Vierteljahrshefte zur Wirtschaftsforschung
70. Jahrgang, Heft 1/2001, S. 74–79

Work/Family Processes and Socioeconomic Outcomes

Timing of First Births in East Germany after Reunification

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Summary

When German reunification was accompanied by a rapid decline in aggregate fertility rates, researchers particularly assigned high unemployment rates a dominant role for changes in fertility behavior. The aim of this paper is twofold. First, we investigate changes in the timing of first birth in East Germany after reunification. Using data from the GSOEP, we show that even after reunification East Germans are younger at first birth than their West German counterparts. Second, we investigate the relationship between male and female unemployment and first birth risks. A major result is that female unemployment fosters the transition into parenthood in East Germany.

1. Introduction

The fall of the Berlin Wall on November 9th, 1989, signaled breakdown of the East German (GDR) regime. Monetary union with West Germany followed in July and full German reunification in October 1990. As can be seen from Figure 1, aggregate fertility rates in East Germany declined almost immediately after German reunification. While there were still 180,000 births in 1990, there were only 110,000 a year later, a 40 percent drop over the period of a single year. The Total Fertility Rate (TFR), which is the average number of babies born to women during their reproductive years, displays a similar pattern. A TRF of 2.1 is considered the replacement rate. The TFR in East Germany dropped from 1.5 in 1990 to 1.0 in 1991, reaching its lowest level of 0.8 in the years 1992 to 1995.

The decline in birth rates has caused an extensive discussion about the determinants of this rapid and drastic change. The hypothesis that is most often discussed is the idea of a "crisis phenomenon." Eberstadt (1994: 150) views the East German fertility decline as a "demographic shock." He argues that fertility rates in East Germany "register a profound and broadly felt lack of confidence in the economic future." In a similar fashion, Fleischhacker (1994: 43) describes fertility decline after reunification as the result of a severe economic crisis comparable to the post-war periods. Witte and Wagner (1995: 395) do not speak of a shock experience, but they still argue that "there is no reason to expect the total fertility rate in the East to rebound to the level found in the West." Unfavorable labor market constraints, i.e., high unemployment rates, are expected to keep East Germany's fertility rate below West German levels.

2. Timing or Quantum?

One of the most striking feature of the discussion about the "East German fertility crisis" is that it concentrates largely on finding an explanation for a "fertility decline", generally using the annual TFR as an indicator. Among demographers it is well known that the (commonly used) TFR is vulnerable to misinterpretation (Bongaarts and Feeney 1998). It not only fails to differentiate between births of different orders but, most importantly, it obscures the difference between "tempo" and "quantum effects" of fertility. A decline in the TFR may indeed be related to a decline in lifetime fertility, or it may be related to a postponement of motherhood.

Compared to other European countries, the mean age at childbirth was relatively low in East Germany. In 1989, the mean age at childbirth was 24.7 (for first births: age 22.7, for second births: 26.3). At the same time, West Germany displays a rather high age at childbirth in a cross-national comparison. In 1989, the mean age at childbirth

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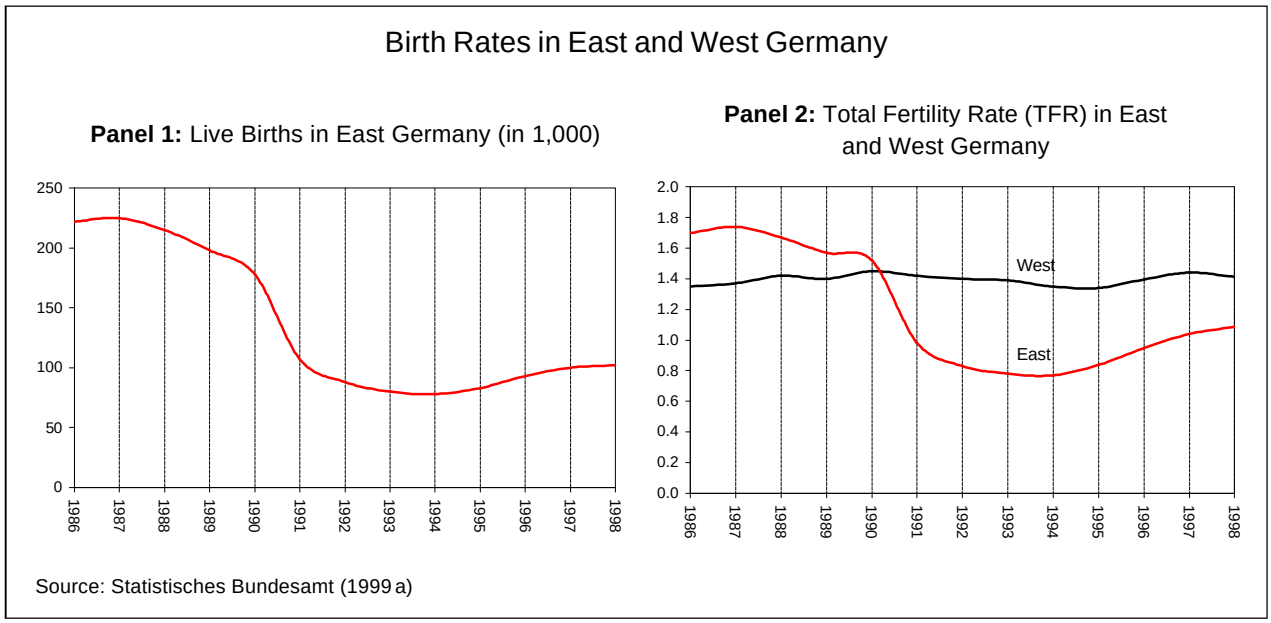
Figure 1



in West Germany was 28.3 for all parities (Statistisches Bundesamt 1999a, 1999b).[1] The considerable difference in the age at childbirth between East and West Germans is rather crucial for understanding an "East German fertility decline." Even if East Germans temporarily gave up on childbearing during the upheavals of German reunification, East German women were still young enough to postpone childbearing easily to a later phase in their lives without reaching social and biological limits of fertility (or West German levels).

One of the most interesting questions might therefore be whether the decline in the TFR indeed indicates "quantum effects" or if it is related instead to a postponement of childbirth in the individual life course. A simple method to detect changes in the timing of parenthood is the use of cohort fertility rates.[2] However, German vital statistics only provide births by orders in the current marital union. Since almost half of all births are outside of marriage in East Germany, vital statistics are of limited value when analyzing changes in the timing of childbirth in East Germany after reunification (Statistisches Bundesamt 1999a).

The aim of this paper is twofold. First, we use survey data to describe the timing of first births for different East German birth cohorts before and after reunification. Second, we investigate whether the negative correlation between high unemployment and low fertility rates also holds true on the micro level. In other words, does unemployment induce a postponement of first birth in East Germany?

3. Unemployment and Timing of First Birth

From the point of view of neoclassic theory, it seems obvious that one should distinguish between the effect of male and female unemployment on the timing of parenthood. Assuming traditional gender roles, male unemployment should have a postponing effect on parenthood. It seems logical to assume that a couple is only expected to opt for parenthood when the "breadwinner" is able to provide for the family.

The relationship between female unemployment and fertility, however, is less straightforward. Following the neoclassic framework, one might even argue that female unemployment positively affects the decision to have a child. Unemployment increases the time available to care for a child. If there is another income a woman can rely on (such as a husband's income, transfer payments, etc.), it is reasonable to give birth while one is unemployed. A similar conclusion can be reached following the popular line of reasoning of Friedman, Hechter, and Kanazawa (1994: 382ff.), who argue that "having a child is a possible mechanism to reduce uncertainty, because it structures the future by foreclosing a lot of other op-

[1] For Germany, the parity specific birth rates are only collected for births in marital unions. Own estimations suggest a mean age at first birth of 26.3 in 1989 for West Germany (Kreyenfeld 2000).

[2] It should be noted that we focus on changes in the timing of parenthood in this paper, but we do not explicitly address the "quantum effects" of fertility. The year 1998 is simply too early to assess changes in the ratio of childlessness after reunification.

tions." Women rationally opt for motherhood since it allows them to avoid labor market uncertainties they do not want to cope with.

However, in the East German case, this line of reasoning is not completely convincing. East German women are often described as being more attached to an employment career (Trappe 1995). When they become unemployed, they actively seek employment, and if they are working part-time they express a greater desire to work full-time than do their counterparts in the West (e.g., Holst and Schupp 1996). Further, East German women face favorable constraints to reconcile childrearing and employment due to a relative abundance of public day care in the East (Kreyenfeld and Hank 2000). Before opting for parenthood, it seems reasonable to assume that East German women would first assure themselves of a stable employment situation, which would allow them to take advantage of maternity leave regulations, which in turn would assure them the right to return to the their employer even three years after childbirth.

4. Empirical Analysis

The empirical analysis consists of two parts. First, we describe the timing of first births in East Germany before and after reunification, using simple Kaplan-Meier survival curves. Second, we analyze the impact of male and female unemployment on first birth risks after German reunification, using a piecewise constant model (see e.g., Blossfeld and Rohwer 1988). As a data source, we are using the German Socio-Economic Panel (GSOEP) for the year 1998. The analysis is restricted to East and West Germans of the birth cohorts 1955 to 1980. To reduce the heterogeneity of the comparison group, foreign nationals are excluded. Furthermore, individuals with missing information on the key variable (i.e., the birth biography) are also omitted.

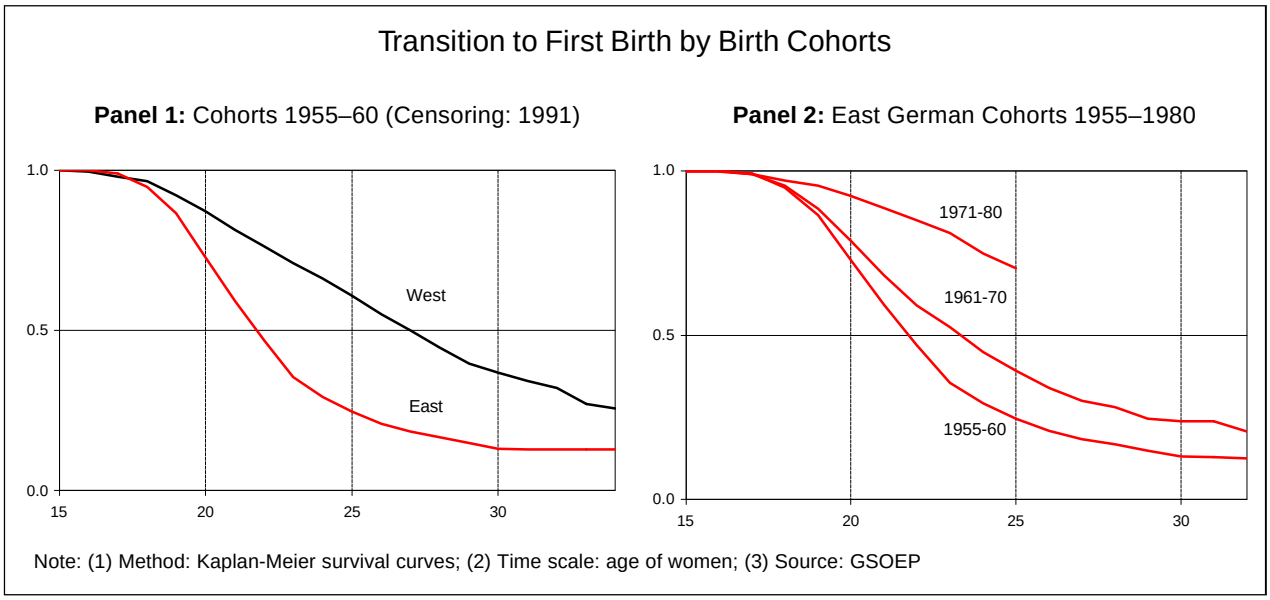
4.1 Description of Survival Curves

In Figure 2, the survival curve for the transition to first birth for the birth cohorts 1955-1960 is displayed. The date of censoring is the beginning of the year 1991. As expected, the mean duration until first birth is significantly lower in East Germany. At the age of 22, about 50 percent of all East German women have already had a first birth. In West Germany, the median duration is more than five years later.

The crucial question is how East Germans changed their timing of the first birth after German reunification. In Panel 2 of Figure 2, the transition rates for different East German birth cohorts are displayed. The major findings from the survival curves can be summarized as follows:

- Compared to the pre-reunification cohorts (1955–60), the most recent cohorts (1971–80) clearly display a different pattern in the timing of the first birth. The expected difference in the median duration time until first birth amounts to four to five years between the two comparison groups.
- This poses the question whether the post-reunification cohorts (1971–80) are closing the gap to West German timing patterns. A comparison with the same West German cohorts (Figure 3, Panel 1) does not, however, support this hypothesis. East Germans of the post-reunifica-

Figure 2



Note: (1) Method: Kaplan-Meier survival curves; (2) Time scale: age of women; (3) Source: GSOEP

tion cohorts are still younger at first birth than comparable West German cohorts.

- Member of the reunification cohorts (1961–1970) mostly gave birth first before German reunification. However, those who were childless at the time of German reunification were still younger when they gave birth in the subsequent years (Figure 3, Panel 2).

To summarize so far: despite a substantial increase in the age at first birth compared to pre-reunification times, East Germans are still younger at first birth than their West German counterparts after German reunification.

4.2 Multivariate analysis

In the following, a piecewise constant model is used to analyze how male and female unemployment affects the timing of first births in East Germany.[3] For this analysis, we only use East and West Germans of the birth cohorts 1961–1980. Furthermore, it should be noted that we focus on the period after German reunification, i.e., we left-censor cases in the year 1991. The dependent variable in this model is the age of a woman measured in months since the year she turned age 15. The major independent variable is the activity status of the woman and her partner. We distinguish by unemployment, full-time versus part-time employment, or obtaining an education. It should be noted that we use monthly information on the activity status of the woman, but for her cohabiting partner we only have annual activity information at our disposal. To allow the covariates to have an impact on the decision to become pregnant, the date of birth is backdated by nine months. The results are displayed in Table 1, and can be summarized as follows:

- Female unemployment has a strong positive impact on first birth risks in East and West Germany. However, when one distinguishes between long-term (more than three months) and short-term unemployment (three months and less), only the former retains a significant and strong effect.
- Male unemployment has no impact on first birth risks after reunification in East Germany.

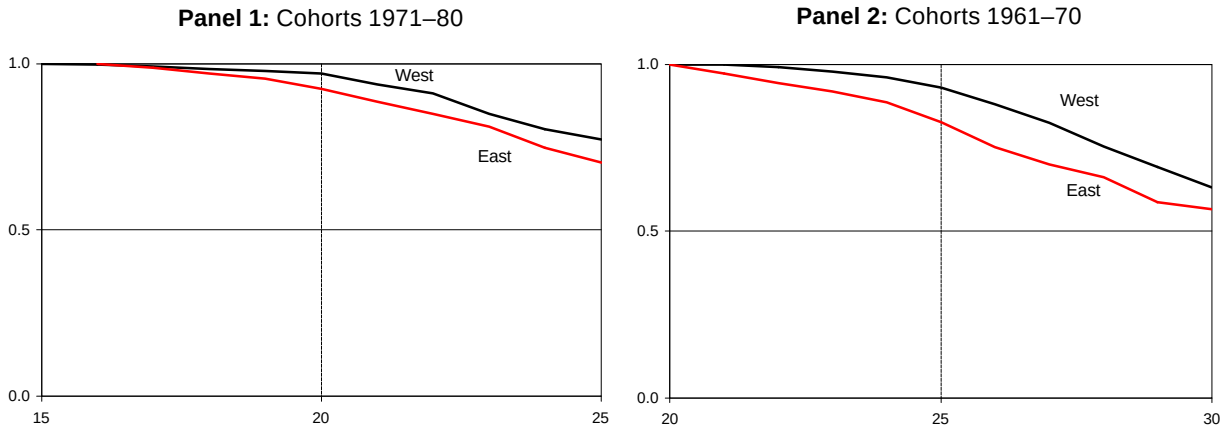
5. Conclusion

German reunification was accompanied by a rapid decline in aggregate birth rates, which has motivated researchers to talk of an “East German fertility crisis.” However, period fertility rates are easily subject to misinterpretation. Most available indicators for Germany (such as the TFR or the crude birth rate) fail to differentiate between births of different orders. More importantly, they obscure the difference between “tempo” and “quantum” effects of fertility. The drop in the TFR of East Germany is frequently interpreted to mean that East Germans have ceased childbearing. Little attention has been given so far

[3] We used the computer software Transition Data Analysis (TDA 6.3) (Rohwer and Pötter 1999). To aggregate activity spells, we used the program NEWSPELL (version 1.2) (Pischner 2000).

Figure 3

Transition to First Birth, Women, Who Are Childless in 1991[1]



[1] The survival curves are tested for equality using a Peto-Test. In both panels, they are significantly different from one another on the 5 percent level.

Note: (1) Method: Kaplan-Meier survival curves; (2) Time scale: age of woman; (3) Populations: only respondents, who were childless in the beginning of the year 1991; (4) Source: GSOEP

Table 1

Piecewise-Constant Model on First Birth Risks after German Reunification

	East Germany (controlling for unemployment)			East Germany (short-term versus long-term unemployment)			West Germany		
	b	**exp(b)**	**t**	**b**	**exp(b)**	**t**	**b**	**exp(b)**	**t**
Baseline (age)									
15–20	–6.05	0.002		–6.05	0.002		–6.97	0.001	
20–24	–5.63	0.003		–5.63	0.003		–5.74	0.003	
24–28	–5.37	0.004		–5.38	0.004		–5.49	0.004	
28–38	–5.33	0.004		–5.33	0.004		–5.61	0.003	
Activity Status									
In Education	–0.46	0.63	–1.50	–0.47	0.63	–1.51	–0.71	0.49	–3.23***
Part-time employed	0.47	1.60	1.17	0.47	1.60	1.17	0.12	1.12	0.41
Full-time employed	0	1		0	1		0	1	
Unemployed	0.88	2.40	3.33***	—	—	—	—		
Short-term unemployment	—	—		0.66	1.94	1.41	0.19	1.21	0.43
Long-term unemployment	—	—		0.96	2.61	3.27***	0.67	1.96	2.62***
Conjugal Union	0.64	1.89	2.86***	0.64	1.89	2.86***	1.11	3.02	8.13***
Partner's Activity Status									
In Education	–0.33	0.72	–0.63	–0.34	0.71	–0.65	–0.16	0.85	–0.52
Full-time employed	0	1		0	1		0	1	
Unemployed	0.19	1.21	0.32	0.20	1.22	0.33	–0.54	0.58	–1.48
No. of transitions						103			282
No. of cases						377			900

Note: (1) Method: piecewise constant model; (2) Dependent variable: occurrence of first birth, date of birth was backdated by 9 months; (3) Selection of the sample: East and West German cohorts 1961–1980; (4) Selection of the time periods: episodes after January 1991; (5) ***: $p \leq 0.01$, **: $0.01 \leq p \leq 0.05$, *: $0.05 \leq p \leq 0.10$; (6) Other variables in model: flag variable for activity status missing, month of birth missing, partner information missing; (7) Source: GSOEP (own estimates)

to the possibility that the movements in the TFR relate to changes in the timing of motherhood in East Germany. This paper attempts to partially close this research gap by analyzing the timing of first births before and after German reunification.

The analysis of data from the GSOEP reveals that there was an immediate increase in the age at first birth after German reunification. However, this increase must be placed in the context of a very low age at first birth in East Germany. An increase in the age at first birth results in late motherhood compared to pre-reunification times. Still, it does not necessarily mean that East Germans are as old as their counterparts in the West when they finally opt for parenthood. In fact, East Germans turn out to be younger at first birth than their West German counterparts even after German reunification.

In the multivariate model, we find a strong positive impact of female unemployment on the transition to first birth. This seems somehow surprising, since East German women are often described as placing more value on full-time employment than their West German counterparts. Furthermore, East German women face better chances of reconciling an employment career and childrearing due to a relative abundance of public day care in the East. Before opting for parenthood, we would expect, therefore, that East German women would be more inclined to first assure a stable employment situation, which allows them to take advantage of maternity leave regulations. Further empirical investigations are required to determine whether long-term unemployment discourages East German women from seeking a career.

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