

Witte, James C.; Wagner, Gert G.

Working Paper — Digitized Version

Employment and fertility in East Germany after unification

DIW Discussion Papers, No. 125

Provided in Cooperation with:

German Institute for Economic Research (DIW Berlin)

Suggested Citation: Witte, James C.; Wagner, Gert G. (1995) : Employment and fertility in East Germany after unification, DIW Discussion Papers, No. 125, Deutsches Institut für Wirtschaftsforschung (DIW), Berlin

This Version is available at:

<https://hdl.handle.net/10419/95725>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



Diskussionspapiere
Discussion Papers

Discussion Paper No. 125
and
Employment Fertility in East Germany
after Unification

by
James C. Witte¹ and Gert G. Wagner²

Die in diesem Papier vertretenen Auffassungen liegen ausschließlich in der Verantwortung des Verfassers und nicht in der des Instituts.

Opinions expressed in this paper are those of the author and do not necessarily reflect views of the Institute.

Deutsches Institut für Wirtschaftsforschung

Discussion Paper No. 125
**Employment ^{and} Fertility in East Germany
after Unification**

by
James C. Witte¹ and Gert G. Wagner²

- 1) Northwestern University
- 2) Ruhr University of Bochum and German Institute
for Economic Research, Berlin

Berlin, November 1995

Deutsches Institut für Wirtschaftsforschung, Berlin
Königin-Luise-Str. 5, D-14191 Berlin
Telefon: 49-30 - 89 7 89-0
Telefax: 49-30 - 89 7 89-200

Employment Fertility in East Germany after Unification

James C. Witte, Northwestern University
Gert G. Wagner, Ruhr University of Bochum and
German Institute for Economic Research, Berlin

Abstract

Vital statistics clearly indicate that the fertility rate in East Germany dropped sharply after German unification; moreover, it has not yet rebounded but remains stable at a low level. This paper uses data from the German Socio-Economic Panel (GSOEP) to examine births in the former German Democratic Republic in 1992 and 1993. The primary explanatory variables include women's employment status in 1991 and 1992, expectations about future unemployment, and the employment status of cohabiting or marital partners.

Our hypothesis is that young women who become unemployed are likely to use this "occasion" to become pregnant. We assume that the preference for children has not changed dramatically among East German women following unification. Support for this assumption is found in data from the GSOEP, which indicates that the value women attach to family life has remained relatively stable. Instead of viewing the decline in fertility as a shift in preferences, it is viewed as a change in opportunity costs. In general, there are long-term opportunity costs associated with an interruption in employment due to the subsequent devaluation of human capital. Specifically, in East Germany the re-entry rates of unemployed people into the labor market are very low. As a result: 1) the opportunity costs of having a child are quite high for employed women since they are likely to experience difficulties reentering the labor force; 2) for women outside the employment system, who are likely to remain there, the opportunity costs are quite low. In examining this question we make use of the household orientation of the GSOEP and also consider the employment status of each woman's partner, married or cohabiting, if the woman shares a household with such a person.

Along with these theoretical issues this paper also addresses an interesting theme in the public debate regarding fertility changes in East Germany. Our results run counter to a widely held belief that young women become unemployed because they get pregnant. Instead, our longitudinal analyses suggest that the timing goes in the other direction: women become pregnant after they are unemployed.

Acknowledgements

This paper was prepared while James Witte was a Visiting Scholar at the Deutsches Institut für Wirtschaftsforschung and Gert Wagner was a Visiting Scholar at Northwestern University and a Visiting Professor in the Department of Economics at Maxwell School, Syracuse University in the summer of 1995. An earlier version of this paper was presented at the PSID-GSOEP Workshop at Syracuse University in August of 1995. Our thanks to the participants, especially Douglas Wolf for useful comments and suggestions.

Introduction: Declining East German Fertility Since Unification

Vital statistics clearly indicate that the fertility rate in East Germany dropped sharply after German Unification (cf. for example Eberstadt 1994). The total fertility rate was cut in half within a bit more than one year. Calculated on a yearly basis, the total fertility rate fell from 1,517 births for each 1,000 women in 1990 to 830 births for each 1,000 women in 1993. Moreover, fertility has not yet rebounded but remains stable at a low level: 774 births in 1993 and is estimated to have fallen even lower in 1994 to 750 births. Table 1, which reports recent total fertility rates for women of specific ages, indicates that decreased fertility is not specific to any one age group, but cuts across the child-bearing years.

Vital statistics accurately portray the extent of the decline and how closely its timing corresponded to the pace of unification; however, these statistics can only hint at the reasons for the decline. For example, Table 1 shows that though the decline in fertility is found in women of all age categories, a closer look shows a slightly greater decline among women of younger ages than somewhat older women. This finding has led some observers (Zapf and Mau 1993, Witte and Wagner 1995) to suggest that young women in East Germany may be postponing having their first birth in an effort to approximate established patterns of behavior among women in western industrial countries. In the West, especially among women who have completed higher education, the prevailing norm has been for women to try to complete their education and establish themselves on the labor market before giving birth to a first child (cf. Huinink 1995 and several other authors).

A second, not unrelated perspective seeking to explain the decline in fertility emphasizes the future of child care facilities in East Germany. In the former German Democratic Republic (GDR) it was very easy to combine employment and child rearing because the state established a comprehensive system of day care centers for preschoolers and after-school care for pupils.¹ The prognosis of many observers (cf. Kistler et al. 1993) is that after unification this system of care, which was expensive and was often a vehicle for socialist education, is likely to be dismantled.

¹ As in the Federal Republic of Germany (FRG), the school system in the GDR was not like the US system with school lasting three quarters of a day. The traditional German educational system provides schooling in the morning, but not child care in the afternoon. However, while child care was primarily provided by mothers in the FRG, this function was taken over by the state in the GDR (cf. Wagner et al. 1995, Spieß 1995).

The first argument (a change in patterns of behavior) is plausible but difficult to test because not enough time has passed to definitely say that births have been postponed and not simply eliminated altogether. There is, however, evidence to support the second argument, which stresses an important change in the social and political context drastically altering the costs of having a child (cf. Putzing and Sternitzky 1994 for a brief overview). Good evidence in this regard can be found in the GSOEP data that is the basis for the main analyses below² (A description of the data is also found below). The upper panel of Table 2 displays the rates of child care enrollment in day care centers in East Germany. The proportion of children aged three and under, who were enrolled in daycare centers was cut in half, from 67 percent to 32 percent. However, this might be „natural“ response only the extended parental leave period after birth for mothers in the FRG. This policy provides support for three years outside the labor force after a birth (cf. Ondrich et al. 1995). Most remarkable, though, is that the rate of full-time care (*Ganztagsbetreuung*) for children ages four through seven was essentially unchanged and thus remains significantly higher than the proportion enrolled in full-time care in the west (see lower panel of Table 2).

In contrast, the third and the last row of Table 2 shows that the situation is changing dramatically for school age children. In 1990, on the eve of unification, nearly half of pupils between the ages of seven and ten were “cared” for in the afternoon. In 1994 the rate had fallen to 17 percent. Thus, immediately after birth and during the preschool years the existing parental leave policy and the availability of full day care make it possible to combine child rearing and employment outside the home; however, once a woman’s oldest child enters school, at the age of six or seven, combining the two roles is increasingly difficult because after-school care is disappearing (cf. Wagner et al. 1995).

Despite of changes in the institutional arrangements for child care there is empirical evidence that the “preferences for children” did not change significantly in the course of time after unification (cf. Kopp and Diefenbach 1994, pp. 59). In this regard the GSOEP is quite useful also as it contains subjective measures of attitudes and values, as well as objective indicators of behavior. Moreover, important items including life satisfaction and the importance of distinct spheres of activity, such as work and family life, for overall well-being and satisfaction are among the items measured at different points in time. Thus, for example, looking at East German respondents in 1994 as compared to 1990 there is a slight decline in

² Nauck and Joos (1995, pp. 38) present very similar results which are based on another survey.

the percentage of persons who felt that the work was very important for their well-being (from 49.5% to 46.9%; not displayed in a table). Likewise, though East German respondents clearly attached much greater importance to their family life, there was also a modest decline in the proportion of all respondents who said the family was very important to their well-being and satisfaction.

Table 3 considers the relative importance of these two areas from a longitudinal perspective for the population most relevant to the topic at hand: East German women between the ages of 18 and 35. In 1994 as in 1990, over half of these women are far more likely to consider the family to be very important for their well-being than they were to consider work to be very important. However, looking along the diagonal in the panel for each point in time, just over half the women attached identical levels of satisfaction to each. Looking at those who found “family to be more important than work” or “work to be more important than family” there is little change over time. In contrast to the East German population at large, there is a modest increase in the proportion of young women who find work to be more important than the family, but this group remains under 5 percent of all women between the ages of 18 and 35.³

For our purposes the primary theoretical significance of these findings is that the importance attached to family suggests that there has been little change in preferences for children. Similarly other studies have shown that there has also been little change in East Germany in the reported “number of children desired” (cf. Dorbritz, Menning et al. 1992, p.31). Nevertheless, in East Germany since unification there has been a remarkable--indeed a historically unprecedented--decline in the fertility rate (Eberstadt 1994). To address this issue the analyses presented below focus on a simple research question: given the striking decline in fertility, and the fact that fertility remains so low after the initial shock of unification: what distinguishes those women who are still giving birth to children in East Germany?

Modeling Fertility Decline: Stable Preferences, But Changing Opportunity Costs

Based on the results presented above, it is not unrealistic to assume constant preferences for children among East German women in the years following unification.⁴ Under these

³ The importance accorded to work by women in East Germany is much higher than that found in West Germany. This may be the echo of the socialist ideology, but it is also in line with increasing female labor force participation common in other countries, most notably the US.

circumstances a change in the opportunity costs of bearing and rearing children remains as an alternative explanation for the decline in fertility (cf. Zimmermann 1990).

In general, in market oriented economies there are long-term opportunity costs associated with an interruption in employment due to the subsequent devaluation of human capital (cf. Ott 1992). But in East Germany, the re-entry rates of unemployed people into the labor market are very low (cf. Steiner 1994). As result, there are only minimal opportunity costs of child-bearing for women outside the employment system (cf. Zimmermann and De New 1990, 1991), since they are likely to remain there until the East German labor market rebounds.

On the other hand, the opportunity costs of having a child are quite high for employed women. In most cases, if a woman remains outside the employment system beyond the parental leave period, she is likely to experience difficulty reentering the labor force, making leaving the labor force to have a child quite costly.⁵ The alternative is to restrict the subsequent interruption to employment, returning to work, at the latest, once the child reaches the age of three and parental leave benefits expire. In this case, the fundamental problem of combining childrearing and employment is postponed until the child begins school at the age of six. Ancillary problems-- perhaps real or perhaps perceived on the part of employers and coworkers--such as restricted labor market flexibility (e.g., mobility) and job commitment (e.g., willingness or ability to work overtime) remain even if a woman finds child care and returns to work.

All in all, we hypothesize that the decline in fertility among East German women represents a rational reaction to changing opportunity costs in light of constant preferences for children. To be more precise: Our hypothesis is that young women who got unemployed take this "chance" to get pregnant (cf. Dinkel 1994). The implication of this model runs counter to those described by Grundmann (1994, pp.44), who predicts that unemployment will not raise

⁴ As discussed below our analysis is restricted to the time period after 1991. Although an abrupt decline in births can be seen as short as ten months after the fall of the Berlin wall (Eberstadt, 1994) the processes that account for the decline in fertility in the first year should not assumed to explain the fact that fertility has remained quite low (Witte and Wagner, 1995). Most importantly, the important issue in 1990 was perceived uncertainty about the future, rather than actual unemployment. Indeed, actual unemployment in East Germany only became legally possible in 1991.

⁵ An exception may be young women, such as teachers, who occupy civil service positions that provide tenure for life. In such instances, job security would presumably have little impact on fertility decisions.

the fertility rate in East Germany because the women are still “work oriented”⁶. Moreover, our hypothesis is in direct contrast to a widely-held position in the popular press surrounding the fertility decline in East Germany: the view that young women become unemployed because they become pregnant.⁷ However, such practices are not likely to be wide-spread due to German employment regulations (*Kündigungsschutz-Gesetze*) that strictly regulate employee termination procedures.⁸ Moreover, our theoretical model, which is supported by the analyses below, suggests that the timing goes in the other direction: women become pregnant after they are unemployed.

In examining declining fertility as a question of opportunity costs, we recognize that it is not simply the employment status of women that is at issue. We also make use of the household orientation of the GSOEP and consider the employment status of each woman’s partner, married or cohabiting, if the woman shares a household with such a person.

Data: The German Socio-Economic Panel

We use data from the German Socio-Economic Panel (GSOEP)⁹ to examine the individual level correlates of changing fertility patterns in East Germany. Since June, 1990 the GSOEP has surveyed over 4,000 East German respondents on a yearly basis. Among other topics the survey covers labor force participation, family events (including births) and attitudes and opinions regarding current developments and future trends.¹⁰ It is the variety of individual-level, socio-economic variables collected by the GSOEP that permits analyses that go beyond those based on vital statistics.

⁶ Grundmann argues (1994, pp. 44): “Den nach dem Ende der DDR in neuer Dimension entstandenen Konflikt zwischen Berufstätigkeit und Mutterschaft haben die Ostdeutschen - Frauen und Maenner - einstweilen zugunsten der beruflichen Taetigkeit entschieden. Sie haben sich dafuer auch entschieden, wenn Frauen momentan ohne Arbeit sind” (emphasis in the original).

⁷ See „Hemmnis Mütter“, in: SPIEGEL Magazine (No. 15/1995, p. 69).

⁸ In fact, many mothers came back into labor force in the years 1991 and 1992 (cf. Holst and Schupp 1995a, Gustafsson et al. 1995). This demonstrates that the legal rights are working in East Germany.

⁹ The GSOEP is a nationally representative household panel study similar to the American Panel Study of Income Dynamics (PSID). Conducted by the German Institute for Economic Research (*Deutsches Institut für Wirtschaftsforschung*) in Berlin, approximately 5,000 West German households have been interviewed each year since 1984. A supplementary sample of just under 2,000 East German households was added to the panel in 1990. Detailed information concerning this data source may be found in Wagner et al. (1993).

¹⁰ In addition, all women were asked to provide retrospective fertility, education and employment histories.

The added information obtained by any sample survey must be weighed against the inherent danger that the sample does not accurately represent the full population. This issue takes on an added significance with a panel survey such as the GSOEP, because even if the representative quality of the survey is known at the start of the study, sample attrition over time makes the representative character of the data a time variant quality. Patterns of attrition in the GSOEP have been monitored closely, however, and longitudinal adjustment factors have been calculated based on models of panel nonresponse (cf. Wagner et al. 1993). After taking these adjustment factors into account the fertility histories reported retrospectively in 1993 yield results that compare quite favorably with total fertility rates based on official birth records.¹¹

The dependent variable used in our analyses is whether or not a woman gave birth in 1992 or 1993. At this time, five waves of the GSOEP data for East Germany are available: 1990 to 1994. Births reported in 1990 and 1991 are excluded from the analysis because the relevant fertility decisions were made under completely different circumstances--either prior to the start of unification or shortly after unification, when actual unemployment was not an issue (cf. Witte and Wagner 1995.) As actual unemployment was not legal until 1991, its effects on fertility decisions can first be seen in births that occurred in 1992. Births in 1994 are also excluded, however in this case the reasons are technical rather than theoretical; more than half the births that occurred in 1994, are first reported in the 1995 GSOEP data, which is not yet available.

The primary analytical technique used in our multivariate models is to regress the pooled birth data on a set of independent variables. Once the fertility outcomes for each observation, i.e., each woman year at risk of giving birth are dummy coded, logistic regression techniques may be used to regress the outcomes on a set of independent variables. The resulting model may be seen as a discrete time hazard model, where the estimated coefficients may be interpreted as indicating the effect of the variable on the fertility rate or, alternately, on the conditional probability of giving birth in a time period equal in length to the discrete time interval--here, one year (cf. Allison 1982)¹².

¹¹ The estimated combined total fertility rates--taking sampling error into account--correspond closely to the pattern found in vital statistics data for the period 1964 to 1992 (See: BiB-Aktuell, 1993).

¹² This procedure does, however, violate the standard assumption of independent observations as individual women may contribute multiple observations. In later work we will employ statistical techniques to assess the clustering effect of the pooling procedure.

Given the dramatic decline in fertility throughout East Germany, it comes as no surprise that the absolute number of births in the GSOEP sample is quite small: 37 in 1992 and 28 births in 1993. This is especially true as the number of women between the ages of 18 and 35 stood at 899 in 1991 and 921 in 1992. We restrict our analysis to women between the ages of 18 and 35 years of age on the assumption that the processes associated with early births or those that occur relatively late are fundamentally different.

We have good evidence that fertility decision making differed between 1990-91 and afterwards: the demographic statistics show the first sharp decline of births in 1991 (i.e. decisions made prior to unification in 1990) and a second low fertility period in 1992 and afterwards. This is in line with our theory. Accordingly we pool the observations from 1992 and 1993 to increase the statistical power of our analyses. In our multivariate analyses we include a dummy variable for year to test whether the probability of giving birth systematically varies between the two years. Moreover, separate analyses showed that the signs and the magnitude of coefficients were the same for different estimations in 1992 and 1993.

Theoretically one would want to separately model first births and higher parity births. However, due to the small number of births in the sample, we are unable to make this distinction and still allow for interaction between our independent variables. Thus, we model all births together, but in our multivariate analyses introduce a dummy variable indicating first births.

The primary independent variables in our models are indicators of employment status in 1991 and 1992, the time periods relevant for the fertility patterns (birth/no birth) measured in 1992 and 1993. The models reported below depend on the labor force status of each women, as well as the employment status of each woman's partner (marital or otherwise), if such a partner resides in the same household.

Our analysis uses labor force status to define several groups of women and consider differences in fertility between the groups. The group comprised of women employed full time serves as the reference group in our analyses. Women who were employed part-time were treated as a separate group since part-time employment may be seen as a compromise between caring for children and remaining "in touch" with the labor market. The primary contrast group is made up of women who are either out of the labor force or unemployed.

However, if a woman was employed full-time, but reported that she was quite certain that she would lose her job in the near future, she was included in the group of unemployed and out of labor force women. We divide this group of women in between women who have an employed partner or do have an employed partner. Single women are controlled by a separate dummy variable.

We have also included a dummy variable to identify those East German women in our sample, who in 1992 or 1993 were living in West Germany. The fact that they have moved to the East places them--and their partners, if they share a household--in an entirely different labor market situation. Moreover, the fact that they have moved to the West also suggests that they may be less risk-adverse than East German women who have not moved.

Additional variables are included in our models for control purposes. As Table 1 indicates fertility rates in East Germany clearly vary by age. Using the youngest age group (18 and 19 year-olds) as a reference category we include dichotomous variables to identify three additional age groups: 20 through 25 year-olds, 26 through 30 year-olds and 30 through 35 year-olds. This pattern may be due to biological constraints. Older women are „under pressure“ to realize their desire for a child.

We also include a dummy variable to confirm that pooling fertility patterns from 1992 and 1993 is a valid assumption. This variable takes a value of 1 for those spells that measure fertility in 1992 and a value of 0 for observations in 1993.

Results: Employment Status and Fertility

Table 4 reports the labor force status of East German women aged 18 to 35 in 1991 and 1992, as well as the labor force status of any male partners, marital or cohabiting, for the same time periods. These results clearly show the extent to which young East German women increasingly find themselves in unfavorable labor market circumstances since the start of unification. Simply between 1991 and 1992 unemployment among women aged 18 to 35 increased 50 percent, from 13.7 percent to 20.0 percent. Turning to the data on the cohabiting partners of East German women aged eighteen to thirty-five, we see that about two-thirds of the women lived with a male partner. Furthermore, of those living with a partner, the vast majority lived with a partner who was employed full-time--90 percent of the 69 percent living

with a partner in 1991 and 88 percent of the 67 percent living with a partner in 1992. The proportion of those living with an unemployed partner was small and rose only slightly from 4.1 percent in 1991 to 5.6 percent in 1992.

Results from a logistic regression model with the pooled fertility outcomes from 1992 and 1993 are presented in Table 5. As noted above, within a discrete time framework the reported coefficients may be interpreted as indicators of the direction and significance of the effect of the independent variable on the fertility rate or the conditional probability of giving birth in a one year interval. In this case, since all variables are dummy coded, comparing the coefficients is all an indicator of the relative magnitude of the effect sizes.

Looking at the relationship between employment status and fertility the primary contrast is between women who are employed full-time and those who are out of the labor force or unemployed and share a household with an employed partner. The positive significant coefficient (0.98) associated with the latter group, is consistent with the hypothesis that fertility decisions are systematically related to employment status (cf. Dinkel 1994 for West Germany). Moreover, the direction of the relationship is consistent with our hypothesis that unemployed women face lower opportunity costs and thus are more likely to bear a child. However, this is only the case, if the woman shares the household with a married or cohabiting partner who is employed. Compared to women working full-time a higher probability of giving birth is also found among women who hold regular part-time jobs. Presumably part-time jobs provide the time and flexibility that allows women to combine having children and remaining in the paid labor force, thereby avoiding the high opportunity costs faced by women employed full-time. Women in the residual category, other employment status (e.g. women in firm-based apprenticeship programs) and single women are somewhat less likely to have children than those employed full time, however this relationship is not statistically significant.

A higher but not significant probability of giving birth is also found among those East German women who have established residence in the old West German states¹³. Finally, it should

¹³ A variety of interpretations of this finding are possible. Most likely the affluence and security of living in the West outweigh the risks associated with interrupting one's career to have a child. Just as plausibly the partners of women who have moved to the West may provide income and stability that allow these women to overlook the opportunity costs associated with motherhood. Or, it may be that these women are simply less risk adverse - as evidenced by the fact that they have moved to the West - and thus minimize the costs associated with having a child.

simply be noted that the coefficients for the two older age groups are significant and negative indicating that even after taking employment status into account older women are less likely to have children.

Our two control variables year and birth parity are both insignificant suggesting that key methodological assumptions underlying the analysis - that births of all parity and from different time points may be pooled - are in fact warranted.

5 Outlook: The Future of Fertility in a Strengthening Economy

What will happen with fertility in East Germany when the unemployment rate declines? Theoretically two plausible effects are likely: the short-term opportunity costs of having a child are likely to increase as more women will view continued employment as a viable alternative to motherhood; meanwhile longer-term opportunity costs are likely to decrease because unemployment due to a child should become of less significance as the chance of being re-hired increases. The former, in the short-term, will act to hold the fertility rate in East Germany at a low level; while the later, in the longer term, will allow the rate to increase.

The relative significance of these long-term and short-term motivations for East German fertility may become apparent in the near future since by all accounts the East German economy is well on its way toward recovery. The extent to which East German fertility rebounds depends on the balance of these countervailing short-term and long-term pressures. In general, our prognosis is that the short-term effects are already waning and the lower long-term opportunity costs will soon serve to drive the fertility rate once again upwards. And this calculus will go in line with the overall desire to postpone first birth: in the next years births should occur which were postponed after unification.

In this regard, from a policy perspective, at least two issues merit attention. First, efforts to improve employment opportunities either through public it programmes or wage subsidies and tax credits will also act to slow the upward movement of the East German fertility rate. Discussion of policies to reduce unemployment should openly address this issue: successful efforts to improve employment opportunities today are likely to reduce the overall size of the labor force tomorrow, yielding an even smaller than anticipated labor force in the

future. However, steps need to be taken to insure that these efforts do not attenuate the existing gender inequality in the labor market.

If women are to be directly or indirectly encouraged to interrupt their careers to bear children, then extra efforts must be made to facilitate their subsequent reintegration into the paid labor force. Public programs or tax incentives to encourage preferential hiring of recent mothers as well as expanded retraining and continuing education to update human capital that may have become obsolete during an extended maternity leave are two examples of programs to reduce the labor market costs of childbearing for women.

Most importantly, however, steps need to be taken to enable women to combine childrearing and employment outside the home through the availability of adequate and affordable childcare. More opportunities for part-time jobs are important. And as noted above, providing adequate childcare does not simply mean expanding the number of slots available for infants and toddlers, but also requires considerable expansion of the available after-school programs.

References

- Allion, Paul D. 1982: Discrete-Time Methods for the Analysis of Event Histories, in: *Sociological Methodology*, pp. 61-98.
- Buettner, Thomas and Wolfgang Lutz 1990: Estimating Fertility Responses to Policy Measures in the German Democratic Republic, in: *Population and Development Review*, 16(3), pp. 539-613.
- Dinkel, Rainer H. 1994: Beeinflußt Arbeitslosigkeit die Fertilität? Eine empirische Untersuchung, in: *Sozialer Fortschritt*, 43(3), pp. 67-69.
- Dorbritz, Jürgen 1994: Bericht 1994 über die demographische Lage in Deutschland, in: *Zeitschrift für Bevölkerungswissenschaft*, 19(4), pp. 393-473.
- Dorbritz, Juergen, Sonja Menning et al. 1992: Wandel des generativen Verhaltens und der Familienbindung in den neuen Bundesländern infolge des Austausches der Wirtschafts- und Sozialordnung und der sozialstrukturellen Transformation, *Graue Reihe der KSPW* Nr. 602, Halle/Saale.
- Eberstadt, Nicholas 1994: Demographic Shocks After Communism - Eastern Germany 1989-93, in: *Population and Development Review*, 20(1), pp. 137-152.
- Fleischhacker, Jochen 1994: Geburtenausfälle in Deutschland - ein sozialgeschichtlicher Exkurs, in: *BISS public*, 4 (14), pp. 77-84.
- Fuchs, Marianne 1994: Zur Geburtenentwicklung und Geburtenprognose in den neuen Bundesländern, in: *BISS public*, 4 (14), pp. 85-91.
- Grundmann, Siegfried 1994: Vom gespaltenen Volk zur gespaltenen Bevölkerung, in: *BISS public*, 4 (14), pp. 23-51.
- Gustafsson, Siv, Jan-Dirk Vlasblom and Cécile Wetzels 1995: Women Labor Force Participation in Connection with Child Birth - A Comparison Between Germany and Sweden, Amsterdam and Utrecht: mimeo.
- Heismann, Günther 1994: Ein Volk unter Schock, in: *Die Woche*, 28.7.94, pp. 12-13.
- Holst, Elke and Jürgen Schupp 1995: Frauenerwerbsbeteiligung in Ostdeutschland, in: *DIW-Wochenbericht*, 62(18).
- Huinink, Johannes 1989: Ausbildung, Erwerbsbeteiligung von Frauen und Familienbildung im Kohortenvergleich, in: G. Wagner et al. (Hg.), *Familienbildung und Erwerbstätigkeit im demographischen Wandel*, Berlin u. a. 1989, pp. 136-158.
- Huinink, Johannes 1995: *Warum noch Familie ? Zur Attraktivität von Partnerschaft und Elternschaft in unserer Gesellschaft*, Frankfurt und New York.
- Kistler, Ernst, Dieter Jaufmann and Anita Pfaff 1993: Es droht eine Abwärtsspirale - Kindereinrichtungen in den neuen Ländern, in: *Arbeit und Sozialpolitik*, 40(3-4), pp. 49-54 (The Threat of a Downward Spiral).
- Kopp, Johannes and Heike Diefenbach 1994: Demographische Revolution, Transformation oder rationale Anpassung ? - Zur Entwicklung von Geburtenzahlen, Eheschließungen und Scheidungen in der (ehemaligen) DDR, in: *Zeitschrift für Familienforschung*, 6(1/2), pp. 45-63.

- Münz, Rainer and Ralf Ulrich 1994b: Demographische Entwicklung in Ostdeutschland und in ausgewählten Regionen - Analyse und Prognose bis 2010, in: *Zeitschrift für Bevölkerungswissenschaft*, 19(4), pp. 475-515.
- Nauck, Bernhard and Magdalena Joos 1995: East Joins West - Child Welfare and Market Reforms in the „Special Case“ of the Former GDR, Chemnitz: mimeo.
- Ondrich, Jan, C. Katharina Spieß and Quing Yang 1995: Barefoot and in a German Kitchen - Federal Parental Leave and Benefit Policy and the Return to Work after Childbirth in Germany, Discussion Paper No. 95-07 of the Department of Social Science of Ruhr-University, Bochum.
- Ott, Notburga 1992: *Intrafamily Bargaining and Household Decisions*, Berlin u.a.
- Projektgruppe Panel 1993: Zehn Jahre sozio-ökonomisches Panel (SOEP), in: *Vierteljahreshefte zur Wirtschaftsforschung*, 1993, No. 1-2, pp. 27-42.
- Putzimg, Monika and Anita Strenitzky 1995: Kindergarten - Nur fünf Plätze fuer sieben Zwerge ?, in: *dialog (BISS)*, 1/95, pp. 6.
- Schulz, Erika 1993a: Bevölkerungsentwicklung in Deutschland bis zum Jahre 2010 mit Ausblick auf 2040. In: *Wochenbericht des DIW*, 60(29), pp. 393-404.
- Schulz, Erika 1993b: Bevölkerungsentwicklung und Infrastrukturleistungen im ländlichen Raum Mecklenburgs-Vorpommerns, *DIW-Diskussionspapier* Nr. 84, Berlin.
- Spieß, Katharina 1995: Child Care Policy in Germany and the USA, Discussion Paper of the Department of Social Science of Ruhr-University, Bochum.
- Vaskovics, Laszlo A. 1992: Frauenerwerbstätigkeit und familiale Entwicklungsverläufe, in: *Materialien zur Bevölkerungswissenschaft*, Nr. 77.
- Wagner, Gert G, Richard V. Burkhauser, and Friederike Behringer 1993: The English Language Public Use File of the German Socio-Economic Panel, in: *The Journal for Human Resources*, 28 (2), pp. 429-433.
- Wagner, Gert, Thorsten Hauck und Katja Tillmann 1995: Die Inanspruchnahme außerhäuslicher Kinderbetreuung in den neuen Bundesländern, Discussion Paper of the Department of Social Science of Ruhr-University, Bochum.
- Wendt, Hartmut 1991. Geburtenhäufigkeit in beiden deutschen Staaten - Zwischen Konvergenz und Divergenz, in: *Zeitschrift für Bevölkerungswissenschaft*, 17(3), pp. 251-280.
- Witte, James C. and Gert G. Wagner 1995. Declining Fertility in East Germany after Unification: A Demographic Response to Socioeconomic Change, in: *Population and Development Review*, 21(2), pp. 387-397.
- Zapf, Wolfgang and Steffen Mau 1993: Eine demographische Revolution in Ostdeutschland?, in: *Informationsdienst Soziale Indikatoren*, Nr. 10.
- Zimmermann, Klaus F. 1990: Arbeitslosigkeit und Bevölkerungsentwicklung - Ein Überblick, in: *Acta Demographica*, 1, pp. 131-143.
- Zimmermann, Klaus F. and John De New 1990: Arbeitslosigkeit und Fertilität, in: B. Felderer (ed.), *Bevölkerung und Wirtschaft*, Berlin, pp. 95-109.
- Zimmermann, Klaus F. and John De New 1991: Labor Market and the Role of Preference in Family Economics, in: J. de Jong-Gierveld et al. (eds.), *Female Labour Market*

Table 1: Total Age-Specific Fertility Rates East Germany 1989-1992.

	1989	1990	1991	1992
18	27.8	25.3	22.3	19.2
19	63.8	61.5	51.0	34.7
20	103.9	102.1	75.0	53.8
21	128.6	125.5	90.1	68.2
22	142.3	136.4	94.6	72.7
23	149.7	141.8	93.9	77.9
24	151.6	143.1	92.1	77.0
25	143.4	133.0	83.6	71.8
26	125.5	118.8	72.9	64.0
27	105.8	98.5	58.4	54.6
28	87.2	81.2	45.5	44.6
29	69.4	64.7	36.5	35.5
30	56.8	52.4	29.3	28.2
31	45.8	44.3	24.5	23.5
32	37.6	32.7	19.6	20.3
33	28.9	26.7	16.2	15.4
34	23.4	20.8	12.4	13.4
35	19.1	16.8	10.5	10.7
36	14.5	12.6	8.8	8.4
37	10.9	9.6	6.9	6.3
38	8.1	7.8	5.4	5.3
39	5.7	5.0	4.1	4.0

Source: Vital Statistics.

Table 2: Child Care Enrollment in Day Care Centers in Germany

Age of Children	East Germany		West Germany
	1990 (GDR)	1994	1994
	Overall Enrollment		
1 to 3	67.0	32.2	8.6
4 to 7	95.1	91.6	77.2
7 to 10 (Pupils)	48.1	17.4	3.4
	Full Time Care		
1 to 3	57.1	25.5	1.7
4 to 7	78.8	73.2	14.8
7 to 10 (Pupils)	48.1	17.4	3.4

Source: GSOEP (1990 and 1994). Cross-sectional weighting factors are applied.

**Table 3: Relative Importance of Work and Family for Individual Well- Being.
East German Women (Age 18-35) 1990 and 1994 (Total percentages for each year)**

Importance of work	Importance of Family				
	All	Very important	Important	Less important	Unimportant
1990					
N = 827					
Very important	49.2	47.5	1.6	-	0.1
Important	46.3	39.8	6.5	-	-
Less important	4.0	3.3	0.6	0.1	-
Unimportant	0.6	0.6	-	-	-
All	100	91.2	8.7	0.1	0.1
1994					
N = 662					
Very important	52.1	48.1	3.6	0.4	-
Important	43.1	37.0	5.8	0.3	-
Less important	4.4	3.3	1.1	-	-
Unimportant	0.3	0.2	-	0.1	-
All	100	88.6	10.5	0.8	-

Source: GSOEP-East (1990-1994). Percentages are based on cross-sectional weights for each year.

Table 4: Employment Status of East German Women (ages 18-35) and the Employment Status of Cohabiting Male Partners in 1991/1992

Employment Status	Women		Male Partners	
	1991	1992	1991	1992
Employed full time	53.5	46.2	62.3	58.9
Employed part time	9.7	8.7	0.7	0.2
In school, training, military service or irregular employment	13.4	12.6	1.0	0.2
Unemployed	13.7	20.0	4.1	5.6
Not in labor force	9.8	12.5	0.9	1.5
No partner in household	--	--	30.9	33.4
N of observations	899	921	899	921

**Table 5: Employment status (1991/92) and fertility: logistic regression coefficients.
East German women (18 to 35) based on 1,589 cases with complete data**

Labor Force Status	Logistic regression coefficient	t-value
Out of labor force or unemployed (partner employed)	0.98 *	2.28
Out of labor force or unemployed (partner unemployed)	0.59	1.24
Employed part-time	1.12*	2.09
Other employment status	-0.25	0.46
Living in West Germany	1.13	1.24
Age 20 through 25	-0.63	1.28
Age 26 through 30	-1.42 *	2.37
Age 31 through 35	-2.16*	3.15
Childless	0.50	1.34
Single	-0.40	0.92
Year (1992)	-0.31	1.02
Constant	-2.20	5.27
McFadden Pseudo $R^2 = 0.07$		

Reference categories in brackets: employment status (full-time employed); age (18 through 19); childless (at least one child); Single (living together with a male partner); year (1993).

* $p < .05$.