' Time Out after First Birth. Source: GLHS–West birth cohorts 1954–1956, 1964, 1971, NLSY birth cohorts 1957–1964.

Table A1

Table A1
Descriptive statistics, percentages or means and standard deviation.

	USA				Germany	
	Age: <36		All		Mean / %	SD
	Mean / %	SD	Mean / %	SD		
Education lowest (%)	14.4		13.9		41.7	
Education middle (%)	41.9		40.1		38.5	
Education highest (%)	43.7		45.1		19.8	
Occupational prestige prior to birth (mean)	44.8	14.0	45.1	14.0	43.2	12.4
Labour force experience in years (mean)	6.7	4.3	7.1	4.7	5.1	3.3
No. of children (mean)	1.7	0.7	1.7	0.7	1.6	0.7
Partner (%)	80.8		81.1		92.6	
Mother's year of birth (mean)	1961	2.04	1961	2.04	1963	5.8
Germany: before 1987 (%)					30.2	
Germany: 1987–1992, USA: <1994 (%)	85.8		81.3		28.9	
Germany: >1992, USA: >1993 (%)	14.2		18.7		40.9	
Out within legally protected leave period (%)	14.2		18.7		100.0	
African American (%)	19.9		19.8			

Notes: All descriptive statistics refer to episodes, not individuals. Statistics for time-varying variables were measured at the beginning of the episode. Source: GLHS–West birth cohorts 1954–1956, 1964, 1971, NLSY birth cohorts 1957–1964.

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