The Employment of Mothers – Recent Developments and their Determinants in East and West Germany

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Abstract

We apply German *Mikrozensus* data for the period 1996 to 2004 to investigate the employment status of mothers. Specifically, we ask whether there are behavioral differences between mothers in East and West Germany, whether these differences disappear over time, and whether there are differences in the developments for high and low skilled females. We find substantial differences in the employment behavior of East and West German mothers. German family policy sets incentives particularly for low income mothers not to return to the labor market after birth. This seems to affect the development of East-West German employment differences as East German women with low earnings potentials appear to adopt West German low employment patterns over time.

JEL-Code: J21, J13, J18.

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1. Introduction

Female labor force participation is a topic of political and scientific interest that is relevant in numerous ways: it affects the overall economic output of a society, it may influence child well-being, and it determines the development of female wages over the life cycle. In this study we investigate the development of employment choices of mothers in East and West Germany over time.

The two regions differ in their heritage, culture, and norms and yet are governed by an identical institutional framework since 1990. Thus, a study of employment provides a unique opportunity to gauge the relevance of cultural differences and of the economic incentives of family policies. If culture and social norms are the main driving forces behind mothers' employment decisions, we expect that any behavioral East-West difference occurs across all population groups. If, however, institutionally set incentives do influence individual behavior, an adjustment of behavior over time should occur particularly among those mothers, who are mostly affected by these incentives. We will argue that these are mothers with low earnings potential. It is interesting to investigate and important to understand East-West differences in behaviors and their development over time.

Traditionally, mothers in East and West Germany chose different employment patterns after the birth of a child. Kreyenfeld and Geisler (2006) document that as of 1991 64 percent of East German women with children were in full time employment compared to 21 percent in West Germany. In 1996, about 50 (80) percent of all East German mothers of two (ten) years olds were in the labor force compared to less than 30 (60) percent of all West German mothers of two years olds. We investigate the development of these East-West differences over time.

The literature on female employment typically investigates the relevance of three factors: market and reservation wages, non-wage income (e.g. spousal earnings), and opportunity costs. The latter are affected by institutions such as parental leave or family related transfers. Many studies have looked at the impact of these institutions before, both,

for single countries[1] and in international comparison.[2] The distinguishing feature of our contribution is its focus on the East-West German differences, their development over time and for specific subsamples.

The literature on East-West German mothers' employment consists of only a handful analyses. Bredtmann et al. (2009) compare East and West German mothers using retrospective data for the birth cohorts 1939-1945 who retired in 2004 and 2005. The authors study the two groups' employment and fertility decisions taken in the 1960s and 1970s. Kreyenfeld and Geisler (2006) use repeated cross-sectional data to compare East and West German mothers' employment behavior. They find that mothers in both regions reduced full time employment rates over time, with still much higher employment rates in the East and among the highly skilled in both regions. Bonin and Euwals (2005) focus on the difference between East and West German women using data from the 1990-1999 waves of the German Socio-Economic Panel. They jointly model participation, employment, and wages and find that East German women's participation behavior converged to western levels. However, this process was partly offset by the impact of low fertility and increased wages in East Germany after unification.[3]

We contribute to this literature in various ways: first, we use large samples drawn from the German *Mikrozensus*, which we pool over several years to compare the employment situation of East and West German mothers. Second, we follow the development of East-West German differences in female employment over time and, finally, we study whether the development of employment patterns differs across skill groups.[4] The

[1] See e.g. Barrow (1999), Klerman and Leibowitz (1999), Berger and Waldfogel (2004), Han et al. (2007, 2009) for the U.S., Gregg et al. (2007) and Burgess et al. (2008) for the U.K., Baker and Milligan (2008) for Canada.

[2] Examples are Gustafsson et al. (1996), Ruhm (1998), Datta Gupta et al. (2008), Dearing et al. (2007), Geyer and Steiner (2007).

[3] In analyses for West German women only, Bender et al. (2003) study labor force participation patterns after a first birth for mothers born 1934-1971. Fitzenberger and Wunderlich (2004) compare employment behavior and its trends for various cohorts of West German and British females. - Schönberg and Ludsteck (2007) study the employment response of West German mothers to extensions in parental leave coverage. They find significant wage drops even years after childbirth as a causal effect of parental leave taking. Tamm (2010) finds a substantial negative causal effect of an increase in child benefits on female labor market participation in the mid 1990s.

[4] Fitzenberger and Wunderlich (2004) confirm differences in life-cycle employment patterns across skill groups.

comparison of behavior across skill groups can provide evidence on the relative importance of policy incentives versus social norms. Our empirical employment model controls for characteristics of the child, the mother, a partner, the household and the state and region of residence including local unemployment and child care utilization.[5] We describe differences in the correlation patterns of East and West German maternal employment and study whether these differences disappeared over time.

Our main findings are that at each age of the youngest child the maternal employment propensity is higher in East than in West Germany. Over time the difference has been decreasing. The decrease appears to be connected to behavioral changes among low skilled East German mothers, who reduced their employment.

2. Institutions, Incentives, and Hypotheses

A variety of policy measures affected fertility and employment choices of the mothers in our data, i.e. since the early 1990s.[6] In Germany, several financial benefits are available for parents of dependent children: monthly child benefit payments or child-related income tax exemptions, transfers from the social assistance program, from the unemployment, health, accident, and retirement insurances, means-tested benefits to support the education of children, or rent and home ownership subsidies for families. In addition, maternity leave and parental leave directly affect maternal labor market activity. Maternity leave regulates that mothers have to take paid leave for 6 weeks before and 8 weeks after childbirth. In that period they cannot be fired (e.g. Ondrich et al. 2003). Parental leave ("Erziehungsurlaub") allows recent parents to take unpaid leave of their employment beyond maternity leave. After parental leave period parents can claim a job with their prior employer. The regulations permit parents to work up to 19 hours (since 2001 30 hours) while being on parental leave.

[5] Several studies have pointed out that child care availability may be a key determinant of East-West German differences in female labor market activity (see e.g. Büchel and Spieß 2002, or Wagner et al. 1995).

[6] For a survey of institutional differences in East and West Germany prior to unification see Bredtmann et al. (2009).

Generally, the incentives implicit in German family and tax policies differ depending on female earnings. First, direct transfers such as the means-tested education money (*Erziehungsgeld)* of 300 Euros per month indirectly impose a tax on labor earnings. This tax should affect the employment choices of women with low earnings potentials because for them education money replaces a relevant share of labor earnings. Education money was paid if either the mother or the father worked no more than 19 hours per week after child birth, independent of whether they were employed before the birth. Since 1993, the monthly payout of 600 DM (later 300 Euros) extends to the first two years of a child's life.[7]

Second, the German income tax system entails a splitting rule which benefits couples with large differences in the two partners' earned incomes. The rule generates an artificially high tax burden on the lower of the two incomes which is typically earned by the wife. If both spouses earn similar amounts, the splitting rule generates no benefit and, accordingly, no tax induced disincentive to seek employment (for an evaluation of the incentive effects of the German income tax splitting rule see Dearing et al. 2007).[8]

Third, employment choices may be affected by heterogeneous child care cost and availability. Since 1996, German parents can claim child care for children aged three through six. However, the available number of full-time day care slots is still insufficient. Also, the number of publicly available child care slots differs substantially between East and West Germany (see e.g. Grundig 2008 or Kreyenfeld and Geisler 2006): full-day child care for children below age three is now available for about 10 and 40 percent of all children in West and East Germany, respectively (Statistische Ämter 2009). Kreyenfeld and Geisler (2006) report increasing expenditures for child care over time. Even though child care expenditures

[7] At the end of 2006 the "Erziehungsgeld" benefit was replaced by "Elterngeld" (parents' money), available for births after January 1, 2007. The reform reduced the duration of the benefit payment from at most 24 to 12 months. At the same time the reform increased the benefit amount to up to two thirds of the pre-birth net income of the parent who interrupts employment. There is a minimum amount of 300 (also for those not previously in the labor force) and a maximum of 1,800 Euros per month. Since we look at data through 2004 here, this reform is not relevant for our analysis. For a first analysis see e.g. Bergemann and Riphahn (2010).

[8] This effect of the income tax splitting system is complemented by the mandatory health insurance, where non-employed spouses and children are covered by the insurance premium of just one insured person, the working spouse. This similarly supports the male-breadwinner model. If the second spouse takes up employment, contributions to the health insurance are due without additional benefits.

may to some extent reduce taxable incomes, they do provide an additional tax on the income of those who seek employment instead of taking care of their children. Thus, employment in the presence of small children generates a net income only for those at the upper end of the income distribution. Together, these patterns suggest that the probability of labor force participation after a birth should decline with a woman's earnings potential.

In view of these policy incentives we expect an increasing polarization of employment among East German mothers over time. Specifically, our analyses focus on three hypotheses: (a) due to social norms regarding female employment female labor force participation continues to be higher in East than in West Germany. (b) Since the West German institutional framework was superimposed on the East German labor market after unification we expect a behavioral adjustment in East Germany. Based on the incentives implicit in this newly adopted institutional framework, we expect declining maternal employment rates. (c) Since the institutional framework (tax splitting, education money, child care availability, and child care cost) discourages labor force participation particularly for women with low earnings potential, we expect a convergence to the lower employment rates of West German mothers particularly among low skilled East German mothers.

3. Data

Our analysis is based on data taken from the *Mikrozensus* and covers the years 1996 to 2004.[9] The annually administered survey interviews about one percent of all German households. The scientific use files provide 70 percent of the available data. The *Mikrozensus* is a rotating panel in which every flat is visited up to four times. Since individuals cannot generally be identified across survey waves we pool cross-sectional data.

In our sample we consider all females aged 15 or above, who are the head of a family or partner of the head of a family, and with at least one child up to age 18, independent of

[9] Since we are interested in comparisons over time it is important to apply measures that were gathered consistently over time. This is ascertained for the considered time period in the *Mikrozensus* data. Before 1996 and after 2004 a number of issues (questionnaire, time of interview, sampling frame) changed such that measures of employment outcomes may be affected if additional years are added to the analysis (for details see Körner and Puch 2009).

whether they are single mothers or live with a partner. To restrict the measurement error that may result from the lack of information on biological parenthood, we consider only women who are less than 45 years older than the youngest child living in the family. On average, we obtain about 57,000 observations for each survey year and a total of 514,273 observations for the pooled sample across all years, with 401,977 mothers in West and 112,296 in East Germany.

Our dependent variable indicates whether a mother is employed. We consider every female employed who worked at least 20 hours in the week prior to the interview, including those who had a contract but did not work due to reasons such as illness, vacation, or short-time work. Individuals in irregular or minor employment and those supplying less than 20 hours of labor per week are not considered to be employed in our analysis. By using the 20 hours cutoff we consider all full time and most part time employed females and thus captures a solid attachment to the labor force. The 20 hours cutoff represents a common threshold value in German social law, used e.g. to separate regular and irregular employment and to limit e.g. employment while receiving parent money. Overall, 63.8 and 36.9 percent of East and West German mothers in our pooled sample are employed, respectively.

Based on these cross-sectional data we compare the correlation patterns of female employment for East vs. West German mothers and determine the developments over time and across skill-subgroups. We consider females to be highly skilled, if they have a master of crafts or technician degree, an East German engineering school degree, or a tertiary academic degree (university or polytechnic).[10] All others are labeled low skill.

We apply a logit estimator and regress the individual employment outcome on (a) characteristics of the household, such as the age of the youngest child, the number and age composition of other children and adults in the maternal household, (b) characteristics of the mother, such as age, citizenship, education, and occupation, (c) the presence of a partner and his or her characteristics (citizenship, education, occupation), and, finally, (d) a group of

[10] Apprenticeships and school-based vocational degrees are grouped in the low skill group, as are all remaining categories. Individuals with an upper secondary school degree (*Abitur*) but no vocational training are considered in the low skill category. They make up 0.14 percent of the sample.

regional characteristics, i.e. the size of the community of residence, the state female unemployment rate, the state daycare utilization rate among children aged 3-6, and the share of employees in the state that is employed in the public sector. The last three indicators are generated using the information available in the *Mikrozensus* data.

As a first piece of evidence, **Figure 1** presents average employment rates for mothers in East and West Germany by the age of their youngest child in the sample pooled for the years 1996-2004. Clearly, employment rates are higher at all ages of the youngest child for mothers in East Germany. We consider a broad set of covariates to compare these employment patterns in East and West Germany. The covariates are described in **Table 1** separately for the two regional subsamples. The asterisks in the last column of the table indicate that the characteristics of the regional subsamples differ significantly in the sample that is pooled over 9 years of data. Important differences relate to the average age of the youngest child, which as a result of the East German fertility decline after unification (Lechner 2001) is almost two years lower in West Germany. Due to different educational systems, the distribution of schooling degrees differs between East and West. We observe lower foreigner shares among mothers and their partners in East Germany as well as the expected East-West heterogeneity with respect to unemployment and childcare utilization.

4. Results on the Employment of Mothers

4.1 Comparing East and West

Figure 1 and **Table 1** already show that East German female employment rates exceed those of women in the West by on average more than 20 percentage points, which is substantial. We apply regression analyses to determine first, whether this aggregate employment difference is a composition effect that relates back to East-West differences in observable characteristics and second, whether it reflects heterogeneous correlation patterns between characteristics and employment outcomes across the two regions.

In **Table 2** specification 1 provides the results of a pooled logit regression of maternal employment on household, maternal, and partner characteristics. The average difference between the two regional employment rates is reflected in the highly significant coefficient of the indicator variable "East" at the bottom of the table.[11] The marginal effect (not shown) suggests that on average the employment rate of East German mothers exceeds that of their West German counterparts with identical characteristics by 12.8 percentage points. In specification 2 we add a set of regional characteristics to the model. Now the magnitude of the remaining east-west difference increases and the average employment difference between observationally identical mothers in similar East and West German regions amounts to 15.5 percentage points (marginal effects not presented): were it not for disadvantageous regional characteristics the difference between mothers East and West would be even larger than observed.

In order to determine whether these employment differences relate back to heterogeneous regional correlation patterns between maternal characteristics and employment, we estimate a model that is fully interacted for the East German subsample. The results are presented in specification 3 of **Table 2:** they yield significantly different coefficient estimates for just about every covariate when the East German subsample is considered (see column labeled "Interaction Terms"). In particular, we find a substantially steeper gradient in the probability of returning to employment by the age of the youngest child in East Germany. Also, East German mothers appear to respond stronger to having additional young children at home than West German mothers. In East and West Germany higher educated females are more likely to work than those with only lower secondary school degrees. A significant difference appears for the group of (vocationally) highly skilled mothers: highly skilled East German women are substantially more likely to work. Different coefficient estimates are also obtained for maternal occupational groups in the two subsamples even though the descriptive statistics in **Table 1** are not that different. In both regions single mothers work less than those with a partner. The correlation between partner

[11] We provide heteroscedasticity robust standard errors as we cannot control for theoretically possible repeated observations of given mothers.

characteristics in terms of citizenship, education, and occupation differ again substantially between East and West. Regional indicators such as community size, unemployment rate, childcare utilization, and share of public sector employment mostly yield different coefficients in East and West Germany: employment rates in East Germany are highest in the smallest communities, while in the West they are highest in the largest communities.[12] The bottom of **Table 2** provides time trend estimates (row labeled "Year"), which are negative for all groups but significantly larger for the East German sample, which matches our hypothesis.

4.2 Comparing Changes over Time in East and West

Since we suspect that employment rates assimilated over time between the East and the West German subsamples, **Figure 2** presents the employment propensity by the age of the youngest child separately for the first and the last year of our data, i.e. 1996 and 2004. Employment propensities in West Germany hardly changed over time, while the average employment rate of East German mothers declined, particularly for mothers of children in school, i.e. age 6 and above. Appendix **Table A.1** presents the change in the two regional subsamples' characteristics over time. In most cases the significant East-West difference in explanatory variables is rather stable over time. The last column in **Table A.1** indicates those characteristics for which developments over time differ significantly between the regions: the regions may either become more similar or more different, which - depending on the direction of the marginal effects - might render regional employment outcomes more or less similar.

To determine whether the behavioral differences between the East and West German mothers disappeared over time, we reestimated the logit specification described above, this time considering time interactions in addition to the regionally interacted vector of covariates, which we inspected in specification 3 of **Table 2**. Using a logit link function (f), the model now estimates coefficient vectors α, β, γ, and δ for the original covariates (X), their interactions for

[12] Tests for the joint statistical significance of the groups of indicators and of interaction terms yield that all groups of interaction terms are jointly significantly different from zero. However, this is likely due to the large sample size.

East Germans, interactions with a linear time trend (Year), and a double interaction of X with the East German and the time trend variables for each individual i:

$$\Pr(\text{employment}_i = 1) = f\left[\alpha' X_i + \beta' (X_i \cdot \text{East}_i) + \gamma' (X_i \cdot \text{Year}_i) + \delta' (X_i \cdot \text{Year}_i \cdot \text{East}_i)\right].$$

The estimation results are presented in **Table 3**. Again we find a much steeper gradient of the employment propensity of East than West German mothers with respect to the age of their youngest child (see column 2 labeled "Interaction: East"). Column 3 (labeled "Interaction: Time") presents the estimated coefficients for the time interactions (γ): while most coefficient estimates are individually statistically insignificant, most groups of indicators are jointly significant (test results not presented to save space). They indicate, e.g., shifts in the correlation patterns between occupation and employment over time and increasing employment gradients by the age of the youngest child for West German mothers.

The final column (labeled "Int.: East Time") presents the coefficient estimates of the East German interaction terms from Column 2 interacted again with the year of observation (δ). This yields whether developments in correlation patterns over time differ for the East German mothers and whether the difference between East and West German mothers changed over time. Clear results obtain for the double interaction terms of the age of the youngest child with exclusively negative coefficients except for ages 1 and 2. The vector of these coefficients is jointly highly statistically significant at the 0.1 percent level. The coefficients reflect the drop over time in the East German employment gradient, as seen in **Figure 2**. The effects are individually as well as jointly statistically significant and obviously not explained by other shifts in the sample composition or correlation patterns over time. We interpret these results as evidence of behavioral changes among East German mothers, who on average reduce their employment propensity over time at any given age of their youngest child. Hardly any of the other coefficient estimates in the last column are significantly different from zero. We conclude from this part of the analysis that most of the differences in the employment correlations between East and West German mothers remained stable over

time. Nevertheless, confirming **Figure 2**, the employment propensity of East German mothers of youth aged 5 and above fell significantly over time. This may be driven by changes in social norms or by responses to policy incentives. In the next section we compare the behavioral adjustments of mothers who should be differently affected by policy changes. This will provide evidence on the relevance of policy shifts.

4.3 Comparing Changes over Time in East and West by Skill Group

Our last hypothesis suggests that developments in the employment propensity of East German mothers differ by skill level and earnings potential. We expect declining employment rates particularly among mothers with lower expected earnings, because the West German institutional framework (tax incentives, family policies, declining child care availability, etc.) provides disincentives for the employment of East German mothers with lower skill levels.

Figures 3a and **3b** depict the aggregate shifts in employment rates over time and again by the age of the youngest child separately for high and low skill mothers. In both regions of the country, employment rates among the high skilled exceed those of the low skilled by up to 20 percentage points in 1996 (descriptive statistics for high and low skill mothers in East and West over time are presented in Appendix **Table A.2**). The employment behavior of high skilled mothers is about constant over time in West Germany and dropped only slightly among East German mothers (see **Figure 3b**). In contrast, employment rates among lower skilled East German females declined substantially by 2004, while those of low skilled mothers in West Germany remained about constant (see **Figure 3a**). This matches our expectation of heterogeneity in the East German adjustment process to West German employment patterns.

Again, we applied multivariate regression analysis to test whether there are differences in behavioral adjustments, this time comparing time trends in East-West employment differences by skill group. We repeated the estimations in **Table 3** separately, for the high and low skill samples. The results are presented in **Tables 4.1** (high skill

mothers) and **Table 4.2** (low skill mothers). As before, we obtain highly significant coefficient estimates of the East German interaction terms in the second column for both subsamples. The time interactions for the West German subsample in column 3 hardly yield significant coefficient estimates. To understand the developments in East vs. West Germany over time we focus on the results in the last column. For the high skill sample in **Table 4.1** we hardly obtain statistically significant coefficient estimates. The interaction terms for the age of the youngest child are jointly statistically significant at the 5 percent level (see test statistics at the bottom of the table). Altogether, this indicates that the time effects do not differ strongly between East and West German high skill mothers and that the difference between East and West dropped only slightly over time. This confirms the evidence from **Figure 3b**, where no major changes occurred over time in the employment behavior of highly skilled mothers.

The situation is different for mothers with lower skills, see **Table 4.2.** Here, the last column contains individually highly statistically significant coefficient estimates for the indicators of the age of the youngest child. The coefficient vector is jointly highly significant at the 0.1 percent level. The negative coefficients indicate that the difference in employment declined over time between East and West German low skill mothers of children aged 5 and above. Since the time interactions for West Germany (see column 3, labeled "Interaction: Time") are insignificant it appears that East German mothers reduced their employment rates over time by more than their West German counterparts. This adjustment is not connected to any specific correlation pattern of individual characteristics but appears to be of a general nature affecting mothers of all school aged children. This suggests that either the change in policies or social norms that drive the development. A change in social norms should have affected all skill groups, while the effect of policy incentives is expected to mostly affect the low skill groups. Therefore, the drop in employment among lower skilled mothers matches exactly what would have been expected based on our analysis of institutionally set incentives.

4.4 Robustness Tests

We performed robustness tests, both, changing the composition of the sample and adjusting the definition of the dependent variable. Since the differences in behavior might in part be due to differences between single mothers and those living with a partner, we repeated our graphical analysis now looking only at mothers living with a partner. **Figure 4** depicts employment developments for these mothers by skill level. The results are highly robust: again it is the low skill East German subsample that changed behavior the most and according to our hypothesized patterns.

It is well known that the majority of the German immigrant population resides in West Germany (see **Table 1** for descriptive statistics). It is thus possible that immigrant mothers affect the observed differences. To test whether our results are robust we redid our analyses after dropping observations of individuals without German citizenship. **Figure 5** presents the evidence for the modified sample. It corroborates our conclusions.

So far, our dependent variable considered employment as the relevant outcome. As unemployment rates are much higher in East than in West Germany and because the unemployment risk may be correlated with the maternal skill level, it is of interest to investigate the labor force participation rate without conditioning on employment of at least 20 hours per week. In **Figure 6** we show how maternal labor force participation (combining employment and job search[13]) develops by age of the youngest child and maternal skill group over time. The shape of the labor force participation profiles in **Figure 6** resembles that presented in **Figure 3** above. Again, low skilled mothers reduce their involvement over time particularly if the youngest child was aged 6 and above. While labor force participation rates in East Germany are quite high when searching mothers are considered as well, the general pattern of no clear drop among the high skilled and a clear drop among the low skilled of up to 16 percentage points remains. This confirms that the employment decline is not driven by general unemployment in East Germany. Rather, policy-based incentives are likely to be among its determinants.

[13] Mothers are coded as searching if they indicated that they both wish to be employed and are available for work within two weeks.

5. Conclusions

We use evidence from repeated annual cross-sectional samples taken from the German *Mikrozensus* to describe the employment patterns of mothers in recent years. We focus on a comparison of behavior patterns in East and West Germany and study developments over time. We consider regular part-time and full-time jobs with at least 20 hours of employment per week, rather than irregular or minor employment.

Given that the East German mothers in our data grew up in an environment where female labor force participation was the rule and even demanded, we expect to see continued behavioral differences between East and West German mothers driven by social norms. We test the overall persistence of behavioral differences over time and cannot reject that the employment propensity is much higher in East than in West Germany even in more recent times.

Based on the regulations of German tax, social insurance, and family policies there is a substantially reduced incentive for mothers to seek employment compared to the institutional framework of the German Democratic Republic. Therefore we expect that over time the difference in the employment propensity between East and West German mothers declines. We indeed find such patterns.

The negative employment incentives implicit in the German institutional framework particularly affect females with low earnings potential. Therefore we hypothesize that the decline in the employment propensity among East German mothers might be concentrated in that group. The results of our analyses confirm those expectations: the general decline of East German employment rates over time was driven by women with lower occupational skills and earnings potentials.

One might argue that the observed development is not determined by policy incentives but instead, e.g., by rising returns to human capital in East Germany (e.g. Orlowski and Riphahn 2009). However, generally increasing returns to human capital cannot explain the drop in employment among certain groups of the East German population. Also,

one might expect to see more rather than less employment if returns to human capital increase.

One may argue that the observed developments are due to high unemployment rates in East Germany. However, first, we controlled for overall differences between East and West Germany in our multivariate models, which should capture any aggregate differences such as unemployment. Second, we tested the robustness of our results by considering also mothers searching for jobs in our dependent variable. The results showed that even the combined group of employed and searching mothers shrunk over time in East Germany.

In sum, differences in employment behavior between East and West German mothers declined since the early years after German unification, but persist until recently. This suggests that original differences in social norms between East and West Germany hold up until today. We find that only low skilled East German mothers changed their behavior over time. Since this is the group, which is predominantly affected by policy incentives, it is plausible that institutional incentives are behind these adjustments in employment behavior. If increased female labor force participation is a political objective, e.g. to balance reduced labor supply connected to population aging, then reforms of the institutionally set incentives should be considered.

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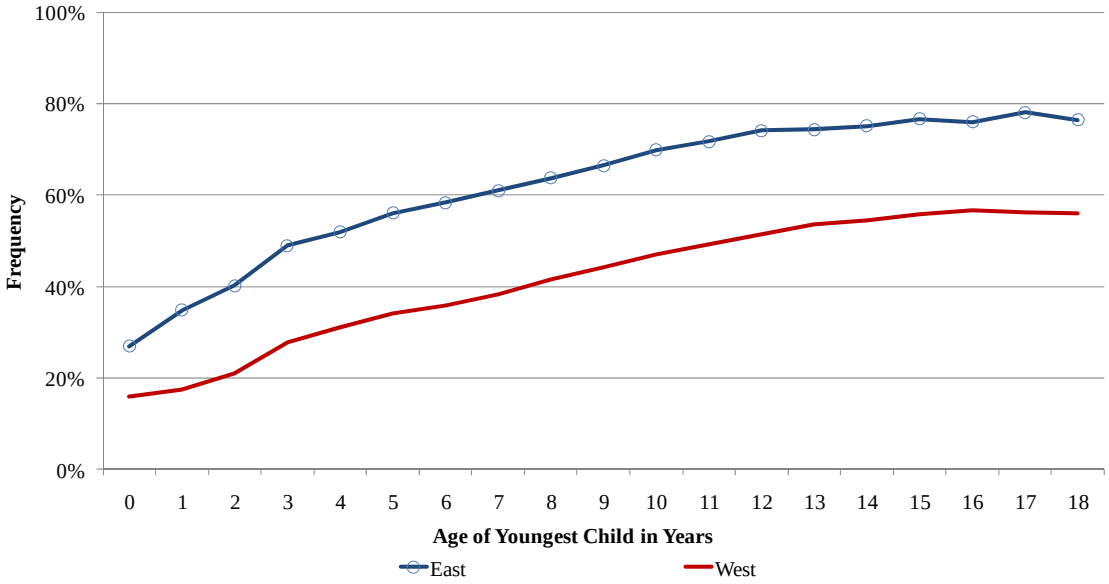
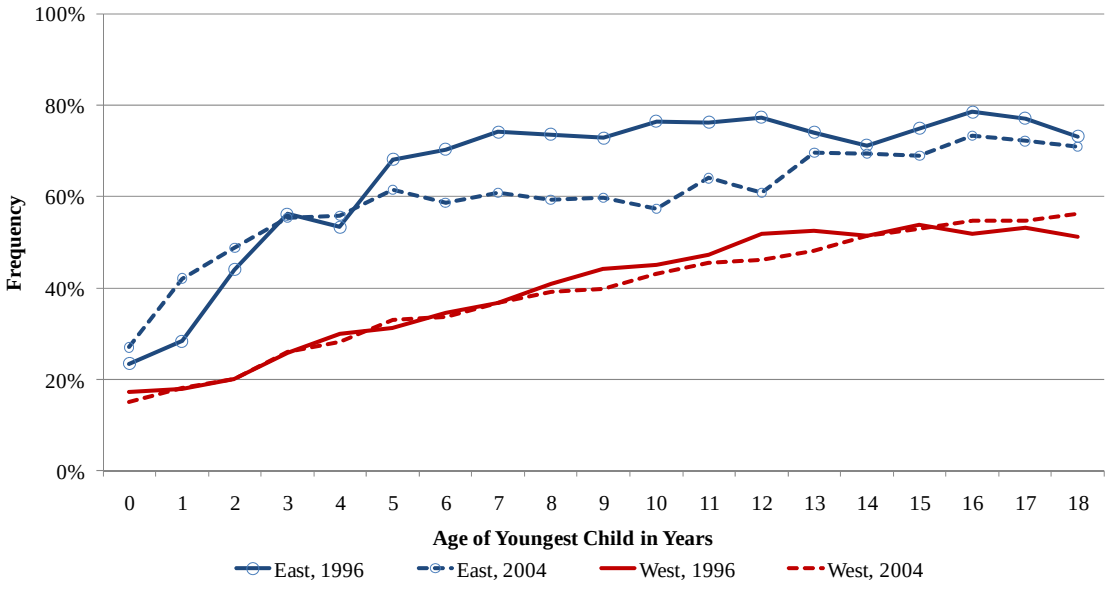
Figure 1 Average Employment Rates for Mothers in East and West Germany by the Age of the Youngest Child (Data Pooled 1996-2004)



Source: *Mikrozensus* 1996-2004.

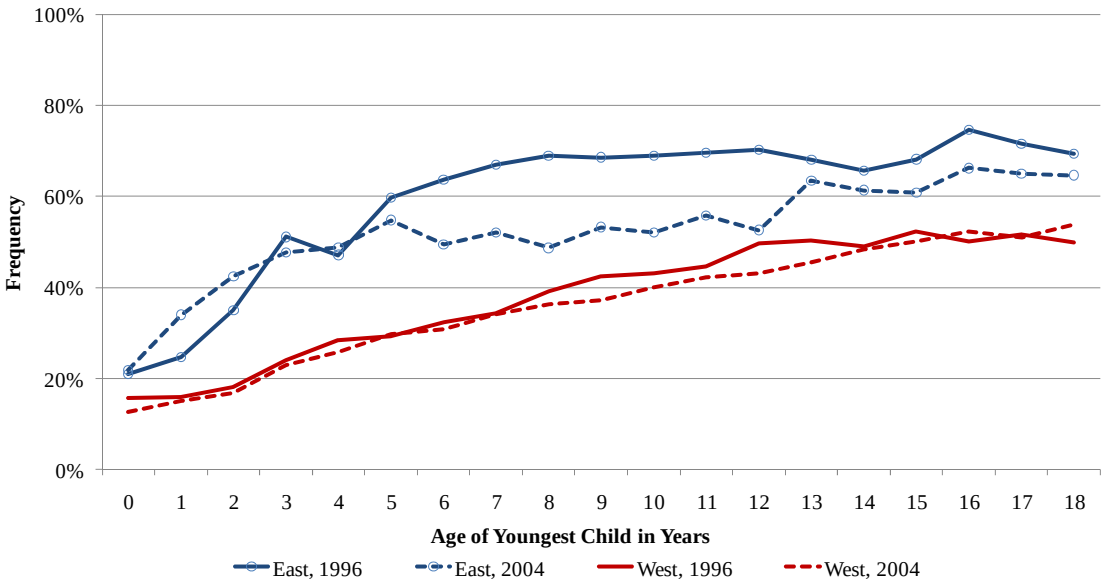
Figure 2 Average Employment Rates for Mothers in East and West Germany by the Age of the Youngest Child and Year (1996 versus 2004)



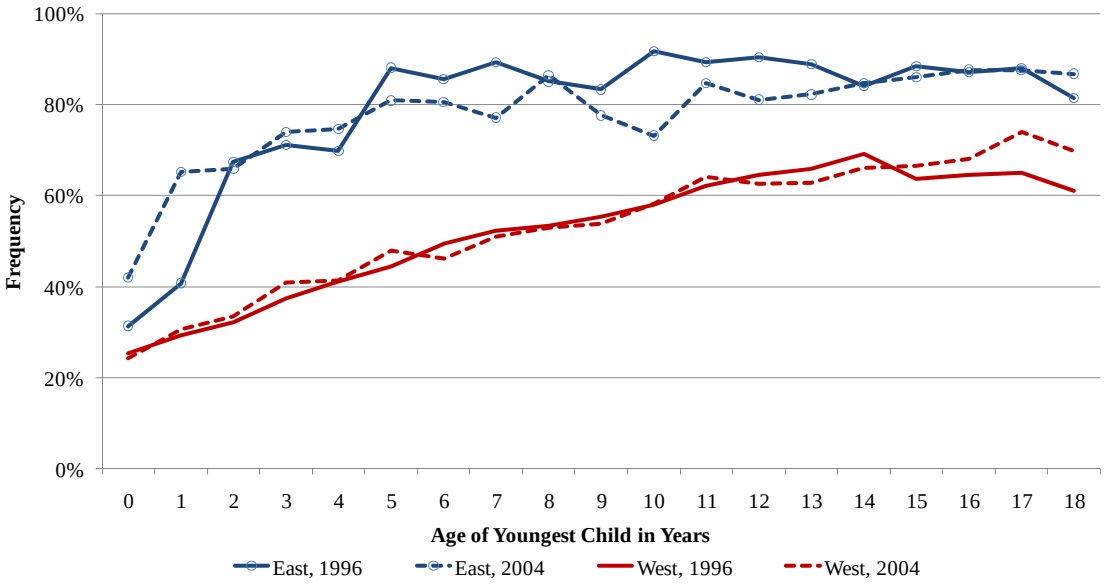
Source: *Mikrozensus* 1996-2004.

Figure 3 Average Employment Rates for Mothers in East and West Germany by Skill, the Age of the Youngest Child and Year (1996 versus 2004)

(a) Low Skill Mothers



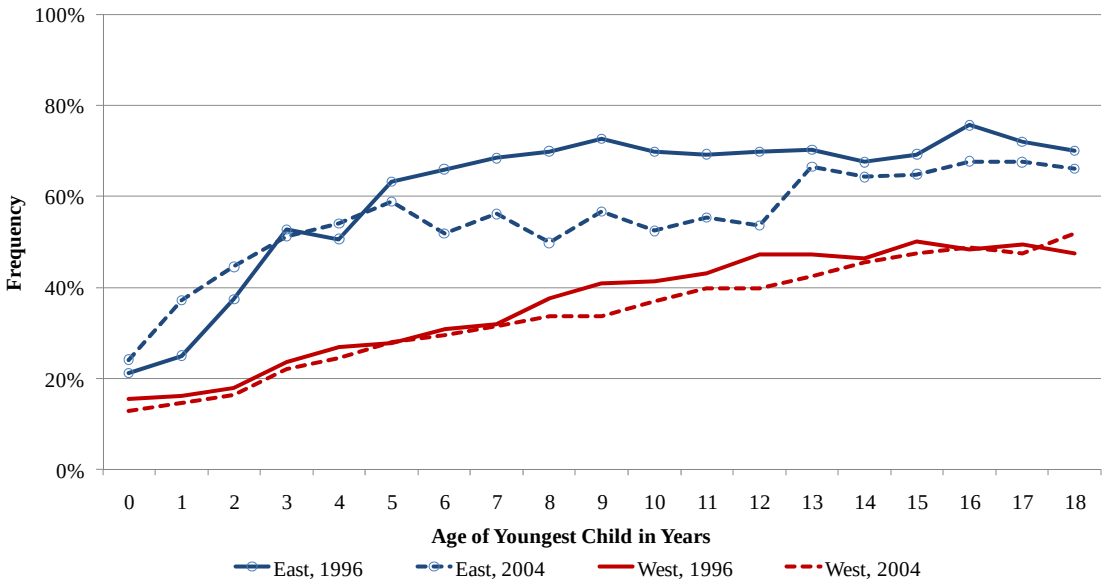
(b) High Skill Mothers



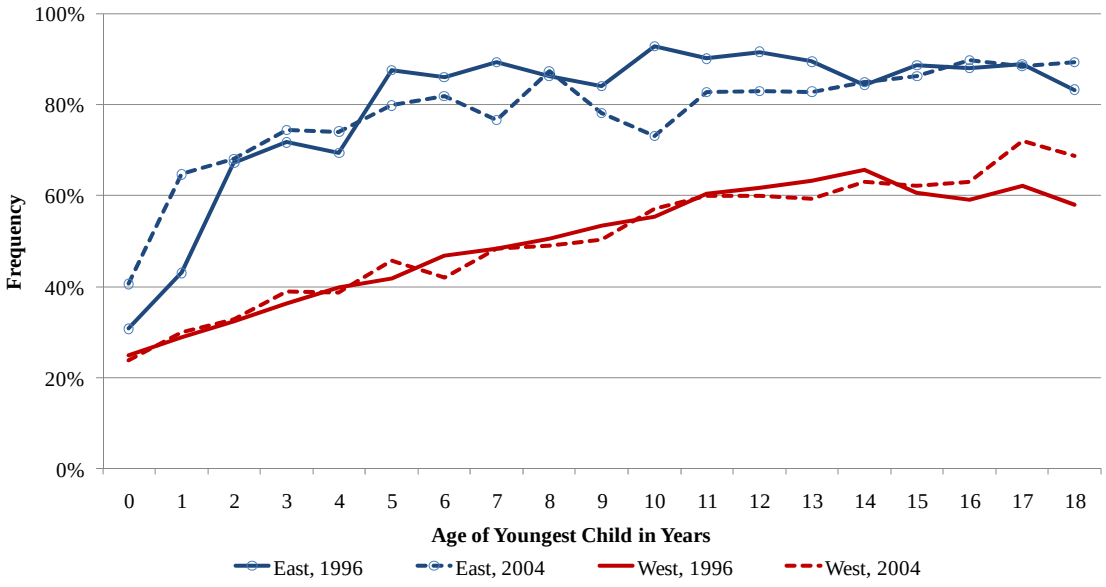
Source: *Mikrozensus* 1996-2004.

Figure 4 Average Employment Rates for Mothers with a Partner in East and West Germany by Skill, the Age of the Youngest Child and Year (1996 versus 2004)

(a) Low Skill Mothers



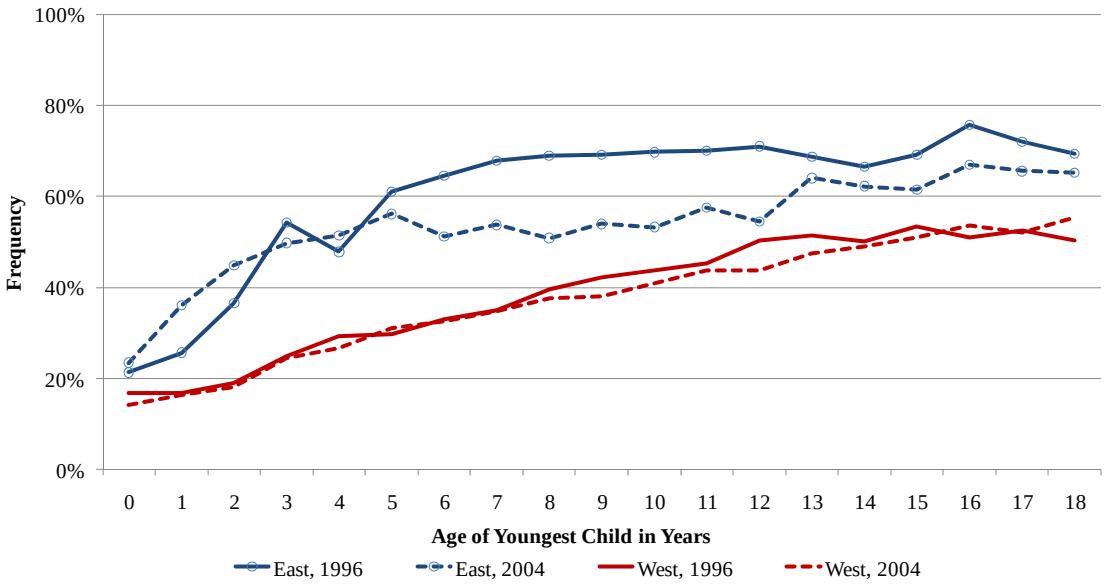
(b) High Skill Mothers



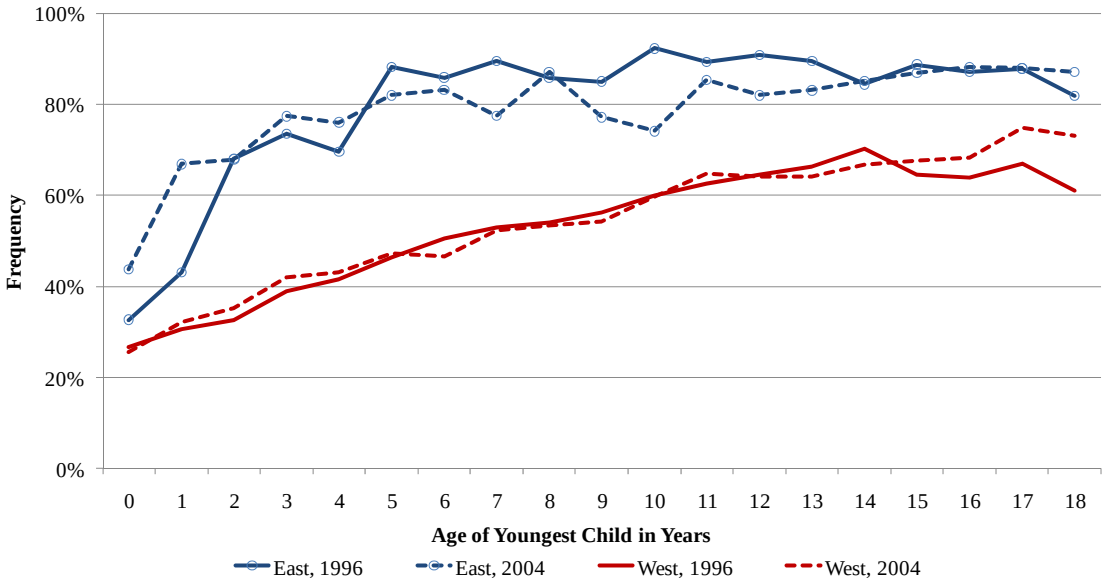
Source: *Mikrozensus* 1996-2004.

Figure 5 Average Employment Rates for Mothers with German Citizenship in East and West Germany by Skill, the Age of the Youngest Child and Year (1996 versus 2004)

(a) Low Skill Mothers



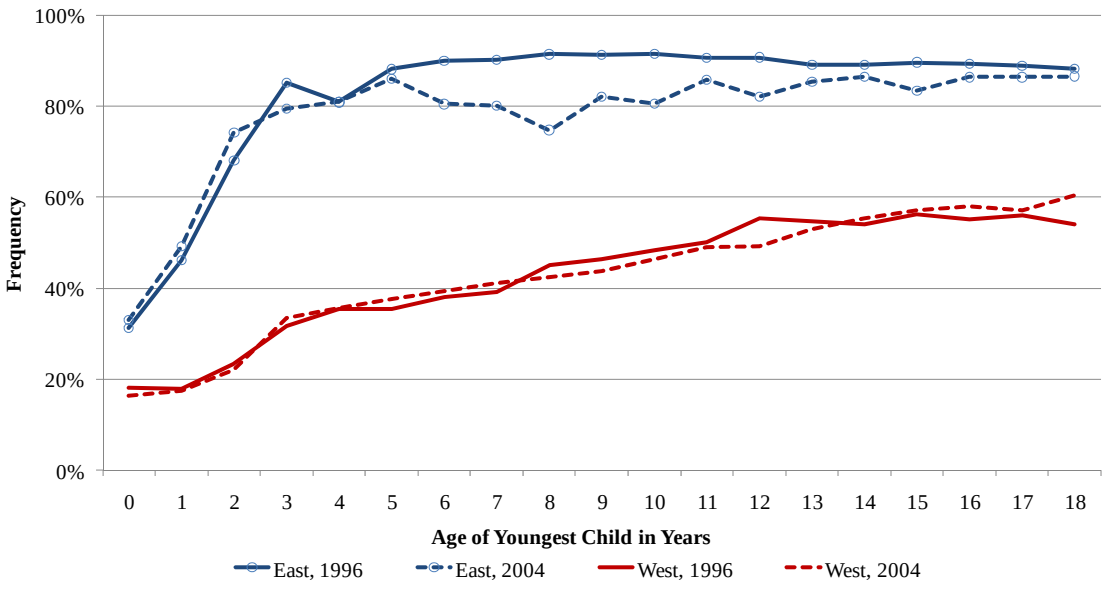
(b) High Skill Mothers



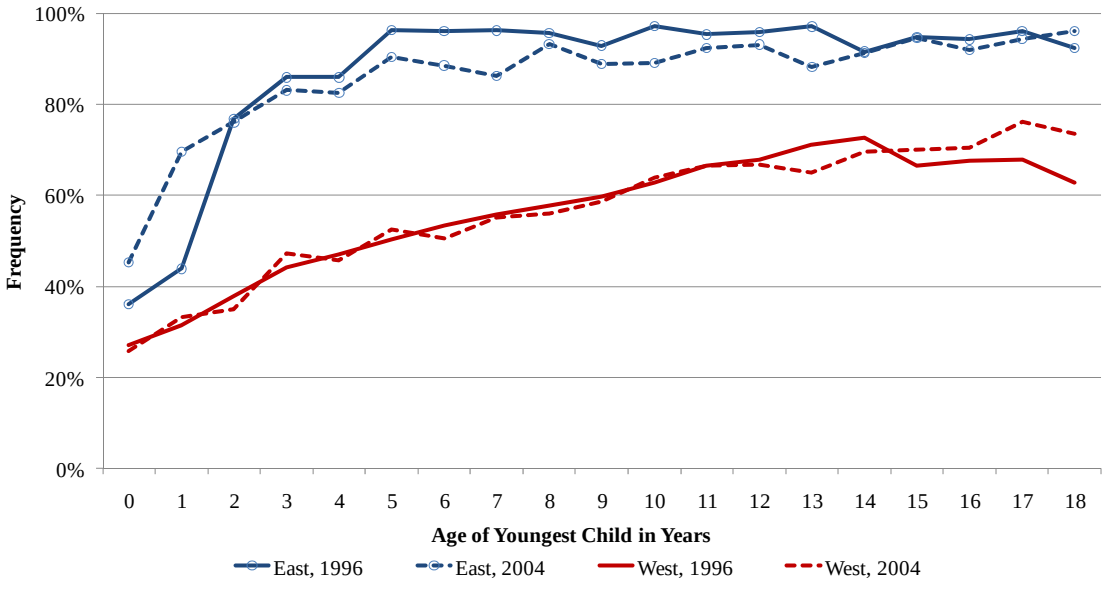
Source: *Mikrozensus* 1996-2004.

Figure 6 Average Labor Force Participation (i.e. Employment and Search) Rates for Mothers in East and West Germany by Skill, the Age of the Youngest Child and Year (1996 versus 2004)

(a) Low Skill Mothers



(b) High Skill Mothers



Source: *Mikrozensus* 1996-2004.

Table 1 Descriptive Statistics

	Mean			Difference West-East		
Variable	All	West	East		Std.Err.	
Employment Probability	0.433	0.369	0.638	-0.269	0.002	**
Maternal Age	37.461	37.569	36.772	0.797	0.024	**
Age of Youngest Child	8.247	7.854	9.473	-1.618	0.019	**
Number of Other Children						
< 2 years	0.042	0.049	0.022	0.027	0.001	**
3 to 5 years	0.094	0.109	0.048	0.061	0.001	**
6 to 11 years	0.249	0.274	0.172	0.102	0.002	**
12 to 18 years	0.277	0.278	0.280	-0.002	0.002	
Numer of Adults in Household						
19 to 26 years	0.133	0.135	0.133	0.002	0.001	
>=27 years	0.005	0.006	0.004	0.002	0.000	**
Citizenship						
German	0.902	0.851	0.956	-0.105	0.001	**
European Union	0.021	0.034	0.004	0.030	0.000	**
Other	0.076	0.115	0.040	0.075	0.001	**
Schooling						
No degree / missing information	0.066	0.080	0.041	0.039	0.001	**
Lower secondary	0.332	0.403	0.085	0.318	0.001	**
Middle secondary	0.402	0.314	0.686	-0.372	0.002	**
Upper secondary	0.201	0.203	0.187	0.016	0.001	**
High Skill	0.185	0.150	0.303	-0.153	0.001	**
Occupation						
Agriculture & Mining	0.021	0.017	0.032	-0.014	0.001	**
Manufacturing	0.086	0.086	0.093	-0.007	0.001	**
Technical Occupation	0.018	0.015	0.027	-0.012	0.001	**
Services	0.629	0.607	0.666	-0.059	0.002	**
Other and Missing Information	0.246	0.275	0.182	0.092	0.001	**
No Partner	0.140	0.126	0.189	-0.064	0.001	**
Citizenship of Partner						
German	0.899	0.858	0.955	-0.097	0.001	**
European Union	0.026	0.036	0.004	0.032	0.000	**
Other	0.076	0.106	0.040	0.066	0.001	**
Schooling of Partner						
No degree / missing information	0.057	0.067	0.038	0.029	0.001	**
Lower secondary	0.389	0.465	0.108	0.357	0.001	**
Middle secondary	0.305	0.212	0.647	-0.435	0.002	**
Upper secondary	0.248	0.256	0.207	0.049	0.002	**
Partner High Skill	0.261	0.261	0.240	0.022	0.001	**
Occupation of Partner						
Agriculture & Mining	0.035	0.035	0.033	0.002	0.001	**
Manufacturing	0.355	0.349	0.392	-0.044	0.002	**
Technical Occupation	0.104	0.108	0.076	0.032	0.001	**
Services	0.438	0.442	0.402	0.040	0.002	**
Other and Missing Information	0.069	0.066	0.097	-0.031	0.001	**
Community Size						
<20,000 inhabitants	0.459	0.442	0.481	-0.039	0.002	**
20,000-500,000 inhabitants	0.413	0.442	0.337	0.105	0.002	**
>500,000 inhabitants	0.128	0.116	0.183	-0.067	0.001	**
Unemployment Rate (by state, in %)	10.533	8.215	18.909	-10.694	0.008	**
Children in Daycare, age 0-2 (by state, in %)	10.812	4.638	32.835	-28.197	0.024	**
Public Sector Employees (by state, in %)	19.690	19.025	22.193	-3.167	0.008	**
Number of Observations	514273	401977	112296			

Note: **, * and ° indicate significant differences at the 0.1, 1, and 5 percent level.
Source: *Mikrozensus* 1996-2004.

Table 2 Logit Estimation: Probability of Maternal Employment

	Specif. (1)			Specif. (2)			Specif. (3)					
							Base Effect			Interaction Terms		
Variable	Coeff.	Std.Err.		Coeff.	Std.Err.		Coeff.	Std.Err.		Coeff.	Std.Err.	
Age of Youngest Child (Reference: < 1 year)												
1 year	0.170	0.021	**	0.170	0.021	**	0.088	0.024	**	0.408	0.054	**
2 years	0.431	0.022	**	0.432	0.022	**	0.292	0.024	**	0.695	0.056	**
3 years	0.864	0.022	**	0.868	0.022	**	0.731	0.025	**	0.731	0.059	**
4 years	1.010	0.023	**	1.013	0.023	**	0.896	0.025	**	0.595	0.060	**
5 years	1.106	0.023	**	1.111	0.023	**	0.996	0.026	**	0.558	0.061	**
6 years	1.179	0.023	**	1.185	0.023	**	1.062	0.026	**	0.581	0.061	**
7 years	1.255	0.024	**	1.262	0.024	**	1.130	0.026	**	0.598	0.061	**
Number of Siblings												
< 2 years	-0.381	0.024	**	-0.381	0.024	**	-0.350	0.025	**	-0.219	0.069	**
3 to 5 years	-0.495	0.015	**	-0.496	0.015	**	-0.466	0.016	**	-0.126	0.044	**
6 to 11 years	-0.436	0.009	**	-0.438	0.009	**	-0.445	0.010	**	0.040	0.023	
12 to 18 years	-0.175	0.007	**	-0.177	0.007	**	-0.191	0.008	**	0.041	0.020	°
Number of Adults in Household												
19 to 26 years	-0.053	0.010	**	-0.057	0.010	**	-0.090	0.011	**	0.103	0.028	**
>= 27 years	-0.059	0.049		-0.067	0.049		-0.121	0.052	°	0.226	0.148	
Maternal Age												
Age	0.150	0.005	**	0.150	0.005	**	0.159	0.005	**	0.004	0.012	
Age^2	-0.002	0.000	**	-0.002	0.000	**	-0.002	0.000	**	0.000	0.000	
Maternal Citizenship (Reference: German)												
European Union	0.115	0.030	**	0.106	0.030	**	0.085	0.030	**	-0.326	0.151	°
Other	-0.183	0.022	**	-0.190	0.022	**	-0.179	0.023	**	-0.420	0.067	**
Maternal Schooling (Reference: lower secondary)												
Middle secondary	0.280	0.009	**	0.283	0.009	**	0.318	0.010	**	0.065	0.036	
Upper secondary	0.388	0.013	**	0.398	0.013	**	0.462	0.014	**	0.002	0.045	
No graduation / missing information	0.043	0.023		0.046	0.023	°	-0.005	0.025		0.322	0.075	**
Mother High Skill	0.635	0.011	**	0.628	0.011	**	0.500	0.014	**	0.281	0.027	**
Maternal Occupation (Reference: Agric. & Mining)												
Manufacturing	-0.381	0.029	**	-0.377	0.029	**	-0.708	0.034	**	0.818	0.056	**
Technical Occupation	-0.231	0.036	**	-0.223	0.036	**	-0.653	0.042	**	1.232	0.075	**
Services	-0.379	0.027	**	-0.369	0.027	**	-0.860	0.032	**	1.577	0.051	**
Other and Missing Information	-4.650	0.035	**	-4.637	0.035	**	-5.000	0.041	**	1.128	0.069	**
No partner	-0.293	0.035	**	-0.302	0.035	**	-0.122	0.038	**	-0.141	0.097	
Partner Citizenship (Reference: German)												
European Union	0.234	0.030	**	0.226	0.029	**	0.266	0.030	**	-0.625	0.157	**
Other	0.258	0.022	**	0.254	0.023	**	0.324	0.025	**	-0.495	0.073	**
Partner Schooling (Reference: lower secondary)												
Middle secondary	0.090	0.026	**	0.092	0.011	**	-0.009	0.012		0.288	0.036	**
Upper secondary	-0.083	0.011	**	-0.077	0.014	**	-0.130	0.015	**	0.302	0.047	**
No graduation / missing information	0.301	0.013	**	0.303	0.026	**	0.310	0.027	**	0.063	0.083	
Partner High Skill	-0.075	0.011	**	-0.084	0.011	**	-0.104	0.012	**	0.199	0.031	**
Partner Occupation (Reference: Agric. & Mining)												
Manufacturing	-0.472	0.024	**	-0.481	0.023	**	-0.495	0.027	**	0.587	0.058	**
Technical Occupation	-0.672	0.026	**	-0.683	0.025	**	-0.705	0.029	**	0.841	0.068	**
Services	-0.431	0.024	**	-0.440	0.023	**	-0.434	0.026	**	0.611	0.059	**
Other and Missing Information	0.295	0.030	**	0.293	0.029	**	0.307	0.033	**	0.529	0.070	**
Community Size (Reference: < 20,000 inhabitants)												
20,000-500,000 inhabitants	no			-0.004	0.008		0.018	0.009	°	-0.141	0.021	**
>500,000 inhabitants	no			0.022	0.012		0.134	0.015	**	-0.997	0.052	**
Unemployment rate (by state, in %-points)	no			-0.010	0.002	**	-0.046	0.004	**	-0.047	0.007	**
Children in Daycare (by state, in %-points)	no			0.001	0.001		0.017	0.002	**	-0.023	0.003	**
Public Sector Employees (by state, in %-points)	no			-0.031	0.002	**	0.007	0.004		0.002	0.007	
Year	-0.026	0.001	**	-0.035	0.002	**	-0.037	0.002	**	-0.014	0.006	*
East	0.809	0.010	**	0.988	0.033	**				0.718	0.285	*
Constant	-2.783	0.092	**	-2.101	0.099	**	-2.289	0.116	**			
Log-Likelihood	-240875.480			-240696.660			-237559.960					
# observations	514273											

Note: All regressions use 514,273 observations. Additional indicators for children aged 7-18 were considered but not presented to save space. **, * and ° indicate statistical significance at the 0.1, 1, and 5 percent level. The standard errors are heteroscedasticity robust.
Source: *Mikrozensus* 1996-2004.

Table 3 Logit Estimation: Probability of Maternal Employment

	Base Effect			Interaction: East			Interaction: Time			Int.: East·Time		
Variable	Coeff.	S.E.		Coeff.	S.E.		Coeff.	S.E.		Coeff.	S.E.	
Age of Youngest Child (Reference: < 1 year)												
1 year	0.032	0.043		0.161	0.104		0.014	0.009		0.057	0.022	**
2 years	0.239	0.045	**	0.637	0.107	**	0.013	0.010		0.012	0.022	
3 years	0.676	0.045	**	0.733	0.110	**	0.014	0.010		-0.001	0.023	
4 years	0.839	0.046	**	0.635	0.112	**	0.015	0.010		-0.008	0.023	
5 years	0.856	0.047	**	0.756	0.109	**	0.035	0.010	**	-0.047	0.023	°
6 years	0.985	0.048	**	0.805	0.108	**	0.019	0.010		-0.057	0.023	*
7 years	1.075	0.048	**	0.865	0.109	**	0.014	0.010		-0.072	0.024	**
Number of Siblings												
< 2 years	-0.351	0.047	**	-0.288	0.139	°	0.000	0.010		0.013	0.028	
3 to 5 years	-0.430	0.030	**	-0.256	0.081	**	-0.009	0.006		0.034	0.017	°
6 to 11 years	-0.428	0.018	**	0.134	0.041	**	-0.004	0.004		0.025	0.009	**
12 to 18 years	-0.148	0.015	**	0.021	0.037		-0.011	0.003	**	0.005	0.008	
Number of Adults in Household												
19 to 26 years	-0.086	0.021	**	0.042	0.052		-0.001	0.004		0.016	0.011	
>= 27 years	-0.219	0.096	°	-0.194	0.268		0.028	0.021		0.100	0.059	
Maternal Age												
Age	0.187	0.010	**	-0.035	0.022		-0.007	0.002	**	0.008	0.005	
Age^2	-0.003	0.000	**	0.000	0.000		0.000	0.000	**	0.000	0.000	
Maternal Citizenship (Reference: German)												
European Union	0.154	0.057	**	-0.409	0.314		-0.017	0.012		0.020	0.062	
Other	-0.029	0.047		-0.522	0.147	**	-0.035	0.009	**	0.027	0.029	
Maternal Schooling (Reference: lower secondary)												
Middle secondary	0.258	0.019	**	0.121	0.065		0.015	0.004	**	-0.009	0.014	
Upper secondary	0.382	0.028	**	0.006	0.083		0.019	0.006	**	0.001	0.018	
No graduation / missing information	-0.008	0.048		0.285	0.139	°	0.001	0.010		0.012	0.029	
Mother High Skill	0.477	0.026	**	0.257	0.050	**	0.006	0.005		0.008	0.011	
Maternal Occupation (Reference: Agric. & Mining)												
Manufacturing	-0.963	0.062	**	0.848	0.102	**	0.065	0.013	**	-0.002	0.022	
Technical Occupation	-0.825	0.078	**	1.266	0.137	**	0.044	0.016	**	-0.004	0.030	
Services	-1.044	0.059	**	1.555	0.095	**	0.048	0.012	**	0.009	0.021	
Other and Missing Information	-5.329	0.075	**	1.455	0.122	**	0.084	0.016	**	-0.094	0.028	**
No partner	-0.194	0.072	**	-0.074	0.178		0.016	0.015		-0.014	0.037	
Partner Citizenship (Reference: German)												
European Union	0.306	0.056	**	-0.638	0.304	°	-0.010	0.012		0.008	0.060	
Other	0.323	0.049	**	-0.409	0.141	**	-0.002	0.010		-0.018	0.029	
Partner Schooling (Reference: lower secondary)												
Middle secondary	-0.081	0.022	**	0.158	0.064	*	0.018	0.005	**	0.040	0.014	**
Upper secondary	-0.179	0.027	**	0.191	0.084	°	0.012	0.006	°	0.035	0.018	
No graduation / missing information	0.320	0.053	**	-0.025	0.153		-0.001	0.011		0.028	0.031	
Partner High Skill	-0.073	0.022	**	0.244	0.055	**	-0.007	0.005		-0.013	0.012	
Partner Occupation (Reference: Agric. & Mining)												
Manufacturing	-0.451	0.049	**	0.587	0.105	**	-0.011	0.010		0.000	0.023	
Technical Occupation	-0.707	0.054	**	0.751	0.122	**	0.001	0.011		0.026	0.026	
Services	-0.393	0.049	**	0.565	0.106	**	-0.010	0.010		0.011	0.023	
Other and Missing Information	0.358	0.062	**	0.582	0.127	**	-0.012	0.013		-0.013	0.027	
Community Size (Reference: < 20,000 inhabitants)												
20,000-500,000 inhabitants	0.009	0.016		-0.103	0.038	**	0.003	0.003		-0.009	0.008	
>500,000 inhabitants	0.061	0.028	°	-1.184	0.100	**	0.019	0.006	**	0.019	0.019	
Unemployment rate (by state, in %-points)	-0.032	0.007	**	-0.067	0.014	**	-0.004	0.002	*	0.001	0.004	
Children in Daycare (by state, in %-points)	0.020	0.005	**	-0.024	0.005	**	-0.001	0.001		0.000	0.001	
Public Sector Employees (by state, in %-points)	0.005	0.007		0.013	0.011		0.001	0.002		-0.001	0.002	
East				0.880	0.507							
Year	0.031	0.046		-0.041	0.110							
Constant	-2.585	0.217	**									
Log-Likelihood	-237231.71											

Note: All regressions use 514,273 observations. Additional indicators for children aged 7-18 were considered but not presented to save space. **, * and ° indicate statistical significance at the 0.1, 1, and 5 percent level. The standard errors (S.E.) are heteroscedasticity robust. Source: *Mikrozensus* 1996-2004.

Table 4.1 Logit Estimation: Probability of Maternal Employment - High Skill Mothers

	Base Effect			Interaction: East			Interaction: Time			Int.: East·Time		
Variable	Coeff.	Std.Err.		Coeff.	Std.Err.		Coeff.	Std.Err.		Coeff.	Std.Err.	
Age of Youngest Child (Reference: < 1 year)												
1 year	0.292	0.094	**	0.117	0.188		0.002	0.019		0.066	0.038	
2 years	0.419	0.100	**	0.980	0.202	**	0.009	0.020		-0.038	0.041	
3 years	0.914	0.103	**	0.846	0.216	**	-0.003	0.021		0.025	0.045	
4 years	0.923	0.108	**	0.871	0.228	**	0.016	0.022		0.023	0.048	
5 years	1.079	0.111	**	1.180	0.227	**	0.012	0.023		-0.063	0.047	
6 years	1.203	0.114	**	1.251	0.227	**	-0.007	0.023		-0.056	0.047	
7 years	1.173	0.116	**	1.486	0.225	**	0.007	0.024		-0.100	0.048	°
8 years	1.394	0.117	**	1.209	0.225	**	-0.023	0.024		-0.061	0.050	
9 years	1.393	0.117	**	1.174	0.230	**	0.007	0.024		-0.038	0.052	
10 years	1.323	0.120	**	1.675	0.248	**	0.034	0.025		-0.132	0.055	*
11 years	1.539	0.122	**	1.364	0.249	**	-0.004	0.025		-0.048	0.054	
12 years	1.640	0.126	**	1.393	0.261	**	0.020	0.026		-0.089	0.054	
13 years	1.738	0.128	**	1.308	0.253	**	-0.011	0.026		-0.063	0.052	
14 years	1.783	0.131	**	0.931	0.251	**	0.010	0.027		-0.011	0.052	
15 years	1.832	0.134	**	1.117	0.260	**	0.010	0.027		-0.025	0.053	
16 years	1.686	0.135	**	1.391	0.266	**	0.036	0.028		-0.086	0.054	
17 years	1.743	0.142	**	1.420	0.276	**	0.052	0.029		-0.100	0.057	
18 years	1.804	0.146	**	1.291	0.279	**	0.035	0.030		-0.059	0.058	
Number of Siblings												
< 2 years	-0.279	0.098	**	-0.327	0.241		-0.014	0.020		0.044	0.046	
3 to 5 years	-0.469	0.066	**	-0.276	0.148		-0.006	0.013		0.076	0.030	*
6 to 11 years	-0.415	0.042	**	0.154	0.092		0.002	0.009		-0.015	0.020	
12 to 18 years	-0.215	0.040	**	0.143	0.088		-0.007	0.008		-0.007	0.018	
Number of Adults in Household												
19 to 26 years	-0.191	0.057	**	0.126	0.124		0.005	0.011		0.024	0.026	
>= 27 years	-0.559	0.316		-0.377	0.648		0.162	0.072	°	-0.047	0.139	
Maternal Age												
Age	0.194	0.031	**	0.002	0.057		-0.009	0.006		0.004	0.012	
Age^2	-0.003	0.000	**	-0.001	0.001		0.000	0.000		0.000	0.000	
Maternal Citizenship (Reference: German)												
European Union	-0.215	0.134		-1.030	0.573		0.012	0.027		0.111	0.110	
Other	-0.641	0.114	**	-0.832	0.288	**	0.012	0.022		-0.077	0.057	
Maternal Schooling (Reference: lower secondary)												
Middle secondary	-0.150	0.098		0.513	0.313		0.030	0.021		-0.046	0.072	
Upper secondary	0.040	0.095		0.329	0.313		0.039	0.020		-0.029	0.072	
No graduation / missing information	-0.068	0.321		1.456	0.754		-0.017	0.058		-0.133	0.135	
Maternal Occupation (Reference: Agric. & Mining)												
Manufacturing	-1.350	0.216	**	1.810	0.370	**	0.149	0.043	**	-0.211	0.082	*
Technical Occupation	-1.084	0.207	**	2.054	0.351	**	0.125	0.041	**	-0.192	0.079	*
Services	-1.365	0.189	**	2.416	0.314	**	0.152	0.037	**	-0.184	0.071	**
Other and Missing Information	-5.755	0.233	**	2.041	0.365	**	0.153	0.047	**	-0.213	0.082	**
(covariates omitted)												
East	0.840	1.312										
Year	-0.006	0.138		-0.103	0.284							
Constant	-2.896	0.673	**									
Log-Likelihood (number of obs.)	-42740.973						(95,165)					
Tests of Joint Significance:	χ^2(dF)	p-value		χ^2(dF)	p-value		χ^2(dF)	p-value		χ^2(dF)	p-value	
Age of Youngest Child	381.33(18)	0.00	**	97.61(18)	0.00	**	15.75(18)	0.61		29.85(18)	0.04	°

Table 4.2 Logit Estimation: Probability of Maternal Employment - Low Skill Mothers

	Base Effect			Interaction: East			Interaction: Time			Int.: East·Time		
Variable	Coeff.	Std.Err.		Coeff.	Std.Err.		Coeff.	Std.Err.		Coeff.	Std.Err.	
Age of Youngest Child (Reference: < 1 year)												
1 year	-0.037	0.049		0.146	0.121		0.014	0.011		0.051	0.025	°
2 years	0.192	0.050	**	0.477	0.124	**	0.011	0.011		0.027	0.026	
3 years	0.613	0.050	**	0.625	0.125	**	0.016	0.011		-0.009	0.026	
4 years	0.808	0.051	**	0.499	0.127	**	0.012	0.011		-0.019	0.027	
5 years	0.796	0.052	**	0.581	0.124	**	0.038	0.011	**	-0.052	0.027	
6 years	0.925	0.053	**	0.618	0.123	**	0.023	0.011	°	-0.064	0.027	*
7 years	1.040	0.053	**	0.634	0.124	**	0.014	0.012		-0.070	0.028	*
8 years	1.223	0.054	**	0.546	0.125	**	-0.005	0.012		-0.079	0.028	**
9 years	1.362	0.054	**	0.518	0.127	**	-0.016	0.012		-0.069	0.028	*
10 years	1.381	0.055	**	0.594	0.130	**	0.001	0.012		-0.087	0.029	**
11 years	1.477	0.056	**	0.493	0.133	**	-0.002	0.012		-0.071	0.029	*
12 years	1.724	0.057	**	0.197	0.137		-0.025	0.012	°	-0.029	0.030	
13 years	1.754	0.058	**	0.387	0.137	**	-0.011	0.012		-0.059	0.029	°
14 years	1.804	0.058	**	0.288	0.140	°	0.002	0.012		-0.058	0.029	°
15 years	1.886	0.058	**	0.170	0.140		0.003	0.013		-0.064	0.029	°
16 years	1.945	0.060	**	0.239	0.143		0.009	0.013		-0.066	0.030	°
17 years	2.045	0.061	**	0.035	0.145		-0.003	0.013		-0.029	0.030	
18 years	2.091	0.062	**	0.171	0.148		0.004	0.013		-0.050	0.031	
Number of Siblings												
< 2 years	-0.378	0.053	**	-0.214	0.163		0.006	0.012		-0.004	0.033	
3 to 5 years	-0.428	0.034	**	-0.214	0.095	°	-0.010	0.007		0.013	0.020	
6 to 11 years	-0.440	0.020	**	0.132	0.046	**	-0.005	0.004		-0.032	0.010	**
12 to 18 years	-0.141	0.017	**	-0.012	0.041		-0.011	0.004	**	0.006	0.009	
Number of Adults in Household												
19 to 26 years	-0.074	0.022	**	0.019	0.058		-0.002	0.005		0.011	0.012	
>= 27 years	-0.168	0.101		-0.174	0.294		0.014	0.022		0.132	0.066	°
Maternal Age												
Age	0.191	0.011	**	-0.036	0.025		-0.006	0.002	**	0.011	0.005	°
Age^2	-0.003	0.000	**	0.000	0.000		0.000	0.000	**	0.000	0.000	**
German)												
European Union	0.230	0.064	**	0.012	0.335		-0.023	0.013		-0.025	0.070	
Other	0.087	0.052		-0.393	0.161	*	-0.044	0.010	**	0.061	0.032	
Maternal Schooling (Reference: lower secondary)												
Middle secondary	0.285	0.019	**	0.119	0.066		0.014	0.004	**	-0.006	0.014	
Upper secondary	0.385	0.032	**	0.105	0.108		0.017	0.006	**	-0.006	0.022	
No graduation / missing information	-0.030	0.049		0.252	0.138		0.003	0.010		0.012	0.029	
Maternal Occupation (Reference: Agric. & Mining)												
Manufacturing	-0.934	0.106	**	0.760	0.014	**	0.054	0.014	**	0.019	0.023	
Technical Occupation	-0.818	0.164	**	1.163	0.019	**	0.044	0.019	*	0.020	0.036	
Services	-1.014	0.099	**	1.440	0.013	**	0.035	0.013	**	0.027	0.022	
Other and Missing Information	-5.284	0.131	**	1.452	0.017	**	0.078	0.017	**	-0.098	0.030	**
(covariates omitted)												
East	0.765	0.556										
Year	0.038	0.049		-0.098	0.121							
Constant	-2.477	0.233	**									
Log-Likelihood (number of obs.)	193896.17						(419,108)					
Tests of Joint Significance:	χ^2(dF)	p-value		χ^2(dF)	p-value		χ^2(dF)	p-value		χ^2(dF)	p-value	
Age of Youngest Child	2556.77(18)	0.000	**	93.16(18)	0.000	**	58.01(18)	0.000	**	52.73(18)	0.000	**

Note: Partner and regional characteristics are omitted to save space. Details are available upon request from the authors. **, * and ° indicate statistical significance at the 0.1, 1, and 5 percent level. The standard errors are heteroscedasticity robust.

Source: *Mikrozensus* 1996-2004.

Table A.1 Descriptive Statistics by Region and Year: Mean Values

	West 96	East 96	West 04	East 04	
Variable	(1)	(2)	(3)	(4)	
Employment Probability	0.364	0.672	0.365	0.598	**
Maternal Age	36.849	35.889	38.391	37.382	
Age of Youngest Child	7.696	9.261	8.121	9.391	**
Number of Siblings					
< 2 years	0.050	0.016	0.043	0.027	**
3 to 5 years	0.115	0.050	0.102	0.059	**
6 to 11 years	0.271	0.212	0.268	0.137	**
12 to 18 years	0.271	0.290	0.290	0.241	**
Numer of Adults in Household					
19 to 26 years	0.132	0.112	0.144	0.142	**
>=27 years	0.006	0.003	0.005	0.004	
Maternal Citizenship					
German	0.849	0.964	0.848	0.944	**
European Union	0.035	0.004	0.033	0.004	
Other	0.116	0.032	0.119	0.052	**
Maternal Schooling					
no graduation / missing information	0.086	0.044	0.093	0.058	
lower secondary	0.458	0.083	0.349	0.082	**
middle secondary	0.284	0.704	0.326	0.647	**
upper secondary	0.172	0.168	0.232	0.214	*
Mother High Skill	0.132	0.301	0.168	0.293	**
Maternal Occupation					
Agriculture & Mining	0.019	0.034	0.016	0.024	**
Manufacturing	0.093	0.095	0.076	0.087	
Technical Occupation	0.015	0.031	0.016	0.020	**
Services	0.560	0.661	0.631	0.672	**
Other and Missing Information	0.314	0.178	0.261	0.197	**
No Partner	0.110	0.161	0.143	0.225	**
Partner Citizenship					
German	0.851	0.960	0.863	0.946	**
European Union	0.036	0.004	0.036	0.005	
Other	0.113	0.036	0.101	0.049	**
Partner Schooling					
no graduation / missing information	0.069	0.040	0.079	0.057	°
lower secondary	0.507	0.112	0.420	0.094	**
middle secondary	0.192	0.660	0.221	0.621	**
upper secondary	0.232	0.189	0.281	0.228	
Partner High Skill	0.258	0.247	0.259	0.222	**
Partner Occupation					
Agriculture & Mining	0.037	0.035	0.035	0.031	
Manufacturing	0.358	0.413	0.327	0.347	**
Technical Occupation	0.105	0.078	0.111	0.078	
Services	0.431	0.394	0.453	0.426	
Other and Missing Information	0.069	0.081	0.074	0.119	**
Community Size					
<20,000 inhabitants	0.443	0.461	0.437	0.472	°
20,000-500,000 inhabitants	0.440	0.359	0.448	0.335	**
>500,000 inhabitants	0.118	0.180	0.115	0.193	**
Unemployment Rate (by state, in %)	8.933	18.513	7.821	18.403	**
Children in Daycare, 0-2 years (by state, in %)	3.856	30.985	5.940	35.948	**
Public Sector Employees (by state, in %)	19.778	24.288	18.851	20.332	**
Number of Observations	44668	14327	44081	10962	

Note: **, * and ° indicate statistical significance of East-West differences over time at the 0.1, 1, and 5 percent level.
Source: *Mikrozensus* (1996, 2004)

Table A.2 Descriptive Statistics by Region and Year: Mean Values

	Low Skill				High Skill			
	West 96	East 96	West 04	East 04	West 96	East 96	West 04	East 04
Variable	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Employment Probability	0.346	0.608	0.339	0.522	0.481	0.820	0.497	0.782
Maternal Age	36.541	35.372	38.014	36.686	38.876	37.087	40.266	39.058
Age of Youngest Child	7.727	9.093	8.196	9.208	7.491	9.651	7.748	9.833
Number of Siblings								
< 2 years	0.049	0.018	0.040	0.028	0.057	0.010	0.058	0.023
3 to 5 years	0.114	0.054	0.100	0.060	0.116	0.041	0.115	0.054
6 to 11 years	0.269	0.219	0.271	0.141	0.283	0.196	0.253	0.127
12 to 18 years	0.272	0.285	0.299	0.238	0.262	0.301	0.249	0.246
Numer of Adults in Household								
19 to 26 years	0.135	0.111	0.146	0.135	0.113	0.113	0.133	0.159
>=27 years	0.007	0.004	0.006	0.004	0.003	0.003	0.002	0.002
Maternal Citizenship								
German	0.842	0.957	0.838	0.934	0.900	0.980	0.897	0.968
European Union	0.035	0.004	0.034	0.004	0.030	0.004	0.030	0.006
Other	0.123	0.039	0.129	0.063	0.070	0.015	0.074	0.026
Maternal Schooling								
no graduation / missing information	0.098	0.063	0.110	0.078	0.005	0.002	0.009	0.007
lower secondary	0.520	0.115	0.412	0.113	0.050	0.008	0.036	0.006
middle secondary	0.301	0.783	0.360	0.736	0.177	0.522	0.159	0.432
upper secondary	0.082	0.039	0.119	0.073	0.768	0.469	0.795	0.554
Maternal Occupation								
Agriculture & Mining	0.020	0.044	0.016	0.030	0.014	0.011	0.013	0.008
Manufacturing	0.103	0.127	0.086	0.112	0.021	0.022	0.025	0.026
Technical Occupation	0.011	0.020	0.011	0.013	0.043	0.057	0.042	0.039
Services	0.535	0.590	0.605	0.603	0.723	0.826	0.762	0.840
Other and Missing Information	0.331	0.219	0.281	0.242	0.198	0.084	0.158	0.087
No Partner	0.110	0.169	0.145	0.243	0.111	0.144	0.135	0.182
Partner Citizenship								
German	0.840	0.952	0.849	0.935	0.923	0.979	0.931	0.969
European Union	0.038	0.004	0.038	0.005	0.024	0.004	0.024	0.006
Other	0.122	0.044	0.113	0.060	0.053	0.018	0.045	0.025
Partner Schooling								
no graduation / missing information	0.079	0.055	0.092	0.077	0.007	0.005	0.012	0.011
lower secondary	0.561	0.144	0.478	0.122	0.149	0.041	0.134	0.030
middle secondary	0.197	0.707	0.234	0.676	0.164	0.553	0.156	0.501
upper secondary	0.164	0.094	0.196	0.125	0.679	0.401	0.698	0.458
Partner High Skill	0.196	0.140	0.182	0.119	0.667	0.495	0.641	0.472
Partner Occupation								
Agriculture & Mining	0.038	0.038	0.035	0.037	0.032	0.027	0.032	0.016
Manufacturing	0.393	0.459	0.367	0.391	0.128	0.309	0.131	0.248
Technical Occupation	0.095	0.051	0.097	0.054	0.168	0.137	0.179	0.133
Services	0.402	0.359	0.421	0.378	0.624	0.471	0.609	0.531
Other and Missing Information	0.072	0.093	0.079	0.140	0.048	0.055	0.049	0.072
Community Size								
<20,000 inhabitants	0.449	0.476	0.444	0.486	0.401	0.425	0.402	0.440
20,000-500,000 inhabitants	0.436	0.343	0.447	0.320	0.463	0.397	0.456	0.370
>500,000 inhabitants	0.115	0.181	0.109	0.194	0.136	0.179	0.142	0.190
Unemployment Rate (by state, in %)	8.944	18.516	7.840	18.429	8.857	18.505	7.724	18.339
Children in Daycare, 0-2 years (by state, in %)	3.851	31.001	5.918	36.183	3.889	30.948	6.045	35.382
Public Sector Employees (by state, in %)	19.786	24.291	18.882	20.416	19.725	24.280	18.701	20.132
Number of Observations	38675	9991	36585	7734	5993	4336	7496	3228

Source: *Mikrozensus* (1996, 2004)

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