Labor Force Status Dynamics in the German Labor Market:
Individual Heterogeneity and Cyclical Sensitivity*

Jochen Kluve

(RWI Essen and IZA Bonn)

Sandra Schaffner

(RWI Essen)

Christoph M. Schmidt

(RWI Essen, IZA Bonn and CEPR London)

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Abstract. The aggregate average unemployment rate in a given country is essentially the result of individual workers' transitions between the three core labor force states, employment, unemployment, and inactivity. The dynamics of these transitions depend both on individual duration in a particular state and the transition probabilities between states. Individual transitions, in turn, depend on personal characteristics, i.e. observable sociodemographic attributes and unobserved factors. Simultaneously, person-specific dynamics may be influenced by swings of the business cycle that differentially affect the likelihood of individual transitions. This paper analyzes these labor force status dynamics for the German labor market using comprehensive data on monthly transitions from the GSOEP, covering the time periods 1983-2003 for West Germany, and 1992-2003 for East Germany. For 18 demographic cells defined by sex, 3 age categories, and 3 education categories, the model uses loading factors to translate unobserved shocks to the labor market into observed cell-specific unemployment rates as well as bilateral transition probabilities between all states. This approach allows us to distinguish individual heterogeneity and cyclical volatility in describing labor force status flows. The results show that the experience of high unemployment rates is more sensitive to cyclical behavior for certain demographic groups, specifically unskilled and young workers. Heterogeneity in unemployment and transition rates differs between East and West Germany, as well as between the sexes. In East Germany, all demographic cells are almost entirely detached from the cycle. The unemployment structure of West German women is rather homogenous across age and education, in contrast to men and East-German women. The decisive component of the heterogeneity in unemployment dynamics is the re-employment rate.

Keywords: Labor force, Unemployment dynamics, Business Cycle, Worker heterogeneity.
JEL Codes: E32, J21, J64

1. Introduction

The German labor market has suffered from high and persistent unemployment rates for almost two decades, and the incidence of widespread unemployment is perceived as a core problem of the German economy. The Eastern part of the country has been hit particularly hard by this issue, having had to face a steep incline in the average unemployment rate after reunification, which in 2004 still remains at about 20 percent (cf. Figure 1). In the Western part, average unemployment has been fluctuating around a rate of 10% since the early 1990s and is currently (2005) at approximately 9.4%.

Figure 1: Unemployment rate and GDP growth in West-Germany and East-Germany
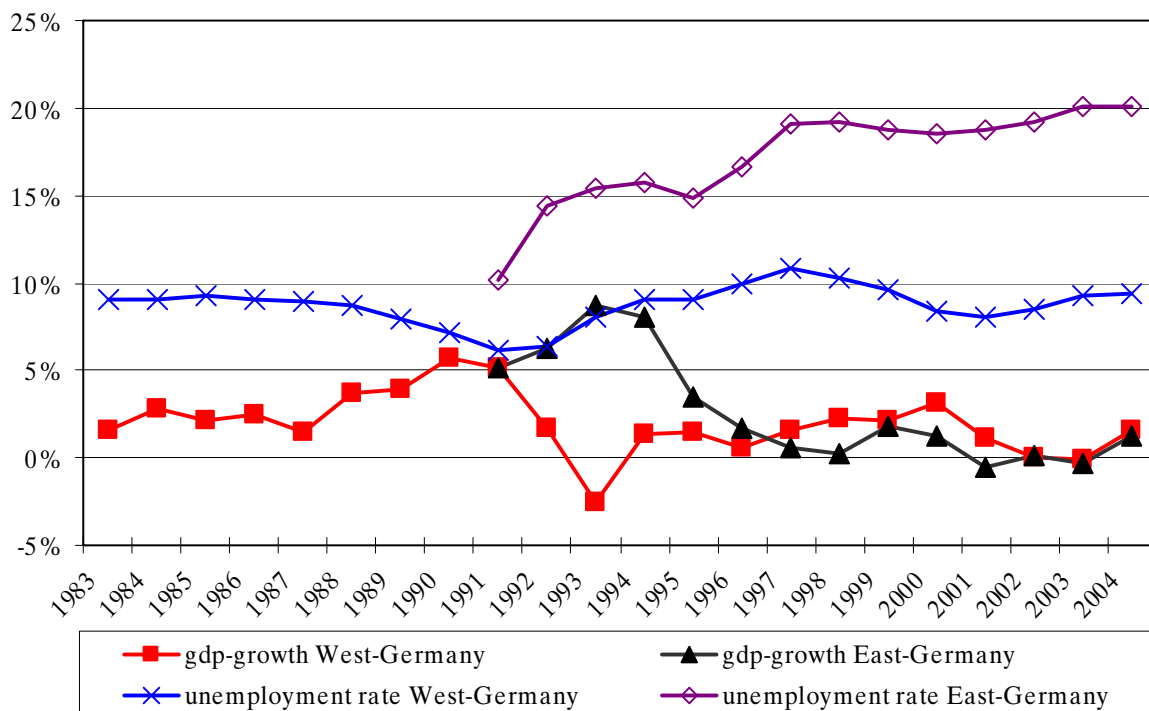
Clearly, any particular aggregate average unemployment rate, and its fluctuation over time, is the result of individual workers' transitions between the three core labor force states, employment, unemployment, and inactivity (out-of-the-labor-force). The dynamics of these individual transitions depend on the individual duration in a particular state and the probability of changing from each specific state to one of the other states. Both, individual durations and individual transition probabilities, however, are unlikely the same for all workers, and are also unlikely constant over time. Rather, transitions into and out of unemployment are far from being a uniform phenomenon, and depend on individual characteristics such as observable socio-demographic attributes – age, sex, educational attainment, etc. – but also unobserved attributes such as motivation and ability. Moreover, person-specific factors may be influenced by swings of the business cycle that simultaneously

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determine the duration and transition probability of individual labor force states. For instance, the North American evidence shows such "excess cyclical volatility" for low-educated youth, whose unemployment risk is disproportionately high during an economic downturn, relative to the average worker (Card and Lemieux 2000).

To know more about the composition of unemployment in terms of underlying labor market flows and the role that both, individual heterogeneity and cyclical sensitivity, play in determining individual labor force status dynamics is important along several lines. First, a particular average unemployment rate can be the consequence of relatively high or low job loss rates on the one hand, along with relatively high or low probabilities of finding a job, respectively, each scenario characterizing a different type of labor market. Second, a mere description of movements between unemployment, employment, and inactivity can, if appropriately stratified, provide substantial insight into the labor market behavior of specific demographic groups over the business cycle, and how this impacts on aggregate labor market outcomes. Third, and perhaps most importantly, the analysis of individual labor force status transitions over the business cycle can help identify particular problem groups, to which specific labor market policies and reforms might be targeted.

This paper presents such an analysis for German labor market flows for the time period 1983 to 2004 using data from the German Socioeconomic Panel (GSOEP). Building on the study by Schmidt (2000) we investigate unemployment rates and labor force status transitions over the business cycle for 18 demographic cells given by sex, 3 age categories, and 3 education categories. In addition to adding 10 years of data, the empirical analysis extends Schmidt (2000) by including movements into and out of inactivity to both other states – employment and unemployment – as well. Moreover, in discussing and contrasting individual heterogeneity and business cycle effects we specify two variants to account for cyclical swings, one based on three-year regimes and the other on a simple indicator for the state of the economy, the GDP growth rate. We also consider East and West Germany separately in the analysis, and for the first time consider East German labor market flows in this context.

The aim of the paper is to draw robust conclusions regarding the interplay of cyclical influences and individual heterogeneity as determinants of labor force status behavior and labor market success. Rather than including cyclical swings as proportional factors that affect all individuals in equal measure, we explicitly consider idiosyncratic differences in labor force status transition for sociodemographic groups over the cycle. Clearly, such an approach faces a trade-off between modeling economic realities to the most detailed extent possible and a parsimonious parameterization to keep the interpretation for subgroups tractable.

The remainder is organized as follow. Section 2 provides a brief account of the relevant literature on labor market flows. Section 3 discusses the data. The fourth section develops the empirical model, while section 5 presents estimation results for unemployment rates. Section 6 discusses and estimates flow intensities between labor force states. The seventh section concludes with a summary of the results and a discussion of their policy implications.

2. Background

Two strands of the literature provide the background for our analysis. First, it is frequently argued that labor market rigidities are at the heart of the European unemployment problem (see e.g. Siebert 1997). The main piece of evidence supporting this view appears to be the divergent behavior of US and European unemployment during the 1990s: While US unemployment rates have been relatively low throughout the last decade and the US labor market is perceived as rather flexible, European countries have experienced high unemployment rates in labor markets that are relatively rigid. The basic appeal of this stylized argument notwithstanding, the European unemployment experience itself has been quite heterogeneous across countries, as has been the extent of regulatory interference with labor demand and supply. In particular, over recent years several countries (e.g. Denmark, Germany, etc.) have implemented labor market reforms aimed at making markets more flexible.

This makes it difficult to provide a reasonable characterization of the issue just using a descriptive account of the data, even on the basis of simple and logically consistent theoretical models. Similarly, given the relatively moderate within-country variation regarding institutional design and labor market outcomes over time, time series analysis for a single country (as e.g. in Berger 1998) appear unlikely to identify the impact of rigidities. This arises because in such a time series study it will be difficult to avoid that the variance of the measured extent of rigidities is predominantly reflecting measurement error. Moreover, the source of the variation threatens to remain unclear since changes in policy are likely to be endogenous.

Searching for a convincing alternative for addressing the issue empirically, Nickell (1997) and Blanchard and Wolfers (1999) link the differential unemployment experience observed across countries to summary statistics of labor market rigidities and of the welfare state. Specifically, their empirical estimates rely on an index of employment protection, a labor standards index, the benefit replacement rate, the duration of benefits, and expenditures

on active labor market policies, and on summary statistics of the structure of the systems of wage determination such as union density and union coverage. Based on their reasoning that it might be the interaction between unfavorable shocks and inadequate institutions that is important, not either of them by itself, Blanchard and Wolfers (1999) analyze, in particular, how the presence of labor market rigidities magnifies common macroeconomic shocks across countries.

These analyses find that, as a whole, labor market rigidities indeed play an important role for a country's labor market performance, but they also yield a multifaceted picture about the magnitude and relevance of individual institutional aspects. This partially explains why the notoriously rigid West German labor market has generated comparatively low unemployment rates well into the 1990s, given the experience of other European economies. These studies also make clear that the central questions are not theoretical but empirical in nature. In the context of this paper, interest should therefore lie in the characterization of German labor market dynamics through the transition intensity of German workers between the states of employment, unemployment, and inactivity, and the extent to which these intensities vary across different individuals and over time.

In a second strand of literature, several influential studies have demonstrated that the analysis of gross worker flows and job flows provides important insights beyond analyses of the unemployment rate. Seminal studies include Clark and Summers (1979), Abowd and Zellner (1985), Blanchard and Diamond (1989, 1990), and Davis and Haltiwanger (1990, 1993). These empirical analyses have been complemented by theories of job flows and workers flows (Pissarides 1986, 1991, Mortensen and Pissarides 1994, Hall 2004, Shimer 2005). The available evidence on German labor market flows is limited (early papers are Boeri and Cramer 1992 and Burda and Wyplosz 1994, based on aggregate data). Bachmann (2005) examines worker flows, especially job-to-job flows over the economic cycle. The cross-country perspective of the first strand of the literature has been applied to the analysis on gross worker flows. Cohen et al. (1998) compare labor market flows between France and the US, Schmidt (1998) extends this comparison to include Germany.

3. Data on German Labor Market Flows
Our data are constructed from the German Socioeconomic Panel (GSOEP). The GSOEP is a panel survey of individuals that started in 1984 and that provides one annual survey wave each year, yielding 21 waves of data by 2004. In the questionnaire, among other things,

respondents are asked to report their major activity for each month of the preceding year.[1] On this account it is possible to survey individual-level monthly data for 1983 to 2003 (West Germany) and for 1992 to 2003 (East Germany). Data are from samples "A" and "C", covering households headed by a native German. In our analysis, the detailed information about the activities in the preceding years is condensed into three distinct labor market states, employment (E), unemployment (U), and non-participation (N). "Employed" refers to full-time work, part-time work, and vocational training, "unemployed" to registered unemployed, and "non-participation" is the residual category, comprising among others schooling, military service, community service, maternity leave, and retirement. Individuals residing in such a status are not counted as employed if they also declare to be employed in the same month. We believe that students working during vacation or retired persons performing part-time jobs are not of key interest in the analysis of labor force status transitions.

The analysis explicitly distinguishes individuals in 18 gender-age-education cells, with three age groups, 16-24, 25-49, and 50-64, and three education groups, low, medium, and high. An educational attainment of a low or medium secondary schooling degree (Hauptschule or Realschule) is considered to fall into the low category. Individuals who either hold a high secondary schooling degree (Abitur) or any form of formal post-secondary education other than university or technical college, for instance a vocational training course, are categorized as having medium education. Finally, a degree from a technical college (Fachhochschule) or a university qualifies respondents' education as being high.

The data allow us to calculate monthly employment, unemployment and non-participation rates for each month from January 1983 to December 2003 for West Germany, and from January 1991 to December 2003 for East Germany. Moreover, we calculate monthly transition rates between these three states for workers in each demographic cell, for each pair of months from January-February 1983 to November-December 2003.

To explore the issue of cyclical sensitivity, in a first step the analysis follows the idea developed in Schmidt (1998) to distinguish three-year time-periods, so-called "regimes". These sub-periods are 1983-85, 1986-88, 1989-91 for West Germany only, and 1992-94, 1995-97, 1998-2000, and 2001-2003 for both parts of the country. In a second, alternative step, the West and East German GDP growth of each year is considered to account for business cycle swings. The precise way of accounting for cyclical changes will be discussed in the next section.

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[1] This is precisely the information used in Schmidt (2000). Retrospective information from the GSOEP has also been used for an analysis of the West German labor market by Steiner (1994) in the estimation of hazard rate models, and for East Germany by Lechner (1998) and Wolff (1998).

Figure 2 displays the unemployment rate across the 18 gender-age-education cells and the seven (four) three-year sub-periods for West-Germany (East-Germany) separately. Each value is the mean of the 36 monthly unemployment rates in the particular period. The demographic cells of young high-skilled men or women are rather small in the sample, leading to unemployment rates of 0% if no one of this small group was unemployed. Attention should be paid to the different axes for East- and West-Germany, reflecting that the range of unemployment rates in East-Germany is much wider than in West-Germany, and that the general level of unemployment rates is much higher for all demographic groups. These differences in level and variation between the two parts of the country are striking. The West-German unemployment rates vary from 0 to about 18% (Men in the period 1995-1997), whereas East German unemployment rates reach e.g. almost 40% and over 60% for low-skilled and old men and women, respectively. In both parts of the country the low-skilled of medium and old age face the highest risk of being unemployed.

Average unemployment, however, is quite a bit smaller than these maximum values. This can be seen in Table 1, which reports the (unweighted) descriptive statistics of the two samples separately for men and women. The number of observations corresponds to about 4750 observations per month in the West German sample and 3000 in the East German sample, i.e. the total number of observations is given by the number of individual-months. The age distribution in the sample is similar for both sexes and both samples. The distribution of skill levels is more heterogeneous, in particular regarding the top and bottom categories. Whereas for both sexes in both samples individuals with medium education constitute the core category (the share ranging from about 60-68%), in West Germany the share of low-skilled women (30%) is much larger than that of men (17%). Correspondingly, a larger share of West German men is highly educated (15%), compared to West German women (8%). In East Germany, differences by sex are much less pronounced, and the share in low education is lower for men (12%), and much lower for women (14%), than in the West. Correspondingly, male and female shares in the top education category are larger than in the West, amounting to 21% and 26%, respectively. The distribution of labor force states also shows substantial heterogeneity. More than half of West German women are out of the labor force, while only 20% of men, in both East and West Germany, and 30 % of East German women do not participate.

Figure 2. Unemployment rates by demographic cells
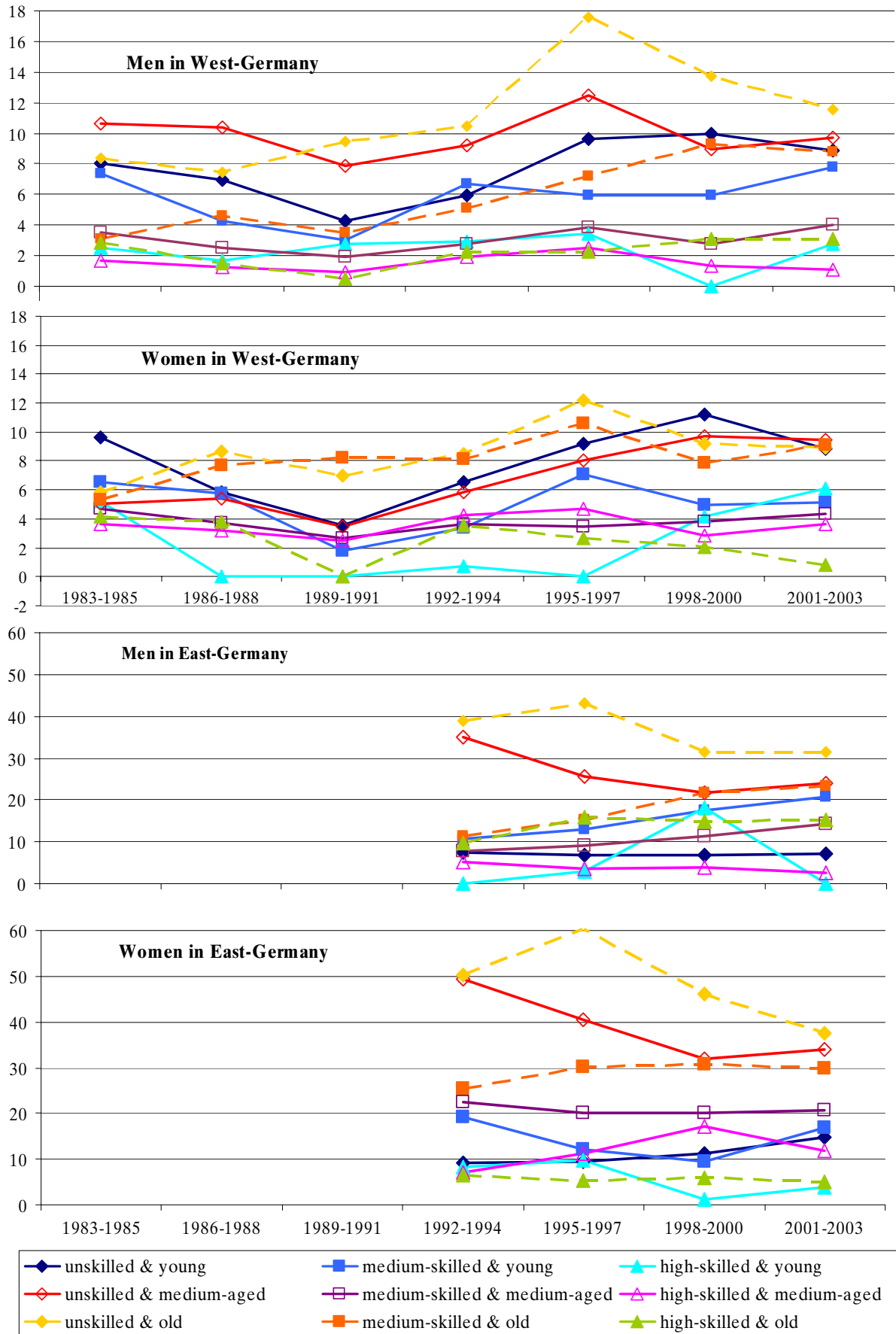
Overall, when compared to the figures in official statistics, the unemployment rates derived from the GSOEP data appear quite low, a fact which could be due to several possible reasons. First, the sample only covers native Germans. Not only do immigrants display a substantially worse educational distribution than native workers (e.g. Schmidt 1997), they also tend to display a somewhat higher unemployment rate across demographic strata. Second, different from calculations by the German Statistical Office self-employed individuals are included in the denominator when calculating unemployment rates. Third, there may be data problems such as recall bias or selectivity. Classification errors have played a major role in the literature on gross flow data (cf. Abowd and Zellner 1985, Poterba and Summers 1986, Poterba and Summers 1995). Most importantly, as a consequence of the request to list only the predominant activity of each month, respondents may omit brief spells of unemployment from their retrospective record, leading to an underestimate of the unemployment rates and of the transition rates into and out of unemployment (for evidence on this phenomenon for East Germany see Wolff 1998). A related problem is possible heaping, the concentration of misclassified entries in a particular month (for evidence on the GSOEP see, for instance, Kraus and Steiner 1998).

Finally, it might well be that the panel data used here capture a particularly "stable" part of the population, in the sense that the fact of being observed throughout most of the sample period on one hand and employment rates and re-employment success on the other are systematically positively related. While we will address this issue in future research, in this paper emphasis will instead be on the formal characterization of unemployment rates and flow rates on the basis of the available data. In particular, the next section discusses an empirical representation for monthly unemployment rates that describes the long-term demographic structure of unemployment while also addressing issues of cyclical sensitivity. This framework will then be extended to labor market flows. The corresponding estimates will allow us a formal assessment of the mechanics behind intertemporal fluctuations in unemployment rates.

4. Estimation framework

This section documents the estimation of an empirical model for unemployment rates. The model includes the assumption that the unemployment rate differs between the gender-age-education cells and over time, and also that cyclical sensitivity varies across observable demographic groups. Specifically, the analysis compares the cyclical experience of average German workers to that of women, low-skilled and high-skilled workers, respectively, and young and old workers, respectively. The estimating equation for the average unemployment

rate in demographic group i (i = 1, …, 9 for "young-low-skilled", ..., "young-medium-skilled", "medium-aged-low-skilled", ..., "old-high-skilled"), gender g (male, female), month m (m = 1, ..., 12), and period t (t = 1, ..., 7) is

$$
(1) \quad u_{igmt} = \left(\alpha + \gamma \cdot 1_{female}\right) + \sum_{i \neq 5}\left(\beta_i + \delta_i \cdot 1_{female}\right) \cdot 1_i + \sum_{m \neq 6}\mu_m \cdot 1_m +
$$
$$
\sum_{t \neq 5}\tau_t\left(1 + d_f \cdot 1_{female} + d_u \cdot 1_{low-skilled} + d_h \cdot 1_{high-skilled} + d_y \cdot 1_{young} + d_o \cdot 1_{old}\right) \cdot 1_t + e_{igmt},
$$

where e_{igmt} is the corresponding error term. In effect, the cell-specific average unemployment rates that were derived in the first pass through the individual-level data for 18 demographic cells and 143 months[2] are decomposed into several constituent parts (for a similar approach see Blanchard and Wolfers 1999 and Hoynes 1999).

First, coefficient α captures the average unemployment rate of males in the core demographic group of 25-49-year-old, medium-skilled workers in the baseline month June during the baseline period 1995-1997, whereas coefficient γ expresses the differential unemployment experience of women in the same demographic cell, month and period. The variable 1_{female} is an indicator variable for the average unemployment rates of female workers. The coefficients β_i describe the demographic structure of unemployment experienced by male workers, capturing deviations from the average value characterizing the core group (with corresponding indicator variables 1_i). For instance, the average unemployment rate of young low-skilled males (in any June of period 2) is $\left(\alpha + \beta_1\right)$. Similarly, coefficients δ_i express deviations of the female structure from that for males. That is, the estimated average unemployment rate of, say, old medium-skilled women (in the baseline period and month) is $\left(\left(\alpha + \beta_8\right) + \left(\gamma + \delta_8\right)\right)$.

Since the estimation is based on monthly cell averages, a set of monthly effects μ_m characterizes the seasonal structure of unemployment in terms of a differential to baseline month June (with corresponding indicator variables 1_m). Estimates of the average unemployment experience of, say, young low-skilled males in any given April of the baseline period 1995-97 is $\left(\alpha + \beta_1 + \mu_4\right)$. Furthermore, the analysis distinguishes the seven time periods 1983-85 to 2001-03; coefficients τ_t express the average deviation of unemployment rates for any demographic cell in period t from their corresponding value in the baseline

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[2] Some 16 of the resulting 2574 observations had to be dropped, because no observation was available - all these 16 cells referred to young men with high education.

period (with corresponding indicator variables 1_t). For instance, male workers in the core in month November of the fourth period 1992-94 are estimated to experience an average unemployment rate of $(\alpha + \mu_{11} + \tau_4)$.

Next to describing the average structure of unemployment in the four principal periods, the major emphasis in this analysis is on the differential cyclical experience of what are generally referred to as problem groups. In the regression, interaction terms capture how the evolution of their performance compares formally to the cyclical experience of the average worker. Specifically, in addition to their direct impact, the average coefficients τ_t are interacted with five loading factors, d_f for women, d_u for low-skilled workers, d_h for high-skilled workers, d_y for young and d_o for old workers, respectively. In expression (1), the indicator variables $1_{low\text{-}skilled}$, $1_{high\text{-}skilled}$, 1_{young}, and 1_{old} are defined accordingly. A positive interaction coefficient, for instance a positive d_u, would indicate that for the corresponding group, here low-skilled workers, the cyclical swings captured by τ_t are enforced, whereas a negative value would indicate that this group experiences more moderate cyclical swings than the average worker. A value of -1 would even imply complete detachment from the cycle.

Since estimation is performed on grouped data, with underlying sample sizes – and thus the precision of the individual cells' averages – varying considerably, in this second-step regression, cell averages are weighted by the sum of the individual panel of all individuals in each cell. This strategy does not only account for differences in the precision of all cell averages, it also considers the real distribution in the population. In a second step the preceding model is changed in measuring the cyclical sensitivity of unemployment. The constructed time periods are replaced by the yearly GDP growth of West Germany and East Germany respectively:

$$
(2) \quad
\begin{aligned}
u_{igmt} &= \left(\alpha + \gamma \cdot 1_{female}\right) + \sum\nolimits_{i \neq 5}\left(\beta_i + \delta_i \cdot 1_{female}\right)\cdot 1_i + \sum\nolimits_{m \neq 6}\mu_m \cdot 1_m + \\
&\quad gdp \cdot \left(\tau + d_f \cdot 1_{female} + d_u \cdot 1_{low-skilled} + d_h \cdot 1_{high-skilled} + d_y \cdot 1_{young} + d_o \cdot 1_{old}\right) + e_{igmt},
\end{aligned}
$$

The need for a nonlinear model is not given anymore because the cyclical behavior is reflected by a single variable rather than a set of dummy variables as in the first model. This suggests the possibility of measuring the direct influence of cyclical behavior on the unemployment rates. Because of the different development in East and West Germany the specific GDP growth of West and East Germany, respectively, is used as independent variable. In a third step the model is extended using a broader set of cyclical factors. These factors consider the cyclical sensitivity, but not in respect to a base cell:

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$$
\text{(3)} \quad u_{igmt} = \left(\alpha + \gamma \cdot 1_{female} \right) + \sum_{i \neq 5} \left(\beta_i + \delta_i \cdot 1_{female} \right) \cdot 1_i + \sum_{m \neq 6} \mu_m \cdot 1_m +
$$
$$
gdp \cdot \sum_p d_p \cdot 1_p + e_{igmt},
$$

The index $p \in (1,...,18)$ reflects the 18 demographic groups (9 groups for men and women separately). Following the discussion and estimation of unemployment rates for models (1) to (3) in the following section, section 6 will analogously apply these models to labor market outcomes given by flows between employment, unemployment, and inactivity.

5. Unemployment rates

Tables 2 and 3 report the results of applying these models to the observed unemployment rates in West Germany and East Germany, respectively. The structure of all subsequent pairs of tables follows the one given in Tables 2 and 3: The first in the pair gives results for West Germany, the second for East Germany. Panel a) in each table contains the estimation results from applying equation (1) to examine the respective outcome variable (in Tables 2 and 3: unemployment rate, subsequently: labor market flows). Panels b) and c) display the core values and the cyclical sensitivity resulting from applying equations (2) and (3), respectively. All other estimated coefficients do not vary significantly to those of model 1, because the difference between the models lies in different consideration of the economic cycle and the cyclical sensitivity of demographic groups.

The group of high-skilled and young men and women is the smallest group in the sample. Only few students reach a university degree before the age of 25. In particular, most young men, who normally have to attend one year of military service after graduating from school, are not able to finish university so early. Only 725 group observations (out of 1512 = 21 years * 12 months * 2 sexes * 3 labor force states) for West Germany exist. Only 25 of these groups are groups of unemployed persons. Moreover, the size of these groups is rather small, containing between 1 and 13 persons each. The transition rates in this group are mostly 0 or take on a rather high value if one or two persons of this group change their status. All estimation results concerning this group have to be interpreted against this background. When interpreting estimation results, we will mostly focus on the other demographic groups.

While Table 2 displays estimation results for the outcome "unemployment rate", comparable results for the East German sample are displayed in Table 3. In West Germany men and women in the core group display the same unemployment rate, whereas average female unemployment in the core group in East Germany is significantly higher than that of

core male workers in East Germany. The demographic structure in male unemployment rates in West Germany shows that low-skilled workers and young or old medium-skilled workers experience higher unemployment rates than those of the core group. This disadvantage is most pronounced for low-skilled workers. By contrast medium-aged high-skilled workers experience a lower unemployment rate than the core group.

In East Germany the demographic structure is a bit different. While the unemployment rate is higher for old high-skilled workers than for the core group, young and low-skilled workers experience a lower unemployment rate. The demographic structure of women in West Germany is more homogeneous than the male demographic structure. In West Germany, the female deviation from the male demographics is with the exception of medium-skilled old workers in the opposite direction to the deviation from the core of their male counterparts. A different situation can be seen in East Germany. The female deviation is negative for young and/or high-skilled female workers. While the West German female demographic structure is relatively homogenous, the East German female demographic structure is more heterogeneous than the East German male structure. In West Germany, the institutional – and perhaps also traditional – context appears to create incentives for women to stay at home for parenting, often making it more difficult to return to (full-time) employment after several years of taking care of children. In contrast, women in the former GDR used to be able to continue in their work while having little children due to more extensive child care facilities provided by the state. Some of these facilities still exist in East Germany. Hence, women in the Eastern part generally do not have such big breaks in employment during childbearing as West German women. Hence, the relationship of East German female unemployment rates between the different cells is similar to that of men.

Both parts of the country display a seasonal pattern in unemployment, since during winter unemployment is significantly higher than in June, and a significant influence of the different regimes on unemployment can be seen.

The cyclical sensitivity of different groups is captured in the five loading factors displayed at the end of Tables 2a and 3a, respectively. Women experience less pronounced swings in their unemployment rates over the cycle. In East Germany the coefficient is statistically indistinguishable from -1 and thus completely offsets aggregated cyclical swings. West German high-skilled individuals experience less pronounced swings than the West German core group. By contrast, old workers, and in West Germany also young workers, experience somewhat less pronounced swings than the average worker.

The absolute value of the estimated loading factor for low-skilled workers is very high for both parts of Germany. But while the Western loading factor is positive the Eastern one is

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negative. The estimates imply that low-skilled workers in West Germany are considerably more vulnerable to cyclical swings than the average West German worker, while low-skilled workers in East Germany are almost detached from the economic cycle.

Tables 2b and 3b display the results of applying model (2) to unemployment rates in West and East Germany. As expected GDP growth has a negative effect on unemployment rates in West-Germany. In reflation the unemployment rate gets smaller, while an economic slowdown leads to a higher unemployment rate. The estimated coefficient is insignificant. But the negative influence of GDP-growth on unemployment can be seen for low-skilled and old workers, whereas the estimated effect for women is the opposite. The big difference in the size of the estimated coefficients is remarkable, as the absolute value is much bigger in West Germany. This leads to the conclusion that the unemployment rate in West Germany is more strongly dependent on the economic cycle than East German unemployment.

Tables 2c and 3c report the results of applying model (3) to the observed unemployment rates. In West Germany all male workers without high-skilled, old or medium-skilled workers and low-skilled medium-aged female workers are sensitive to the cycle, while the other demographic groups are unaffected by the economic cycle. Only old low-skilled women experience a positive effect of the GDP growth on their unemployment rate. By contrast, the cyclical sensitivity in East Germany is more heterogeneous: While medium-skilled young and old men as well as old low- and high-skilled women are very sensitive to the cycle, medium-skilled young and medium-aged women experience a positive effect with GDP growth. All other groups are detached from the economic cycle.

In both parts of Germany women are mostly detached from the economic cycle and benefit from a cyclical downturn relative to the other groups. In West-Germany young or old low-skilled workers are the most strongly affected groups over the economic cycle within the male demographic group.

6. Labor Market Flows

In this section the models delineated in section 4 are extended to consider as outcome variables the transitions between the three different labor force states: Employment (E), Unemployment (U) and Non-Participation (N).

Clearly, six different flows f^{eu}, f^{un}, f^{ne}, f^{ue}, f^{en} and f^{nu} can be distinguished (Figure 3). As in the preceding section, the analysis is based on cell averages, while we consider the same 18 demographic cells as in the first analysis. The transition rate, for example, from employment to unemployment, f^{eu}, is the number of individuals in a specific cell changing between month t to t+1 from employment to unemployment, divided by the number of

persons in employment in month t. The transition rates are weighted by the sum of the individual weights of the persons who change from one status to another.

Figure 3. Labor force status transitions
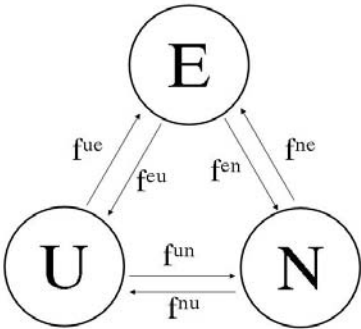
Tables 4 and 5 display the results of applying models 1-3 to the employment-to-unemployment flow f^{eu} (i.e. the job loss rate) for West and East Germany. Young males of each skill level and medium-aged low-skilled males experience a higher rate of job loss than those of the male core group. By contrast, medium-aged or old high-skilled experience a lower rate of job loss. Similar to the estimation results for unemployment rates in section 5, the demographic structure is more homogeneous for women than for men. In April, July and from October to December the employment to unemployment flows are higher than in June.

In West Germany, there is no difference in the job loss rate between men and women in the core group. On the other hand, in East Germany (Table 5) women in the core experience a higher transition rate from employment to unemployment than those in the male core group. An important difference between the two parts of the country can be seen in the cyclical behavior of the job loss rate. While GDP growth in West-Germany has a negative influence on the job loss rates of medium-skilled men and women, the East German job loss rates are dependent on the cycle in both directions. Medium-skilled men and young low-skilled women experience a negative influence of the GDP growth on their unemployment rates as it would expected. In contrast low-skilled medium-aged and old men and women as well as high-skilled medium-aged men and medium-aged medium-skilled women experience a positive influence of GDP growth on their unemployment rates. A reason could be that the job loss rate has become nearly independent of the cycle in the 1990s. Table 4a shows that only the end of the 1980s is significantly different in job loss rates from the reference regime in the mid 1990s. In East-Germany there are no significant differences for the four regimes.

Tables 6 and 7 report the results of applying the models to the re-employment rate, i.e. the transition from unemployment to employment, for West and East Germany, respectively. In both parts of the country women of the core group display lower re-employment rates than their male counterparts. Also, low-skilled men of any age group with exception of young workers in East Germany and old male workers of any skill group experience a lower re-employment rate than that of the core group. By contrast, medium-skilled young workers in both parts and high-skilled medium-aged workers in West-Germany have a higher transition rate than the respective core group.

These findings are consistent with the results for unemployment rates above. With the exception of medium-skilled young workers those groups with a low re-employment rate experience relatively high unemployment. The cell-specific female deviations of old medium-skilled, young medium-skilled or high-skilled women in East-Germany in summation with the core female deviation indicate that these women experience a similar re-employment rate as their counterparts. In West-Germany this effect can be seen for low-skilled young female workers and low-skilled or medium-skilled old female workers. Monthly differences in the re-employment rate can be measured for both parts of Germany. In spring and in autumn the re-employment rate is highest. Cyclical behavior of this transition rate can be seen in the regimes and in the positive influence of GDP growth. In West-Germany low-skilled men and women as well as medium-aged men with a medium or high skill level are dependent of GDP growth in their re-employment rates. Old high-skilled workers experience the opposite effect. In East-Germany the re-employment rates of medium-aged or old men have a significant positive effect of the GDP growth. While medium-aged or old women of a medium skill level experience similar effects, the re-employment rate of young women is affected in the opposite direction.

Tables 8-11 show the results of applying the models to the transition rate from non-participation to unemployment and employment and for West and East Germany, respectively. Every transition rate between two months is defined as the number of people changing to another status in the second month divided by the number of people in their original status in the first month. Young people often experience non-participation states being e.g. at school, at university, in military service, in civilian service, etc, as do old people, who are often in early retirement. On the other hand the number of medium-age male persons in non-participation is relatively small. This results in very high transition rates for male medium-aged people if a few people change from non-participation to (un-)employment. Under these considerations it is not surprising that medium-aged men have high transition rates relative to young and old persons. With the exception of the transition to unemployment

in East Germany, women have lower transition rates in the core than men and the deviation from their male counterparts leads to a very homogeneous demographic structure.

From July to October the transition rates out of non-participation are highest. In these months the school year ends and vocational training starts. The results for the transition rate to unemployment indicate that there is some cyclical behavior for West-German men. It also seems that low-skilled women and old men are detached from the economic cycle. In East-Germany all groups with the exception of young medium-skilled men are completely detached from the cycle regarding their transition rates from non-participation to unemployment. There is no dependence of GDP growth on the transition rate from non-participation to employment, but in West-Germany the transition rates were higher from 1989 to 1994 than in the reference regime. In East-Germany young women and young men with a medium skill level are sensitive to the economic cycle.

In contrast to the transition out of non-participation, the transition rates into this status, f^{un} and f^{en}, are higher for young and old men in relation to the male core group. The corresponding results are presented in tables 12 to 15. The female core group experiences higher transition rates than the male core group. The demographic structure of West German women is very homogenous for both transition rates. Only high-skilled women of medium and old age experience a lower transition rate from unemployment to non-participation than the female core group. In East Germany the demographic structure of women is similar to that of men, with the exception that medium-skilled young women have lower transition rates compared to their male counterparts and high-skilled old women have a relatively low transition rate from employment to non-participation. The transition rate from employment to unemployment is unaffected by GDP growth, while GDP growth has a negative influence on the transition rate from unemployment to non-participation in East-Germany for a couple of demographic cells. Young men and young low-skilled women experience the most pronounced swings.

7. Concluding remarks

Using a formal empirical model, this paper parsimoniously characterizes the long-term structure of unemployment rates and flow intensities, as well as their cyclical behavior across 18 demographic cells for the West-German and the East-German labor markets separately. In particular, the model captures cyclical behavior by a set of loading factors translating unobserved shocks to the labor market into observed fluctuations in cell-specific unemployment rates and transition intensities. The estimates use monthly data on worker flows between three principal labor market states, employment, unemployment and non-

participation, and on detailed information regarding major demographic characteristics, gender, age, and education from the German Socio-Economic Panel GSOEP for the period 1983 to 2003 for West-Germany and 1992 to 2003 for East-Germany.

Unemployment is heterogeneous over the different demographic cells in both parts of Germany. In West-Germany low-skilled workers and medium-skilled young workers experience higher unemployment rates than the core group of medium-aged and medium-skilled workers. Also medium-skilled old male workers experience a higher unemployment rate than the male core group. By contrast, young low-skilled workers and young medium-skilled female workers in East Germany experience a lower unemployment rate than the Eastern core group. This fact seems surprising at first glance, but a closer look suggests a possible explanation. Youth unemployment in East-Germany is higher than in the West, but it is lower than the overall unemployment in the East German labor market. Therefore it appears that those groups with a higher unemployment rate are more sensitive to cyclical changes than the core groups, and those cells that experience a lower unemployment rate than the core are less sensitive to or completely detached from cyclical behavior.

In principle it can be asserted that the demographic structure of West-German women is much more homogeneous than that of men and East-German women. The cyclical influence in terms of GDP growth on unemployment is much smaller and more homogeneous in East-Germany than in the Western part. Only in the first years after re-unification East Germany faced a relatively high growth rate, while unemployment rose rapidly because of the economic transition and adaptation processes. In the following years up to the present a high unemployment rate has been accompanied by low GDP growth. Therefore our results mainly cover East Germany in a low-growth state, and labor force dynamics for a high-growth East German economy cannot really be assessed.

It is evident that the transition rate from unemployment to employment, i.e. the re-employment rate, is a decisive component of the overall unemployment rate. The estimated results mirror most of the important findings for the unemployment rate. Male and East German female groups with high unemployment rates have also high job loss rates (employment to unemployment), while these flows are homogeneous for West German women. The differences in unemployment rates can therefore be explained by the heterogeneity in the transition rates between unemployment and employment.

In summary, individual labor force status behavior is heterogeneous across sociodemographic groups. Moreover, this heterogeneity differs between East and West Germany. While the labor market experience is relatively homogenous across demographic groups for West German women, it is very heterogeneous across demographic groups for East

German women. The fact that the differences in labor force status dynamics for women in West Germany are smaller than for men is equivalent to the fact that high-skilled women are in a considerably worse position than their male counterparts. In East Germany young women of all skill levels and high-skilled women of each age group experience lower unemployment rates than the core female group.

Because of these significant differences in the female unemployment experience labor market policy might want to consider a distinction between Western and Eastern women. In West Germany skilled women appear to need possibilities to refresh their human capital to improve their chances on the labor market after one or more breaks. In East Germany low-skilled and medium-skilled women of medium or old age have the highest unemployment rate. Their re-employment rate and their job loss rate are very stable over the business cycle, but significantly worse than the male ones. For these women, few job opportunities seem to exist.

Low-skilled men display high unemployment rates and their labor market success appears very sensitive to the state of the economic cycle. Their relative disadvantages lie in both higher job loss rates and lower re-employment rates. Hence, there is reason to consider them one key target group for targeted labor market policy. Similarly, old men have also very low re-employment probabilities.

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Table 1: Descriptive Statistics of the two Samples

	West-Germany (1983-2003)		East-Germany (1992-2003)	
	Men	Women	Men	Women
N	714364	734991	212508	220865
Unemployment rate	4.19	5.09	11.32	17.49
young (16-24 yrs)*	17.60	17.67	17.26	17.49
medium (25-49 yrs) *	57.71	56.53	54.99	55.54
old (50-64 yrs.) *	24.69	25.80	27.75	27.18
low-skilled*	17.16	30.01	12.53	14.32
medium-skilled*	67.98	61.88	66.35	59.52
high-skilled*	14.85	8.11	21.12	26.16
employed*	75.91	43.54	69.91	57.45
unemployed*	3.32	2.33	8.92	12.18
non-participated*	20.77	54.12	21.17	30.37

*Shares in %

Table 2: **Unemployment Rates in West Germany- the Cyclical Sensitivity of Problem Groups**

Table 2a) Unemployment Rates in West Germany- Model 1

Core Values

Constant	3.9052	Female Deviation	-0.0294
	(25.40)		(-0.20)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	7.4271	4.4758	29.1957
(16-24)	(28.16)	(17.47)	(22.33)
Medium	8.5767	-	-1.6028
(25-49)	(45.55)		(-6.81)
Old	11.6177	4.0087	-0.4116
(50-64)	(53.58)	(27.69)	(-1.32)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	-0.5307	-1.1304	-2.2233
(16-24)	(-1.98)	(-4.33)	(-0.80)
Medium	-3.7886	-	1.1116
(25-49)	(-15.48)		(3.58)
Old	-3.6346	2.3176	2.9694
(50-64)	(-15.46)	(12.93)	(4.87)

Regimes

Regime 1	Regime 2	Regime 3	Regime 4	Regime 6	Regime 7
(1983-1985)	(1986-1988)	(1989-1991)	(1992-1994)	(1998-2000)	(2001-2003)
-1.3875	-1.1889	-1.9587	-1.2680	-0.1607	-0.1005
(-11.34)	(-6.71)	(-11.71)	(-11.49)	(-2.07)	(-1.28)

Seasonal Factors

January	February	March	April	May	June
0.5615	0.4937	0.2179	-0.0537	-0.0740	-
(3.50)	(3.09)	(1.36)	(-0.33)	(-0.45)	
July	August	September	October	November	December
0.3064	0.2576	0.1140	0.1537	0.2827	0.4447
(1.90)	(1.59)	(0.70)	(0.95)	(1.75)	(2.77)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.7620	1.2738	-0.8943	0.7848	1.1080
(-8.97)	(7.98)	(-4.71)	(5.00)	(7.14)

Diagnostics

Number of Obs.	3647	Adj. R-squared	0.7216

Table 2b) Unemployment Rates in West Germany- Model 2

	Core Values		
Constant		Female Deviation	GDP growth
3.36819		0.7541	-22.2402
(20.96)		(4.91)	(-6.34)

	Cyclical Sensitivity			
Women	Low-skilled	High-skilled	Young	Old
-2.7820	-26.6798	23.6510	-3.9124	-5.4784
(-0.65)	(-5.36)	(2.65)	(-0.58)	(-1.16)

	Diagnostics		
Number of Obs.	3647	Adj. R-squared	0.6340

Table 2c) Unemployment Rates in West Germany- Model 3

	Core Values		
Constant	3.3686	Female Deviation	0.6103
	(21.12)		(3.36)

	Cyclical Sensitivity		
Men	Low-skilled	Medium-skilled	High-skilled
Young	-49.793	-61.485	849.381
(16-24)	(-6.10)	(-5.43)	(14.50)
Medium	-26.719	-21.800	-24.286
(25-49)	(-2.76)	(-5.52)	(-2.06)
Old	-78.570	-17.677	13.264
(50-64)	(-9.92)	(-2.78)	(0.63)
Women	Low-skilled	Medium-skilled	High-skilled
Young	22.240	-2.8309	-756.10
(16-24)	(1.47)	(-0.16)	(-3.18)
Medium	-56.792	4.8986	2.7039
(25-49)	(-3.60)	(0.69)	(0.15)
Old	30.160	-13.86	-44.003
(50-64)	(2.67)	(-1.67)	(-0.40)

	Diagnostics		
Number of Obs.	3647	Adj. R-squared	0.6581

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 3: **Unemployment Rates in East Germany - the Cyclical Sensitivity of Problem Groups**

Table 3a: Unemployment Rates in East Germany - Model 1

Core Values

Constant	8.4962	Female Deviation	12.0345
	(24.49)		(43.69)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	-1.1242	4.5954	37.9889
(16-24)	(-1.27)	(8.03)	(9.18)
Medium	19.2485	-	-4.4607
(25-49)	(21.92)		(-9.76)
Old	33.4285	6.1936	5.7403
(50-64)	(33.48)	(20.13)	(13.26)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	-3.5200	-9.5417	-24.6425
(16-24)	(-2.70)	(-12.85)	(-3.49)
Medium	4.3569	-	-10.3427
(25-49)	(4.42)		(-16.22)
Old	-0.0467	1.2584	-13.1577
(50-64)	(-0.04)	(3.00)	(-17.37)

Regimes

Regime 1 (1991-1993)	Regime 2 (1998-2000)	Regime 4 (2001-2003)
-1.5573	3.2202	4.0300
(-7.54)	(11.63)	(12.35)

Seasonal Factors

January	February	March	April	May	June
2.0377	1.9546	1.2920	0.5139	0.0604	-
(5.12)	(4.92)	(3.24)	(1.27)	(0.15)	
July	August	September	October	November	December
0.3969	0.3639	0.2989	0.1743	0.3378	0.8739
(0.98)	(0.90)	(0.74)	(0.43)	(0.83)	(2.16)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-1.2718	-2.6916	-0.7387	0.6591	0.8555
(-18.23)	(-12.21)	(-6.68)	(3.93)	(7.03)

Diagnostics

Number of Obs.	2222	Adj. R-squared	0.8718

Table 3b: Unemployment Rates in East Germany – Model2

		Core Values		
Constant		Female Deviation		GDP growth
9.5135		9.9452		-0.2711
(21.31)		(25.54)		(-0.75)

		Cyclical Sensitivity		
Women	Low-skilled	High-skilled	Young	Old
1.5601	-4.1537	-0.2475	1.1086	-2.5152
(3.72)	(-5.52)	(-0.40)	(1.24)	(-5.58)

		Diagnostics		
Number of Obs.	2222		Adj. R-squared	0.8264

Table 3c: Unemployment Rates in East Germany - Model 3

	Core Values	
Constant		Female Deviation
9.7523		9.7323
(20.79)		(20.77)

	Cyclical Sensitivity		
Men	Low-skilled	Medium-skilled	High-skilled
Young	1.0729	-3.1524	0.2631
(16-24)	(0.51)	(-2.25)	(0.01)
Medium	-2.2410	-0.6276	0.1859
(25-49)	(-0.94)	(-1.46)	(0.18)
Old	-0.5188	-2.2673	-3.8258
(50-64)	(-0.21)	(-4.01)	(-3.83)
Women	Low-skilled	Medium-skilled	High-skilled
Young	-2.6711	4.8321	-4.3197
(16-24)	(-1.23)	(3.44)	(-0.25)
Medium	-0.5448	1.2612	0.9655
(25-49)	(-0.38)	(3.25)	(0.88)
Old	-9.2009	-0.7035	-0.9323
(50-64)	(-8.67)	(-1.10)	(-0.57)

	Diagnostics		
Number of Obs.	2222	Adj. R-squared	0.8288

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 4: **Transition Rates from Employment to Unemployment, West-Germany**

Table 4a) Employment to Unemployment Rates - Model 1

Core Values

Constant	0.2815	Female Deviation	-0.0075
	(7.25)		(-0.24)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	0.4640	0.7902	1.6501
(16-24)	(7.69)	(13.22)	(4.21)
Medium	0.2639	-	-0.1230
(25-49)	(4.53)		(-2.88)
Old	0.0793	-0.0210	-0.1678
(50-64)	(0.86)	(-0.54)	(-2.73)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	0.0017	-0.2468	-1.7734
(16-24)	(0.02)	(-3.89)	(-3.80)
Medium	-0.2292	-	0.2055
(25-49)	(-3.28)		(3.30)
Old	-0.1503	0.0030	-0.0351
(50-64)	(-1.49)	(0.06)	(-0.32)

Regimes

Regime 1	Regime 2	Regime 3	Regime 4	Regime 6	Regime 7
(1983-1985)	(1986-1988)	(1989-1991)	(1992-1994)	(1998-2000)	(2001-2003)
-0.0068	-0.0832	-0.1731	-0.0257	-0.0549	-0.0476
(-0.26)	(-2.73)	(-4.02)	(-0.96)	(-1.67)	(-1.34)

Seasonal Factors

January	February	March	April	May	June
0.5656	0.0218	0.0193	0.1200	-0.0838	-
(13.11)	(0.52)	(0.46)	(2.85)	(-1.99)	
July	August	September	October	November	December
0.2130	0.0522	0.0270	0.1535	0.1158	0.1439
(5.07)	(1.24)	(0.64)	(3.66)	(2.76)	(3.42)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
0.1417	-1.5176	0.0110	1.3846	-0.0707
(-0.45)	(-3.19)	(-0.03)	(2.27)	(-0.20)

Diagnostics

Number of Obs.	4342	Adj. R-squared	0.1830

Table 4b) Transition Rates from Employment to Unemployment, West-Germany - Model 2

Core Values

Constant	Female Deviation	GDP growth
0.2814	0.0039	-2.7503
(7.73)	(0.12)	(-3.66)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-1.0153	2.1624	0.3044	-2.3290	0.2145
(-1.06)	(1.68)	(0.23)	(-1.61)	(0.19)

Diagnostics

Number of Obs.	4342	Adj. R-squared	0.1802

Table 4c) Transition Rates from Employment to Unemployment, West-Germany -Model 3

Core Values

Constant	0.2879	Female Deviation	-0.0248
	(7.63)		(-0.63)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	-1.6552	-5.8150	12.3677
(16-24)	(-0.66)	(-2.36)	(-0.56)
Medium	-1.0464	-3.0622	-2.2663
(25-49)	(-0.45)	(-3.45)	(-1.36)
Old	7.2327	-2.5482	-3.2824
(50-64)	(-1.76)	(-1.78)	(-1.19)

Women	Low-skilled	Medium-skilled	High-skilled
Young	-3.5607	-7.0474	-3.9501
(16-24)	(-1.34)	(-2.98)	(-0.21)
Medium	-4.1408	-2.6883	-3.8003
(25-49)	(-1.69)	(-2.44)	(-1.41)
Old	-2.9764	-4.3650	-1.2769
(50-64)	(-1.03)	(-2.14)	(-0.26)

Diagnostics

Number of Obs.	4342	Adj. R-squared	0.1794

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 5: **Transition Rates from Employment to Unemployment, East-Germany**

Table 5a: Transition Rates from employment to Unemployment, East Germany - Model 1

Core Values

Constant	0.8508	Female Deviation	0.5167
	(8.77)		(5.34)

Demographics: Deviation from the Core

Men	Low-skilled	Medium-skilled	High-skilled
Young	-0.2310	1.1801	-1.4013
(16-24)	(-1.34)	(7.32)	(-0.59)
Medium	1.3542	-	-0.6309
(25-49)	(4.37)		(-6.51)
Old	2.7759	0.2114	-0.2000
(50-64)	(5.47)	(1.98)	(-1.62)

Women	Low-skilled	Medium-skilled	High-skilled
Young	-0.5628	-1.0654	1.2523
(16-24)	(-2.08)	(-5.21)	(0.52)
Medium	0.0137	-	-0.4459
(25-49)	(-0.03)		(-3.29)
Old	-2.0246	-0.3798	-0.7463
(50-64)	(-3.39)	(-2.31)	(-3.87)

Regimes

Regime 1		Regime 2		Regime 4
(1992-1994)		(1998-2000)		(2001-2003)
-0.0295		0.0324		0.0505
(-0.67)		(0.66)		(0.67)

Seasonal Factors

January	February	March	April	May	June
1.8178	0.2820	0.1484	0.1592	-0.0745	-
(14.58)	(2.28)	(1.20)	(1.29)	(-0.60)	
July	August	September	October	November	December
0.3454	0.1044	0.2563	0.2844	0.1780	0.4522
(2.80)	(0.84)	(2.08)	(2.31)	(1.44)	(3.66)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-9.6814	-14.942	0.6403	12.347	2.0482
(-0.72)	(-0.68)	(0.26)	(0.64)	(0.48)

Diagnostics

Number of Obs.	2489	Adj. R-squared	0.2304

Table 5b: Transition Rates from employment to Unemployment, East Germany - Model 2

Core Values

Constant		Female Deviation		GDP growth	
0.9298		0.1666		-2.1675	
(8.71)		(1.73)		(-1.72)	

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
9.3489	14.512	-0.2369	-11.052	-4.2681
(6.05)	(3.93)	(-0.14)	(-4.00)	(-2.27)

Diagnostics

Number of Obs.	2489	Adj. R-squared	0.2324

Table 5c: Transition Rates from employment to Unemployment, East Germany - Model 3

Core Values

Constant	1.05051	Female Deviation	-0.06513
	(9.65)		(-0.57)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	3.3935	-11.8516	5.1603
(16-24)	(0.70)	(-2.87)	(0.06)
Medium	33.0913	-5.5010	5.2506
(25-49)	(2.32)	(-3.79)	(2.14)
Old	87.8838	-8.8662	-5.9648
(50-64)	(5.33)	(-3.21)	(-1.78)

Women	Low-skilled	Medium-skilled	High-skilled
Young	-11.0780	4.7674	-15.1486
(16-24)	(-1.97)	(1.24)	(-1.19)
Medium	34.7636	10.3537	3.1111
(25-49)	(3.51)	(5.60)	(1.47)
Old	24.4646	6.2420	-4.2167
(50-64)	(2.44)	(1.90)	(-1.04)

Diagnostics

Number of Obs.	2489	Adj. R-squared	0.2515

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 6a: Transition Rates from Unemployment to Employment Rates, West-Germany - Model 1

Core Values

Constant	9.0876	Female Deviation	-2.5822
	(14.40)		(-4.55)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	-4.9737	3.5906	10.278
(16-24)	(-4.15)	(3.19)	(1.69)
Medium	-4.8427	-	2.4151
(25-49)	(-6.35)		(2.49)
Old	-8.4569	-7.7438	-3.0622
(50-64)	(-10.34)	(-13.24)	(-2.36)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	3.6035	0.0014	19.502
(16-24)	(3.07)	(0.00)	(1.78)
Medium	1.6534	-	1.2108
(25-49)	(1.57)		(0.91)
Old	1.8578	1.6913	-1.2387
(50-64)	(1.84)	(2.20)	(-0.47)

Regimes

Regime 1	Regime 2	Regime 3	Regime 4	Regime 6	Regime 7
(1983-1985)	(1986-1988)	(1989-1991)	(1992-1994)	(1998-2000)	(2001-2003)
0.2861	0.9316	1.9686	0.5891	0.5452	-0.1606
(1.18)	(2.16)	(2.43)	(1.76)	(1.58)	(-0.53)

Seasonal Factors

January	February	March	April	May	June
3.7510	-0.4344	3.3262	5.9591	2.6593	-
(5.24)	(-0.63)	(4.82)	(8.62)	(3.81)	
July	August	September	October	November	December
0.1356	0.5089	2.1531	1.4756	-0.0463	-0.8985
(0.19)	(0.73)	(3.08)	(2.09)	(-0.07)	(-1.29)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.1628	0.8076	2.1504	3.4864	-1.1320
(-0.37)	(1.16)	(1.38)	(1.95)	(-2.17)

Diagnostics

Number of Obs.	3632	Adj. R-squared	0.2625

Table 6b: Transition Rates from Unemployment to Employment, West-Germany - Model 2

Core Values

Constant	Female Deviation	GDP growth
9.0580	-2.4152	36.918
(14.79)	(-4.17)	(2.77)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-17.436	13.084	79.701	89.258	-24.57
(-1.07)	(0.70)	(2.38)	(3.50)	(-1.34)

Diagnostics

Number of Obs.	3632	Adj. R-squared	0.2588

Table 6c: Transition Rates from Unemployment to Employment, West-Germany - Model 3

Core Values

Constant	9.1111	Female Deviation	-2.0213
	(14.62)		(2.87)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	108.97	136.567	1281.5
(16-24)	(3.44)	(3.06)	(5.66)
Medium	49.966	35.311	221.10
(25-49)	(1.34)	(2.28)	(4.89)
Old	39.374	7.9106	-217.60
(50-64)	(1.28)	(0.32)	(-2.65)

Women	Low-skilled	Medium-skilled	High-skilled
Young	97.761	151.82	-920.83
(16-24)	(1.96)	(2.89)	(-1.08)
Medium	69.680	-3.1577	46.918
(25-49)	(1.45)	(-0.14)	(0.87)
Old	18.204	11.755	-936.09
(50-64)	(0.58)	(0.56)	(-2.41)

Diagnostics

Number of Obs.	3632	Adj. R-squared	0.2677

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 7: **Transition Rates from Unemployment to Employment, East Germany**

Table 7a: Transition Rates from Unemployment to Employment, East Germany – Model 1

Core Values

Constant	10.690	Female Deviation	-4.9107
	(19.51)		(-12.96)

Demographics: Deviation from the Core

Men	Low-skilled	Medium-skilled	High-skilled
Young	-1.5110	0.7582	-11.237
(16-24)	(-1.14)	(0.85)	(-1.87)
Medium	-2.7143	-	0.5652
(25-49)	(-2.18)		(0.83)
Old	-4.9106	-4.9532	-6.1238
(50-64)	(-3.36)	(-10.96)	(-9.53)

Women	Low-skilled	Medium-skilled	High-skilled
Young	1.4312	3.5860	22.225
(16-24)	(0.72)	(3.19)	(2.12)
Medium	0.1670	-	3.6074
(25-49)	(-0.11)		(3.77)
Old	0.7127	1.9504	4.7187
(50-64)	(0.44)	(3.11)	(4.16)

Regimes

Regime 1	Regime 2	Regime 4
(1992-1994)	(1998-2000)	(2001-2003)
1.1495	-1.5746	-3.3909
(2.61)	(-3.21)	(-5.62)

Seasonal Factors

January	February	March	April	May	June
0.1033	-1.3062	1.8748	4.2863	1.7079	-
(0.17)	(-2.19)	(3.15)	(7.18)	(2.82)	
July	August	September	October	November	December
-0.7849	-0.1909	0.5295	1.3734	-0.7858	-1.4000
(-1.29)	(-0.32)	(0.87)	(2.26)	(-1.29)	(-2.30)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.4936	-0.1099	0.1751	-1.1113	-0.2145
(-3.80)	(-0.41)	(0.70)	(-3.60)	(-1.29)

Diagnostics

Number of Obs.	2219	Adj. R-squared	0.2660

Table 7b: Transition Rates from Unemployment to Employment, East Germany – Model 2

	Core Values		
Constant	Female Deviation	GDP growth	
9.0304	-4.0572	36.902	
(16.86)	(-9.38)	(5.36)	

		Cyclical Sensitivity		
Women	Low-skilled	High-skilled	Young	Old
-18.601	-2.6349	12.465	-53.222	1.671
(-2.39)	(-0.18)	(1.11)	(-3.70)	(0.19)

	Diagnostics		
Number of Obs.	2219	Adj. R-squared	0.2616

Table 7c: Transition Rates from Unemployment to Employment, East Germany – Model 3

	Core Values		
Constant	9.2510	Female Deviation	-4.4436
	(16.77)		(-8.99)

	Cyclical Sensitivity		
Men	Low-skilled	Medium-skilled	High-skilled
Young	-2.1580	21.223	593.57
(16-24)	(-0.06)	(0.98)	(0.07)
Medium	141.55	29.114	63.823
(25-49)	(1.78)	(3.55)	(3.74)
Old	83.626	35.122	34.120
(50-64)	(2.06)	(3.07)	(1.76)
Women	Low-skilled	Medium-skilled	High-skilled
Young	-100.83	-62.490	401.98
(16-24)	(-2.41)	(-3.01)	(1.70)
Medium	0.6698	22.706	25.819
(25-49)	(0.03)	(3.21)	(1.40)
Old	18.700	25.083	36.436
(50-64)	(0.85)	(2.14)	(0.93)

	Diagnostics		
Number of Obs.	2219	Adj. R-squared	0.2633

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 8: **Transition Rates from Non-Participation to Unemployment, West Germany**

Table 8a: Transition Rates from Non-Participation to Unemployment, West-Germany - Model 1

Core Values

Constant	0.6462	Female Deviation	-0.5429
	(9.33)		(-9.46)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	-0.4097	-0.1134	0.6664
(16-24)	(-6.32)	(-1.71)	(2.55)
Medium	0.1749	-	0.0755
(25-49)	(1.67)		(0.84)
Old	-0.3706	-0.5465	-0.6163
(50-64)	(-3.84)	(-9.42)	(-5.01)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	0.4440	0.4227	-0.4495
(16-24)	(6.52)	(5.75)	(-1.29)
Medium	-0.1898	-	0.0956
(25-49)	(-1.74)		(1.00)
Old	0.1899	0.4297	0.4393
(50-64)	(1.94)	(7.22)	(3.03)

Regimes

Regime 1	Regime 2	Regime 3	Regime 4	Regime 6	Regime 7
(1983-1985)	(1986-1988)	(1989-1991)	(1992-1994)	(1998-2000)	(2001-2003)
-0.1758	-0.1887	-0.3243	-0.2042	-0.0550	0.1708
(-2.39)	(-2.65)	(-4.47)	(-2.89)	(-0.68)	(1.89)

Seasonal Factors

January	February	March	April	May	June
0.7624	-0.0001	0.0359	0.0589	0.0391	-
(17.79)	(-0.00)	(0.86)	(1.41)	(0.94)	
July	August	September	October	November	December
0.1201	0.0875	0.0250	0.0728	-0.0305	-0.0422
(2.87)	(2.09)	(0.60)	(1.73)	(-0.73)	(-1.01)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.6831	-0.1352	-0.2415	-0.1192	-0.3428
(-6.92)	(-0.90)	(-1.03)	(-0.64)	(-2.64)

Diagnostics

Number of Obs.	4385	Adj. R-squared	0.1777

Table 8b: Transition Rates from Non-Participation to Unemployment, West-Germany - Model 2

Core Values

Constant	Female Deviation	GDP growth
0.5713	-0.5001	-3.4624
(10.06)	(-9.78)	(-2.89)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
2.8159	0.1420	-2.1296	-1.0416	0.3355
(2.52)	(0.13)	(-1.20)	(-0.73)	(0.31)

Diagnostics

Number of Obs.	4385	Adj. R-squared	0.1741

Table 8c: Transition Rates from Non-Participation to Unemployment, West-Germany - Model 3

Core Values

Constant	0.58846	Female Deviation	-0.5217
	(8.52)		(-7.65)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	-2.4620	-5.1281	-71.202
(16-24)	(-1.11)	(-2.27)	(-5.01)
Medium	-3.3452	-4.2156	-9.9446
(25-49)	(-0.70)	(-2.00)	(-2.77)
Old	-8.0922	-1.2126	-2.7219
(50-64)	(-1.69)	(-0.74)	(-0.45)

Women	Low-skilled	Medium-skilled	High-skilled
Young	-0.8788	-2.3869	-0.5180
(16-24)	(-0.44)	(-1.03)	(-0.04)
Medium	-1.2206	-0.4336	-0.4960
(25-49)	(-0.65)	(-0.46)	(-0.22)
Old	-0.3635	-1.1719	-0.4456
(50-64)	(-0.29)	(-0.93)	(-0.10)

Diagnostics

Number of Obs.	4385	Adj. R-squared	0.1771

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 9a: Transition Rates from Non-Participation to Unemployment, East Germany – Model 1

Core Values

Constant	1.5074	Female Deviation	-0.1835
	(7.03)		(-0.90)

Demographics: Deviation from the Core

Men	Low-skilled	Medium-skilled	High-skilled
Young	-1.5711	0.0063	0.7085
(16-24)	(-7.15)	(-0.03)	(0.47)
Medium	-0.6564	-	-0.3979
(25-49)	(-1.19)		(-1.50)
Old	-1.8103	-1.6151	-1.6063
(50-64)	(-4.16)	(-8.36)	(-7.33)

Women	Low-skilled	Medium-skilled	High-skilled
Young	0.2171	-0.4583	-1.4402
(16-24)	(0.85)	(-1.63)	(-0.92)
Medium	0.2041	-	0.0316
(25-49)	(0.31)		(0.10)
Old	0.4652	0.2904	0.2423
(50-64)	(1.02)	(1.30)	(0.90)

Regimes

Regime 1	Regime 2	Regime 4
(1992-1994)	(1998-2000)	(2001-2003)
-0.1130	0.3987	0.3620
(-0.94)	(2.14)	(1.96)

Seasonal Factors

January	February	March	April	May	June
2.1879	0.0796	0.0057	0.1079	-0.0612	-
(14.13)	(0.52)	(0.04)	(0.71)	(-0.41)	
July	August	September	October	November	December
0.4485	0.3291	0.1715	0.1589	-0.0639	-0.0067
(2.98)	(2.18)	(1.13)	(1.05)	(-0.42)	(-0.04)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.4438	-0.1031	-0.1464	0.0292	-0.0208
(-1.71)	(-0.26)	(0.38)	(0.06)	(0.05)

Diagnostics

Number of Obs.	2480	Adj. R-squared	0.2220

Table 9b: Transition Rates from Non-Participation to Unemployment, East Germany – Model 2

Core Values		
Constant	Female Deviation	GDP growth
1.7726	-0.3396	-3.9492
(8.63)	(-1.69)	(-1.44)

Cyclical Sensitivity				
Women	Low-skilled	High-skilled	Young	Old
2.6345	1.2034	-1.1753	-1.7715	-0.7212
(1.31)	(0.45)	(-0.45)	(-0.53)	(-0.28)

Diagnostics			
Number of Obs.	2480	Adj. R-squared	0.2193

Table 9c: Transition Rates from Non-Participation to Unemployment, East Germany – Model 3

			Core Values
Constant	1.9019	Female Deviation	-0.5261
	(8.24)		(-2.12)

			Cyclical Sensitivity
Men	Low-skilled	Medium-skilled	High-skilled
Young	-0.6713	-19.793	39.677
(16-24)	(-0.16)	(-3.86)	(0.20)
Medium	-21.725	-9.0297	0.7222
(25-49)	(-1.08)	(-1.81)	(0.12)
Old	0.9945	-2.6260	-5.5244
(50-64)	(0.07)	(-1.08)	(-1.52)
Women	Low-skilled	Medium-skilled	High-skilled
Young	-1.3222	-1.5561	25.947
(16-24)	(-0.37)	(-0.38)	(1.94)
Medium	8.3268	0.7451	-7.0292
(25-49)	(0.68)	(0.23)	(-1.30)
Old	-4.3295	-1.5704	-6.5419
(50-64)	(-1.29)	(-0.77)	(-1.60)

			Diagnostics
Number of Obs.	2480	Adj. R-squared	0.2221

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 10: **Transition Rates from Non-Participation to Employment, West Germany**
Table 10a: Transition Rates from Non-Participation to Employment, West Germany - Model 1

Core Values

Constant	2.7718	Female Deviation	-2.2208
	(11.53)		(-10.93)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	-1.2914	-0.4652	1.0227
(16-24)	(-5.03)	(-1.77)	(1.04)
Medium	-1.2244	-	2.6069
(25-49)	(-3.10)		(7.19)
Old	-3.3139	-3.3409	-2.6333
(50-64)	(-9.16)	(-15.13)	(-5.37)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	1.9314	1.8791	3.8550
(16-24)	(7.66)	(6.90)	(2.97)
Medium	1.1567	-	-1.0720
(25-49)	(2.86)		(-3.03)
Old	2.2793	2.4342	2.7838
(50-64)	(6.33)	(11.03)	(5.19)

Regimes

Regime 1	Regime 2	Regime 3	Regime 4	Regime 6	Regime 7
(1983-1985)	(1986-1988)	(1989-1991)	(1992-1994)	(1998-2000)	(2001-2003)
0.2687	0.2320	0.6163	0.4402	0.1053	0.0508
(1.34)	(1.20)	(2.36)	(1.93)	(0.47)	(0.22)

Seasonal Factors

January	February	March	April	May	June
6.5664	-0.0554	0.0626	0.2342	-0.0708	-
(41.29)	(-0.35)	(0.40)	(1.51)	(-0.46)	
July	August	September	October	November	December
0.6376	1.6798	1.2371	0.4361	-0.1421	-0.2309
(4.11)	(10.82)	(7.94)	(2.80)	(-0.91)	(-1.49)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.5064	-0.0629	-0.9295	0.3200	-0.3951
(-2.01)	(-0.18)	(-1.51)	(0.59)	(-1.29)

Diagnostics

Number of Obs.	4385	Adj. R-squared	0.5026

Table 10b: Transition Rates from Non-Participation to Employment, West Germany - Model 2

Core Values

Constant	Female Deviation	GDP growth
2.9506	-2.3293	5.2970
(14.03)	(-12.31)	(1.20)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-2.1244	1.2226	-9.0646	4.7493	-4.7849
(-0.51)	(0.30)	(-1.38)	(0.90)	(-1.19)

Diagnostics

Number of Obs.	4385	Adj. R-squared	0.5023

Table 10c: Transition Rates from Non-Participation to Employment, West Germany - Model 3

Core Values

Constant	2.7432	Female Deviation	-2.0632
	(10.71)		(8.15)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	10.157	11.711	-70.029
(16-24)	(1.23)	(1.40)	(-1.33)
Medium	11.811	14.433	-34.999
(25-49)	(0.67)	(1.85)	(-2.63)
Old	3.1325	1.7960	-14.361
(50-64)	(0.18)	(0.30)	(-0.64)

Women	Low-skilled	Medium-skilled	High-skilled
Young	7.6111	11.098	4.3701
(16-24)	(1.02)	(1.29)	(0.10)
Medium	6.9201	0.3888	6.7767
(25-49)	(0.99)	(0.11)	(0.83)
Old	-1.0135	-2.0655	-4.6392
(50-64)	(-0.22)	(-0.44)	(-0.28)

Diagnostics

Number of Obs.	4385	Adj. R-squared	0.6581

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 11: **Transition Rates from Non-Participation to Employment, East Germany**

Table 11a: Transition Rates from Non-Participation to Employment, East Germany - Model 1

Core Values

Constant	3.2547	Female Deviation	-1.9327
	(9.76)		(-5.79)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	-1.0425	-1.0877	1.6587
(16-24)	(-2.79)	(-2.62)	(0.65)
Medium	-1.0505	-	1.7814
(25-49)	(-1.14)		(3.99)
Old	-3.9310	-3.7381	-3.4942
(50-64)	(-5.41)	(-11.84)	(-9.85)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	1.1109	1.9073	0.6155
(16-24)	(2.56)	(4.00)	(0.23)
Medium	-0.1862	-	-0.5587
(25-49)	(-0.17)		(-1.00)
Old	2.0449	1.9726	1.8545
(50-64)	(2.65)	(5.22)	(4.06)

Regimes

Regime 1	Regime 2	Regime 4
(1992-1994)	(1998-2000)	(2001-2003)
0.1094	-0.0611	-0.1513
(0.59)	(-0.53)	(-0.59)

Seasonal Factors

January	February	March	April	May	June
2.2416	0.1910	0.3204	0.3151	-0.0123	-
(8.53)	(0.73)	(1.25)	(1.23)	(-0.05)	
July	August	September	October	November	December
0.4663	1.7323	1.7995	0.7833	0.2410	0.0179
(1.83)	(6.77)	(7.01)	(3.05)	(0.94)	(0.07)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-1.1780	-0.8815	0.8120	4.7987	-0.2952
(-0.70)	(-0.42)	(0.34)	(0.52)	(-0.23)

Diagnostics

Number of Obs.	2480	Adj. R-squared	0.2641

Table 11b: Transition Rates from Non-Participation to Employment, East Germany - Model 2

		Core Values		
Constant		Female Deviation		GDP growth
3.1869		-1.8891		1.4377
(9.15)		(-5.55)		(0.31)

		Cyclical Sensitivity		
Women	Low-skilled	High-skilled	Young	Old
-0.4588	-2.2893	2.2586	13.634	-1.4200
(-0.13)	(-0.51)	(0.51)	(2.39)	(-0.33)

		Diagnostics		
Number of Obs.	2480		Adj. R-squared	0.2644

Table 11c: Transition Rates from Non-Participation to Employment, East Germany - Model 3

		Core Values		
Constant	3.1268		Female Deviation	-1.8164
	(7.99)			(-4.31)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	8.9189	17.012	226.14
(16-24)	(1.29)	(1.96)	(0.67)
Medium	-42.378	3.7870	3.7604
(25-49)	(-1.24)	(0.45)	(0.37)
Old	0.0390	-0.0786	4.4007
(50-64)	(0.00)	(-0.02)	(0.72)

Women	Low-skilled	Medium-skilled	High-skilled
Young	16.654	18.603	-57.933
(16-24)	(2.74)	(2.66)	(-2.56)
Medium	-2.7290	0.5134	4.9304
(25-49)	(-0.13)	(0.09)	(0.54)
Old	-2.8053	-1.8782	5.0546
(50-64)	(-0.49)	(-0.54)	(0.73)

		Diagnostics		
Number of Obs.	2480		Adj. R-squared	0.2652

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 12: **Transition Rates from Unemployment to Non-Participation, West Germany**
Table 12a: Transition Rates from Unemployment to Non-Participation, West Germany, Model 1

Core Values

Constant	-0.5486	Female Deviation	2.9250
	(-11.53)		(10.93)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	0.6822	4.5951	-5.0180
(16-24)	(5.03)	(1.77)	(-1.04)
Medium	-0.2273	-	-0.1874
(25-49)	(-3.10)		(-7.19)
Old	1.7351	1.8242	-0.1333
(50-64)	(9.16)	(15.13)	(-5.37)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	-1.4312	-4.2907	3.3051
(16-24)	(-7.66)	(-6.90)	(2.97)
Medium	-0.1829	-	-0.9112
(25-49)	(-2.86)		(-3.03)
Old	-2.5888	-2.8655	-1.7361
(50-64)	(-6.33)	(-11.03)	(-5.19)

Regimes

Regime 1	Regime 2	Regime 3	Regime 4	Regime 6	Regime 7
(1983-1985)	(1986-1988)	(1989-1991)	(1992-1994)	(1998-2000)	(2001-2003)
-0.0827	-0.2504	0.6672	0.1468	-0.0688	0.5088
(-1.34)	(-1.20)	(2.36)	(1.93)	(-0.47)	(0.22)

Seasonal Factors

January	February	March	April	May	June
15.3644	-0.0184	1.5312	1.8451	0.8320	-
(41.29)	(-0.35)	(0.40)	(1.51)	(0.46)	
July	August	September	October	November	December
0.7008	0.7405	0.8625	1.7556	0.2426	-0.1004
(4.11)	(10.82)	(7.94)	(2.80)	(0.91)	(1.49)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.5911	0.5998	2.0887	1.1932	-0.6936
(-2.01)	(0.18)	(1.51)	(0.59)	(-1.29)

Diagnostics

Number of Obs.	3632	Adj. R-squared	0.3113

Table 12b: Transition Rates from Unemployment to Non-Participation, West Germany - Model 2

		Core Values		
Constant		Female Deviation		GDP growth
-0.2904		2.6118		-8.1449
(-0.66)		(6.29)		(-0.85)

		Cyclical Sensitivity		
Women	Low-skilled	High-skilled	Young	Old
14.007	12.003	12.003	-0.6616	-5.2612
(1.20)	(0.89)	(0.89)	(-0.04)	(-0.41)

		Diagnostics		
Number of Obs.	3632		Adj. R-squared	0.3105

Table 12c: Transition Rates from Unemployment to Non-Participation, West Germany - Model 3

		Core Values		
Constant	-0.3639		Female Deviation	2.9026
	(0.81)			(5.71)

		Cyclical Sensitivity	
Men	Low-skilled	Medium-skilled	High-skilled
Young	16.897	-9.2050	-133.66
(16-24)	(0.74)	(-0.29)	(-0.82)
Medium	18.960	-3.7626	-5.2232
(25-49)	(0.71)	(-0.34)	(-0.16)
Old	11.0445	-36.906	18.969
(50-64)	(0.50)	(-2.07)	(0.32)
Women	Low-skilled	Medium-skilled	High-skilled
Young	-25.764	23.444	125.26
(16-24)	(-0.71)	(0.62)	(0.20)
Medium	-6.3119	-5.9158	90.369
(25-49)	(-0.18)	(-0.36)	(2.32)
Old	2.8560	16.509	-51.772
(50-64)	(0.13)	(1.09)	(-0.18)

		Diagnostics		
Number of Obs.	3632		Adj. R-squared	0.3102

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 13: **Transition Rates from Unemployment to Non-Participation, East Germany**

Table 13a: Transition Rates from Unemployment to Non-Participation, East Germany - Model 1

Transition Rates - the Cyclical Sensitivity of Problem Groups

Core Values

Constant	0.0194	Female Deviation	0.8237
	(0.07)		(3.91)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	3.5774	5.8996	5.9666
(16-24)	(4.57)	(10.91)	(1.67)
Medium	-0.0423	-	0.6379
(25-49)	(-0.06)		(1.60)
Old	1.4402	0.9306	1.0914
(50-64)	(1.70)	(3.57)	(2.90)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	-0.5185	-4.9193	15.9416
(16-24)	(-0.45)	(-7.45)	(2.58)
Medium	-0.3306	-	-0.3245
(25-49)	(-0.38)		(-0.58)
Old	-0.4754	-0.3022	-0.5537
(50-64)	(-0.51)	(-0.82)	(-0.83)

Regimes

Regime 1 (1992-1994)	Regime 2 (1998-2000)	Regime 4 (2001-2003)
-0.3901	0.5030	0.5415
(-2.25)	(2.40)	(2.38)

Seasonal Factors

January	February	March	April	May	June
4.2110	1.0617	1.2898	0.7368	-0.0365	-
(11.54)	(3.04)	(3.69)	(2.10)	(-0.10)	
July	August	September	October	November	December
0.0741	0.2966	0.8211	0.9109	0.2350	-0.2966
(0.21)	(0.83)	(2.31)	(2.55)	(0.66)	(-0.83)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-0.3821	0.3828	0.7143	2.7913	0.5935
(-1.16)	(-0.53)	(1.04)	(2.00)	(1.06)

Diagnostics

Number of Obs.	2219	Adj. R-squared	0.1820

Table 13b: Transition Rates from Unemployment to Non-Participation, East Germany - Model 2

Core Values

Constant	Female Deviation	GDP growth
0.4589	0.5437	-11.889
(1.46)	(2.14)	(-2.95)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
7.8463	-15.3774	-3.9444	-27.9213	-1.4255
(1.72)	(-1.83)	(-0.60)	(-3.31)	(-0.28)

Diagnostics

Number of Obs.	2219	Adj. R-squared	0.1777

Table 13c: Transition Rates from Unemployment to Non-Participation, East Germany - Model 3

Core Values

Constant	0.4386	Female Deviation	0.6060
	(1.36)		(2.09)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	-58.131	-54.786	-2322.2
(16-24)	(-2.61)	(-4.34)	(-0.47)
Medium	-3.7686	-10.849	-25.423
(25-49)	(-0.08)	(-2.26)	(-2.54)
Old	-6.8528	-12.541	-6.5578
(50-64)	(-0.29)	(-1.87)	(-0.58)

Women	Low-skilled	Medium-skilled	High-skilled
Young	-53.534	-11.849	-533.25
(16-24)	(-2.18)	(-0.98)	(-3.85)
Medium	2.1665	-4.9335	-9.1346
(25-49)	(0.15)	(-1.19)	(-0.85)
Old	-43.022	-7.9444	15.972
(50-64)	(-3.36)	(-1.16)	(0.70)

Diagnostics

Number of Obs.	2219	Adj. R-squared	0.1833

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 14: **Transition Rates from Employment to Non-Participation, West Germany**

Table 14a: Transition Rates from Employment to Non-Participation, West Germany - Model 1

Core Values

Constant	-0.1933	Female Deviation	1.2412
	(-2.12)		(11.82)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	1.0751	1.8122	1.6265
(16-24)	(5.47)	(9.92)	(1.52)
Medium	0.0969	-	-0.0576
(25-49)	(0.74)		(-0.58)
Old	0.5691	0.4793	0.1723
(50-64)	(2.52)	(5.26)	(1.16)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	-1.1436	-1.8200	-1.6105
(16-24)	(-5.53)	(-10.41)	(1.27)
Medium	0.0713	-	0.0061
(25-49)	(0.37)		(0.04)
Old	-0.2940	-0.4985	0.3742
(50-64)	(-1.07)	(-3.34)	(1.27)

Regimes

Regime 1	Regime 2	Regime 3	Regime 4	Regime 6	Regime 7
(1983-1985)	(1986-1988)	(1989-1991)	(1992-1994)	(1998-2000)	(2001-2003)
0.0150	0.0145	-0.0018	0.0116	-0.0096	-0.0195
(0.27)	(0.27)	(-0.17)	(0.27)	(-0.27)	(-0.27)

Seasonal Factors

January	February	March	April	May	June
4.9008	-0.0620	0.1207	0.3955	0.0884	-
(41.62)	(-0.54)	(1.05)	(3.44)	(0.77)	
July	August	September	October	November	December
0.2832	0.3039	0.4662	0.5560	0.0803	0.0206
(2.47)	(2.65)	(4.07)	(4.86)	(0.70)	(0.18)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
13.839	-0.5753	4.4078	-21.967	-1.5795
(0.26)	(-0.09)	(0.23)	(-0.28)	(-0.25)

Diagnostics

Number of Obs.	4342	Adj. R-squared	0.4510

Table 14b: Transition Rates from Employment to Non-Participation, West Germany - Model 2

Core Values

Constant	Female Deviation	GDP growth
-0.2271	1.2777	1.8433
(-2.29)	(14.07)	(0.90)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
0.6588	-3.2632	0.4752	2.9666	-1.4215
(0.25)	(-0.93)	(0.13)	(0.75)	(-0.46)

Diagnostics

Number of Obs.	4342	Adj. R-squared	0.4492

Table 14c : Transition Rates from Employment to Non-Participation, West Germany - Model 3

Core Values

Constant	-0.2063	Female Deviation	1.2570
	(2.00)		(11.61)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	6.0232	11.072	54.240
(16-24)	(0.87)	(1.64)	(0.90)
Medium	-0.4226	0.8488	-1.0261
(25-49)	(-0.07)	(0.35)	(-0.23)
Old	-2.5858	1.5275	0.0764
(50-64)	(-0.23)	(0.39)	(0.01)

Women	Low-skilled	Medium-skilled	High-skilled
Young	-4.9763	1.0205	1.5153
(16-24)	(-0.69)	(0.16)	(0.03)
Medium	5.7959	2.4981	11.538
(25-49)	(0.87)	(0.83)	(1.57)
Old	-10.390	3.1282	2.4761
(50-64)	(-1.31)	(0.56)	(0.18)

Diagnostics

Number of Obs.	4342	Adj. R-squared	0.4487

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.

Table 15: **Transition Rates from Employment to Non-Participation, East Germany**

Table 15a: Transition Rates from Employment to Non-Participation, East Germany - Model 1

Core Values

Constant	0.0396	Female Deviation	0.3399
	(0.43)		(4.34)

Demographics: Deviation from the Core

	Low-skilled	Medium-skilled	High-skilled
Young	0.2305	1.2847	9.5133
(16-24)	(1.32)	(8.85)	(4.37)
Medium	0.0232	-	0.0828
(25-49)	(0.09)		(0.88)
Old	0.1025	0.4503	0.2474
(50-64)	(0.22)	(3.71)	(1.76)

Demographics: Female Deviations from Male Demographics

	Low-skilled	Medium-skilled	High-skilled
Young	0.8480	-0.4651	-7.9710
(16-24)	(3.45)	(-2.50)	(-3.61)
Medium	-0.2430	-	-0.1352
(25-49)	(-0.64)		(-1.10)
Old	0.2825	-0.1864	-0.3696
(50-64)	(0.52)	(-1.24)	(-2.11)

Regimes

Regime 1	Regime 2	Regime 4
(1992-1994)	(1998-2000)	(2001-2003)
-0.0614	0.0087	0.0112
(-0.83)	(0.48)	(0.53)

Seasonal Factors

January	February	March	April	May	June
1.5974	0.0736	0.2550	0.2600	0.0968	-
(14.07)	(0.65)	(2.26)	(2.31)	(0.86)	
July	August	September	October	November	December
0.1606	0.0608	0.2202	0.2555	0.0070	-0.0415
(1.43)	(0.54)	(1.96)	(2.28)	(0.06)	(-0.37)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
1.6931	-7.0846	-1.2804	2.0840	-9.4077
(0.56)	(-0.79)	(-0.73)	(0.51)	(-0.88)

Diagnostics

Number of Obs.	2489	Adj. R-squared	0.201

Table 15b: Transition Rates from Employment to Non-Participation, East Germany - Model 2

Core Values

Constant		Female Deviation		GDP growth
0.0564		0.3450		-1.0117
(0.58)		(3.92)		(-0.88)

Cyclical Sensitivity

Women	Low-skilled	High-skilled	Young	Old
-1.0724	6.5042	0.9927	-1.6623	6.9379
(-0.76)	(1.93)	(0.63)	(-0.66)	(4.03)

Diagnostics

Number of Obs.	2489	Adj. R-squared	0.1968

Table 15c: Transition Rates from Employment to Non-Participation, East Germany - Model 3

Core Values

Constant	0.0573	Female Deviation	0.3673
	(0.57)		(3.47)

Cyclical Sensitivity

Men	Low-skilled	Medium-skilled	High-skilled
Young	1.7885	-3.2364	-185.70
(16-24)	(0.40)	(-0.85)	(-2.43)
Medium	0.6147	-1.0400	-0.6005
(25-49)	(0.05)	(-0.77)	(-0.26)
Old	-1.8975	8.8001	6.4328
(50-64)	(-0.12)	(3.44)	(2.07)

Women	Low-skilled	Medium-skilled	High-skilled
Young	10.374	-4.8257	-6.1816
(16-24)	(2.00)	(-1.36)	(-0.52)
Medium	-2.1821	-2.7464	0.6865
(25-49)	(-0.24)	(-1.61)	(0.35)
Old	10.338	4.1689	2.4199
(50-64)	(1.11)	(1.37)	(0.64)

Diagnostics

Number of Obs.	2489	Adj. R-squared	0.1972

The models were estimated via Nonlinear Least Squares. Asymptotic t-values in parentheses.