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**Labour Market Structure and Reemployment rates:
Unemployment dynamics in West Germany and the
United States**

LABOR MARKET STRUCTURE AND REEMPLOYMENT RATES:
UNEMPLOYMENT DYNAMICS IN WEST GERMANY AND THE
UNITED STATES

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ABSTRACT

Unemployment dynamics differ markedly between the United States and Germany: over the 1980s and 1990s, spells of unemployment have been considerably shorter, and sectoral mobility rates were consistently higher among displaced workers in the United States than those experienced by German workers. In the light of earlier research on Germany's strongly skill- and occupation-based labor market structures, the current paper addresses whether long spell durations among German workers reflect constraining effects of tight labor market structures inhibiting processes of adjustment to structural changes in the economy. While event history analyses of longitudinal micro data from the Survey of Income and Program Participation and the IAB Employment Register File show many cross-national similarities in unemployment processes, they also consistently establish stronger sectoral effects on reemployment rates in the German labor market. Interestingly, while U.S.-German differences in labor market dynamics are very well suited to explain the observed cross-national differences in unemployment duration, labor market structures do not provide an adequate explanation of country differences in post-unemployment occupational outcomes. Rather than facing unduly constraining market structures, unemployed workers in Germany in fact appear to respond more easily to changing economic structures than common for U.S. workers.

UNEMPLOYMENT AND LABOR REALLOCATION

Unemployment is often seen as being closely tied to processes of structural change in the labor market. To a certain extent, workers become unemployed simply because they have been „in the wrong place, at the wrong time“ (Leonard 1987), and so became exposed to the consequences of job destruction in particular industries, firms, or occupations. Workers' mobility reactions to adverse events like job loss and subsequent unemployment have been the focus of interest of a large number of studies in both labor economics and social stratification which have addressed the issues of unemployment incidence (DiPrete 1993; DiPrete et al. 1997; DiPrete and Nonnemaker 1997; Bender et al. 2000; Layte et al. 2000), unemployment duration (Pedersen and Westergård-Nielsen 1993; Katz and Meyer 1990; Meyer 1990; Hunt 1995), as well as earnings losses (DiPrete and McManus 2000; Burda and Mertens 2001) and patterns of sectoral mobility subsequent to unemployment spells (Thomas 1996; Fallick 1993; Carrington 1993). Obviously, the latter aspect is of particular importance as far as the relation between structural change and employment careers is concerned: As job opportunities shift between sectors and occupations, prolonged unemployment might result out of workers' inability to respond appropriately to changing economic conditions. At any rate, the analyses of DiPrete and colleagues (DiPrete 1993; DiPrete et al. 1997; DiPrete and Nonnemaker 1997; but cf. also Harrison 1988; Haveman and Cohen 1994; Idson and Valletta 1996; Thomas 1996; Bender et al. 2000; Burgess et al. 2000) have recently emphasized the effects of industrial, occupational and company expansion and decline on job dynamics and found ample empirical evidence for the effects of changing opportunities on patterns of job mobility and worker reallocation across industries, occupations and firms.

Against that background, the present paper compares unemployment processes among displaced workers in the United States and West Germany. These two economies exhibit markedly different labor market structures, both in terms of aggregate labor market dynamics and the segmentation of labor market processes. Over the 1980s and 1990s, the U.S. labor market has been considerably more dynamic than the West German one; in addition, labor market pressures associated with sectoral decline and structural shifts in the labor force have been more apparent in Germany (Schettkat 1992; DiPrete et al. 1997). On the other hand, the strongly skill- and occupation-based organization of the German labor market (Mayer and Carroll 1987; Marsden 1990) might have impeded processes of structural adjustment in the labor force to a larger extent than has been the case in the more flexible U.S. labor market structure. The stylized facts, at any rate, seem to support this interpretation: on average, unemployment spells have been considerably shorter in the United States, and as will be shown below, sectoral mobility rates have also been substantially higher among displaced workers there. This is also well reflected in the recent assessment by DiPrete et al. (1997:325)

stating that "Germany ... with its strong credential-based occupational structure ... has restricted the viability of midcareer shifts as a tool of structural adjustment."

In the following, the paper provides an empirical analysis of such adjustment processes at the level of individual workers, focusing on the role of both individual skills and features of employment sectors in these processes. Given important U.S.-German differences in labor market structures, the cross-national comparison provides the opportunity to directly test for the effects of these alleged structural sources of U.S.-German differences in unemployment dynamics. The underlying theoretical background is discussed in more detail in the following section of the paper, while Section 3 below will present details on the databases and statistical methodology used in the empirical analyses. Section 4 then presents some basic descriptive findings on the structure of unemployment dynamics in the two countries, and Section 5 will discuss the outcomes of the main multivariate analyses. Section 6 finally provides a summary of the results and the overall conclusions from the study.

UNEMPLOYMENT PROCESSES, SPECIFIC SKILLS, AND OPPORTUNITY STRUCTURES

From a dynamic perspective, observable labor market dynamics are the outcomes of two-sided search and matching processes between employers intending to fill job vacancies and job searchers looking for employment or a new job (Sørensen and Kalleberg 1981; Logan 1996; Mortensen and Pissarides 1999 provide an overview on economic matching models). Hence, observable labor market transitions result from the joint preferences of employers for workers with particular skill or other characteristics and workers' preferences for particular job features. The rate of new job match formation is thus determined by the rate at which employers provide job opportunities to particular workers, and the rate at which workers consider received job offers an improvement over their current state of affairs (Mortensen 1988). With respect to unemployed workers, this implies that outflow rates into new jobs will be governed by both opportunities arising from employers' job offers and worker choices among actual jobs offered. Given that unemployed workers are likely to search for reemployment across multiple labor market sectors, the total hazard rate results from the product of job offer arrival rates $\underline{\lambda}$ in sector \underline{k} and the probability that workers will accept employment offered in sector \underline{k} , summed across the whole labor market. In algebraic terms,

$$(1) \quad r_e = \sum_k \lambda_k (d_k, \theta_k, x_i) \cdot \Pr(D_k = 1 | w_k)$$

thus serves as a basic description of reemployment processes among unemployed workers. From this point of departure, different labor market theories can be applied to generate specific predictions about the structure of matching processes underlying observable job exit rates from unemployment. Traditionally, economic job search models have focused on the relation between job features \underline{w}_k and the worker's decision to accept a particular job offer rather than continuing her search efforts (cf. Mortensen 1986; Devine and Kiefer 1991 for a review of empirical studies), whereas screening and signaling models, but also certain aspects of segmentation theories have been used to incorporate the effects of employer preferences for particular job searchers exhibiting particular features \underline{x}_i in making hiring decisions (cf. Spence 1973; Akerlof 1970; Logan 1996).

But before turning these issues in more detail, it is instructive to first consider two deeply structural determinants of workers' reemployment rates, namely opportunity levels \underline{d}_k and labor market tightness $\underline{\theta}_k$. In a very fundamental sense, the rate \underline{d} at which vacancies become posted in the external labor market defines the potential rate of match formation, which translates into individual rates of match formation via labor market tightness $\underline{\theta}$, i.e. the ratio of available vacancies over the number of current job seekers on the market (cf. Sprengers 1992; Petrongolo and Pissarides 2001 for a survey of macroeconomic matching models of the labor market). Together, the number of vacancies and the number of job seekers ultimately form the opportunity structure of unemployed workers, and reemployment rates among the unemployed will vary accordingly. Given that labor market sectors – defined along either occupational or industrial lines – differ in terms of both long-run employment prospects and growth (cf. Penn et al. 1994) as well as patterns of labor utilization and work arrangements (cf. Burgess et al. 2000), vacancy rates \underline{d}_k will naturally vary across labor market sectors, and unemployed workers will hence face structurally different environments for job search. In a similar vein, job competition pressures as captured by labor market tightness $\underline{\theta}_k$ will vary across sectors, so that reemployment rates should be highest in those sectors combining high vacancy rates and few job searchers. In this setting, worker adjustment to structural change should occur as unemployed workers facing low job prospects in their current sector of activity switch to more prospering sectors of the economy.

As screening, signaling and segmentation models of the labor market imply, these mobility processes are unlikely to occur in the frictionless fashion assumed in basic economic models of the labor market. Rather, the opportunity structures generated by structural change and sectoral shifts in employment opportunities become mediated and stratified by employer preferences for particular job applicants over others, so that mobility rates will vary across individuals. In general, employers have to ascertain the potential quality of the match between job requirements and workers' capacities from observable characteristics of job applicants, resulting in the stratification of job offer rates $\underline{\lambda}$ by indicators of worker skills like education, experience and

previous work history, but also by ascriptive factors of gender, age or ethnicity (cf. Akerlof 1970; Spence 1973; Thurow 1975; Spilerman and Lunde 1991; Eliason 1995; Logan 1996). Also, unemployment duration might itself serve as a signal of low worker skills if workers actually tend to lose skills from non-practice (Pissarides 1992) or if employers infer workers' failure in earlier job applications from long unemployment spells (Vishwanath 1989; Berkovitch 1990).

With respect to worker adjustment to structural change in the labor market, it is the nexus between worker skills and employer recruitment behavior that becomes crucial, however. In that context, Becker's (1993) seminal distinction between general and specific skills seems to be of primary relevance: worker characteristics like education might be thought to index more general skills of worker trainability into and adaptability at a new job position (Thurow 1975), while experience and tenure-based worker characteristics might be more indicative of the accumulation of specific skills that are not readily transferred to a different employer or labor market sector. If so, then while general skills are likely to be an advantage in most labor market sectors, employers still have strong incentives to recruit job seekers with appropriate specific skills in order to minimize the incidence of unproductive training periods at the beginning of work contracts. Consequently, workers' job chances in a particular sector k will crucially depend on whether their own skills acquired through previous training and work experiences matches or at least functionally relates to those skills required in sector k . In fact, labor market structures defined by worker mobility matrices across occupational or industrial categories can be productively understood as capturing precisely these relative proximities between occupations and industries, and hence the degree of functional substitutability of different specific skills. In this sense, labor market structure serves as a shorthand for the nature and tightness of skill barriers to sectoral mobility throughout this paper (e.g. Harrison 1989; Bridges 1995; Boylan 1992; DiPrete and Krecker 1991). To the extent that unemployed workers are faced with processes of structural change in the economy, specific skills and tight labor market structures can be expected to generate prolonged spells of unemployment due to workers inability to locate employment in more prospering sectors of the economy. If tight market boundaries provide effective mobility barriers, one would expect weaker mobility responses to shifts in opportunity structures in more tightly structured labor markets.

Economic job search theory would finally seem to appropriately complement the above concerns from the perspective of individual workers (cf. Mortensen 1986). In fact, in emphasizing workers' decision-making behavior, job search theory provides a vehicle to discuss incentive factors to sectoral mobility processes that might work in addition to pure opportunity factors favoring worker mobility. As the model relates worker consent to job match formation to the wage and non-pecuniary features of job offers, it would thus certainly predict that workers inclination to accept employment in

a particular sector k should increase with both monetary and non-monetary benefits offered in that sector. Also, search theoretic arguments might be used to explain genuine worker interests to avoid sectoral mobility if mobility is associated with losing those job rewards tied to workers specific skills and previous job experience.

In fact, the search theoretic concern for job rewards also may sensitize to the fact that sectoral mobility might not be unequivocally towards high-opportunity sectors of the economy, but more precisely to prospering sectors offering decent employment conditions. Rather than taking up readily available jobs in the secondary sector, workers can be expected to attempt to find adequate reemployment that reliably guarantees a certain standard of living in the longer run. On the other hand, sectoral mobility of unemployed workers might also reflect mobility for other than structural adjustment purposes, given that the unemployed search for jobs under conditions of particular financial and psychological strains. To the extent the latter contribute to workers accepting inadequate reemployment rather than continuing their job search efforts, sectoral mobility among unemployed workers might simply be one aspect of more general scarring and downgrading effects associated with unemployment experiences. The reservation wage property of job search models offers a particularly interesting prediction in that respect: in that search theory implies that unemployed workers lower their job expectations over the course of unemployment spells, job search theory predicts positive duration dependence in downward sectoral mobility rates. In screening and signaling models, predictions on duration dependence in mobility rates would depend on whether general or specific skills depreciate more quickly, and both models have certainly no implications for duration dependence in the direction of mobility.¹

Labor markets in the U.S. and Germany

In terms of structural differences in labor market and unemployment dynamics, a comparison between Germany and the United States is bound to be telling. First of all, the U.S. labor market has proven by all accounts to be more dynamic in the sense of a higher level of job turnover, resulting in high vacancy levels at any one point in time and consequently also short spells of unemployment (cf. Anderson and Meyer 1994; Burda and Wyplosz 1994). On the other hand, Germany has for many years been credited as an example of a particularly tightly structured labor market in sociological research on labor markets (e.g. Sengenberger 1987; Marsden 1990; Mayer and Carroll 1987; Blossfeld and Mayer 1988; DiPrete and McManus 1996; DiPrete et al. 1997; Mertens 1998), especially in comparison to the U.S., but also to other European countries. All of these studies indicate that occupational mobility is much more limited in Germany as compared to the United States, leading to fairly tight labor market closure along occupational boundaries.² This tendency is readily confirmed from empirical data on worker mobility flows

across labor market segments: Figure 1 illustrates the U.S. and West German labor market structures in form of contour plots representing relative sector proximities in worker mobility processes.³ The data give the frequency at which mobility flows between 12 broad occupational segments occur in the two labor markets, with more darkly shaded areas representing more intense mobility flows. Consistent with labeling German labor markets as ‘occupational spaces’ (Müller and Shavit 1998), the German labor market structure exhibits a clear ridge along the main diagonal of the matrix, which suggests the bulk of mobility processes to occur within rather than across occupational boundaries. In contrast, the U.S. structure is considerably more dispersed, indicating a much broader space of feasible mobility both within the manual and the non-manual sectors of the labor market. Also, mobility between the manual and non-manual sectors of the economy seems more common in the U.S. than in the German work force.

FIGURE 1 ABOUT HERE

For the purposes of the current paper, these labor market structures will be treated as exogenous constraints on mobility behavior of individual workers, although it is clear that the observed regularities arise from complex interplays between institutional structures in education and training systems shaping both the skill content of training itself and employers’ perceptions of training quality and signal reliability (cf. Allmendinger 1989; Müller and Shavit 1998), and institutional structures of labor markets affecting employer hiring behavior via increasing employer selectivity in recruitment through setting high firing costs for employers (cf. Flanagan 1988). Clearly, both the highly specialized training of the German work force achieved through a large-scale apprenticeship system and more strictly regulated German labor markets might serve as institutional explanations underlying the observed tight labor market structure in Germany. Irrespective of the precise institutional sources, unemployment experiences in two such structurally different labor market environments are bound to differ considerably, at least to the extent that structural shifts in the economy actually trigger unemployment incidences. Based on the theoretical perspectives discussed before, the paper will test three comparative hypotheses on U.S.-German differences in unemployment processes that relate to country differences in labor market structure:

- H1 The proportion of unemployed workers being sectorally mobile upon reemployment will be lower among German workers.
- H2 Tight labor market structures prevent workers from seizing job opportunities outside their particular skill sector. Consequently, unemployed workers in Germany will respond more weakly to favorable opportunities outside their previous sector of activity.
- H3 Given that tight labor market structures provide barriers to outside opportunities, reemployment rates of unemployed workers will depend

more strongly on vacancy rates in their sector of activity. Hence, measures of sectoral labor demand will show larger effects on reemployment processes among displaced workers in Germany.

Of course, the above reasoning will only hold to the extent that unemployment incidence reflects ongoing structural shifts in the economy that necessitate worker mobility across economic sectors. Certainly, unemployment spells will also result from factors other than structural change, yet the empirical variance of employment prospects across detailed occupations in both Germany and the United States seems to suggest a potentially important nexus between structural change, unemployment, and sectoral mobility to adjust to shifts in employment opportunities across sectors. Table 1 provides respective empirical data on sectoral variation in both short- and long-run employment growth rates that are indicative of considerable heterogeneity between detailed occupations in both labor markets. While U.S. occupations have mostly seen remarkable employment gains over the mid-1980s to mid-1990s period covered by the data, employment levels declined in about a quarter of occupations, and considerably so in the lowest growth decile of the distribution. The economic context has been much more difficult in the German labor market though, where employment growth was moderate over the period only. While these average figures tend to mask substantial heterogeneity between sectors in Germany as well, it is still true that fastly growing occupations in Germany grew at slower rates than their U.S. counterparts, and that low-growth occupations experienced larger employment losses than were common in the lower part of the U.S. growth distribution. Effectively, nearly half the German occupations faced absolute employment decline in both the short and the longer run, likely to be conducive to both unemployment incidence and severe pressures of sectoral reallocation on the affected workers (cf. DiPrete et al. 1997).

TABLE 1 ABOUT HERE

Previous research

While the connection between unemployment and structural change motivates many studies of unemployment processes, the available empirical literature actually addressing the linkage between structural shifts and sectoral mobility among displaced workers is surprisingly small. Typically, most current sociological studies contend themselves with including segment, sector or class dummy variables into their empirical models, and subsequently address differences in unemployment processes in the primary and secondary sectors of the economy (Sørensen 1990) or level differences in unemployment incidence rates and unemployment duration between classes or sectors (Gallie et al. 1998; Layte et al. 2000; Bender et al. 2000). In a series of studies,

DiPrete and colleagues extended these analyses by incorporating measures of sectoral employment dynamics in detailed industries and occupations in order to address individual mobility responses to structural changes in the economy (DiPrete 1993; DiPrete and Nonnemaker 1997; DiPrete et al. 1997; cf. Harrison 1988 for an earlier study that linked vacancy dynamics to the structure of individual work histories; Haveman and Cohen 1994 provide a detailed study of ecological influences on careers in California's savings and loan industry). In their analyses, DiPrete and colleagues have been able to demonstrate strong direct effects of changing opportunity structures on work careers, and have consequently focused on the processes and mechanisms by which structural labor market pressures become resolved. In this more medium-term perspective, mobility within and across employers, industries or occupations, but also into unemployment and inactivity were treated as alternative destination states of workers responding to structural change. While this approach certainly has the virtue of addressing the more enduring implications of structural change for workers' careers, it inevitably ignores much of the transitory frictions experienced by workers in terms of shorter spells of unemployment or non-employment. Unfortunately, these studies thus do not give direct evidence on how much structural adjustment is accomplished through experiences of unemployment, or how unemployment experiences themselves might affect workers' responses to changing labor market opportunities.

But also in empirical labor economics, respective research tends to be rare. In fact, one might expect studies inspired by the economic matching approach to labor market analysis (cf. Petrongolo and Pissarides 2001 for a review) to yield respective evidence, in particular given that unemployment has repeatedly been related to adjustment problems out of structural mismatches between labor supply and demand (e.g. Padoa Schioppa 1991; Entorf 1998; Manacorda and Petrongolo 1999). Still, this research tradition has little to offer to the current problem as it typically focuses on static (equilibrium) mismatches between the structure of unemployment and the structure of vacancies at the macro level (cf. Abraham 1991). Also, more recent microeconomic approaches to estimate labor market matching functions have typically failed so far to adequately treat the sectoral mobility in their empirical specifications, but ironically enough, tended to assume perfect closure in occupational or industrial sub-markets (e.g. Lindeboom and van Ours 1993; Burgess 1993). To the extent that economic mobility subsequent to unemployment spells is considered, studies typically focus on the earnings and wage implications of unemployment spells (cf. Fallick 1996a; Burda and Mertens 2001), although some authors also indicate that unemployment experiences might increase levels of sectoral mobility (Burda and Mertens 2001). Among the few available economic studies, Fallick (1993), Thomas (1996), or Idson and Valletta (1996) in particular attempt to link worker mobility behavior and employment dynamics in particular occupational or industrial sectors. Using different empirical approaches, these

studies conform in their conclusions that both opportunity push factors and incentive pull factors contribute to worker mobility across industrial boundaries: in general, workers propensity to switch sectors depends on both relative employment prospects and relative wages in alternative sectors, so that workers tend to switch towards prospering sectors offering decently paid jobs. Additionally, the only related German study of Velling and Bender (1994) provides evidence that sectoral mobility rates increase with both individual unemployment experiences, but also with sectoral unemployment rates. None of these studies, however, explicitly addressed mobility processes in greater detail, and in particular, none considered the operation of potential skill barriers to such adjustment processes.

METHODOLOGICAL APPROACH

Databases

To test the above conjectures, the study draws on micro data from two rich longitudinal studies that allow for comparative analyses of labor market and unemployment dynamics. For the purposes of the current paper, work history data have been extracted from the U.S. Survey of Income and Program Participation (SIPP) and the IAB Sample from the German Employment Register (IAB-BS).⁴ Although the SIPP and IAB-BS study designs differ remarkably, both sources use a prospective design to generate longitudinal work history information of interest here. In addition, both data sources offer comparatively large sample sizes to the analyst, which potentially allow to study sectoral mobility behavior at the micro level. In particular, the SIPP consists of a series of household panel studies conducted since 1984 by the U.S. Bureau of the Census, and typically features sample sizes of up to 60.000 individuals per single panel (U.S. Bureau of the Census 1984ff.). The IAB-BS file, on the other hand, represents a 1% sample from German social security employment registers, yielding cross-sectional samples of more than 200.000 working-age individuals for West Germany (cf. Zentralarchiv für empirische Sozialforschung 1999; Bender et al. 1996).

The obvious problem in using data resulting from two such different designs for comparative research is that some inconsistencies in the definitions of labor market statuses cannot be avoided. In particular, the IAB-BS register data will of course only reflect German institutional definitions of employment and unemployment, without offering at least partial flexibility in harmonizing status definitions as offered by household surveys like the German Socio-Economic Panel study (GSOEP). Even more important, the IAB-BS is restricted to those unemployment spells with recorded benefit receipt only. On the other hand, these restrictions do not necessarily prove detrimental to the comparative study of the particular problem at hand. Given the fairly weak eligibility restrictions built into the German unemployment benefit system in terms of both low contribution requirements and low rates of benefit denials due to quitting or failure to comply with search activity requirements, most

displaced workers would in fact be eligible for benefit receipt (cf. Reissert and Schmid 1994; Grubb 2000). For the analysis sample chosen, respective figures from the GSOEP indeed indicate benefit coverage rates of more than 90%. Given the absence of any limit on the duration of benefits for most German unemployed, unemployment duration and duration of benefit receipt unsurprisingly also prove to be almost perfectly correlated in the particular sub-sample studied here. In addition, preliminary analyses based on the GSOEP yielded similar estimates than those presented below, so that the IAB-BS register data seem to produce robust results for the particular question at hand. The main difference between the IAB-BS and the GSOEP estimates is a general underestimation of unemployment duration by about half a month, mostly related to the fact that duration of benefit receipt will underestimate unemployment duration in those cases where individuals run out of benefits, but continue to search for employment. Comparing the duration of benefit receipt from the GSOEP to the IAB-BS data yields very similar results. As the distortions implied by the IAB-BS design with respect to the issue of interest appear minor, I address the comparative research question from this larger German database that allows for more reliable parameter estimates in complex models, in particular as far as mobility processes bound to result in sparse distributions of data are concerned.

In trust of this reasoning, a sample of unemployment spells of displaced workers has been extracted from each database. That is, the analyses use an inflow sample into unemployment, conditional on this inflow being from dependent employment immediately previous to the unemployment spell. In fact, a maximum inactivity gap of two months between previous employment and the recorded start of the unemployment spell was applied so as to allow for e.g. late benefit take-up or delayed job search activities due to recall expectations. Unemployment spells are recorded on a monthly basis in the SIPP data, and the IAB-BS spell data has been recoded to conform to that standard. In order to take the administrative nature of the IAB-BS data into account, multiple short spells interrupted by up to two months of recorded inactivity were considered as a single spell of consecutive unemployment so as to avoid measurement artifacts resulting from the administration of unemployment benefits rather than substantive status changes as far as possible. Most often, such interruptions will reflect transitory periods of benefit denial due to workers' failure to comply with job search requirements, which typically lasted up to eight weeks during the period studied here (Reissert and Schmid 1994). Finally, the sample has been restricted to the population aged between 16 and 64 in the observation window of January 1984 to December 1995. Conditional on valid covariate information, this yields a sample of 18,305 unemployment spells from the SIPP, and a sample of almost 180,000 spells from the IAB-BS. To ease computational burdens implied in the huge IAB-BS sample, a random 50% sample of spells was drawn from the database so that a total of 79,075 unemployment spells are

used in the analyses for Germany. In each sample about one sixth of all spells are right-censored.

Next to core spell information on spell duration, censoring status and destination occupation if new employment had been taken up, each spell record includes individual covariate information on gender, ethnicity, age, education, labor force experience, previous occupation, duration of previous job, the wage rate in the last job, and a dummy variable for German workers having obtained vocational training (summary statistics are provided in Appendix A).⁵ While gender, age, and ethnicity are mainly treated as control variables, education will be understood to index general worker skills, and experience, completion of vocational training in Germany, and tenure in workers' previous job are seen as measures of the quantity of workers' specific skills. Also, previous wages serve as a measure of individuals' sector-specific skills insofar as they index workers' wages relative to the median wage in the occupation, which becomes included as a sectoral feature into the analyses.⁶ Other sectoral variables measured at the level of two-digit occupations include 3-year employment growth rates, annual job churning levels, and quarterly vacancy ratios as measures of long-run shifts in sectoral employment prospects, and short-run sectoral vacancy rates and market tightness, respectively. Also, sectoral levels of education have been included as a measure of skill requirements in the sector. Finally, SIPP and IAB-BS data on direct job-to-job transitions have been used to generate a segmentation measure based on the mobility flows between different occupations. In Section 2, these data were presented graphically, and Footnote 3 explained the definition of relative proximity scores between occupations. Now, taking this as an exogenous measure of mobility structures, these scores will serve as a central variable in the analyses, being used to assess the effects of segment boundary strength on unemployment processes.

Statistical modeling

In line with current research practice, unemployment processes are studied in an event history framework here (e.g. Blossfeld and Rohwer 1995; Lancaster 1990; Petersen 1995; Tuma and Hannan 1984). The core notion of event history modeling is the transition or hazard rate that characterizes individuals' propensity to leave unemployment after a certain spell duration t , given that an escape from unemployment did not occur prior to t . As there are multiple exit options to leave unemployment – workers might find a new job or leave the labor force, and the new job found might be in workers' previous sector of activity or not – I will naturally consider a competing-risk version of the basic event history model in the following. In particular, I address workers hazard rate of finding new employment by applying Petersen's (1988, 1995: 500f.) approach to the competing risk problem that uses

$$(1) \quad r_k(t | x_k) \equiv r(t | x_k) \times \Pr(D = k | T = t, x_k)$$

to decompose the destination specific hazard rates $r_k(t)$ into the product of the exit rate $r(t)$ and a destination equation predicting the type of exit conditional on elapsed spell duration and other covariates (cf. also Heckman and Singer 1984). In contrast to standard procedures of estimating the destination-specific hazard rates $r_k(t)$ directly, Petersen's decomposition yields a formally equivalent, although more readily interpretable representation of the multiple outflow state process if, as will be the case here, destination states differ in terms of quality rather than underlying mechanisms generating the outflow rates. As in Petersen's (1988) own research on socio-economic status mobility, $r(t)$ will be interpreted as the arrival rate of acceptable job offers, while the destination equation will determine the job type conditional on the arrival of an acceptable offer. Seen in this way, the model also allows to properly disentangle covariate effects on work exit rates and covariate effects on the type of job exit, both of which become conflated in the usual direct specification of destination-specific rates $r_k(t)$. To determine covariate effects on types of work exits, previous studies had to rely on cumbersome comparisons of coefficients across equations (e.g. Thomas 1996; Fallick 1993), which are avoided in the specification adopted here. Implicitly, the particular interpretation of the model made here also justifies the assumption of independence between the two components of the model, which statistically allows for its straightforward two-step estimation.⁷

In the following, I adopt the standard discrete-time logit model for monthly spell data in the hazard rate part of model (cf. Allison 1982), whereas the issue of sectoral mobility conditional on a job exit from unemployment will be treated in two different specifications that vary in the level of detail covered. In a first specification, a logit model will be fitted for the destination equation in order to contrast sectorally mobile and sectorally immobile workers, and to explain mobility rates across two-digit occupations from spell, worker, and sectoral characteristics in workers' previous occupation (cf. Sørensen and Grusky, 1996, for a discussion on the level of aggregation in mobility studies). Both components of the model will also incorporate a normally distributed error term to capture unobserved heterogeneity between workers. In a second step, a conditional logit model of post-unemployment sectoral location will be used to enrich this account by incorporating not only information about workers' previous sector of activity, but also features of the receiving sector (cf. Greene 1997; Long 1997 for details of the model). In that way, sectoral mobility can be traced back to both opportunity and incentive differences between economic sectors, but also to more structural mobility barriers between different occupations. For these different models, the empirical section will present both country-by-country estimates, but also pooled comparative results that allow for direct tests of the cross-nationally explanatory power of these structural labor market variables.

UNEMPLOYMENT DYNAMICS IN THE UNITED STATES AND WEST GERMANY

It is very well known that unemployment duration in the United States is much lower than in Continental European countries (e.g. Machin and Manning 1999). In fact, descriptively, the key problem of European unemployment over the past 25 years has been a dramatic rise of unemployment duration, rather than unemployment inflow rates (Layard et al. 1991). Table 1 provides a range of descriptive indicators on unemployment dynamics in the U.S. and West Germany that confirm this observation. In fact, the median duration of unemployment among German workers has typically been more than twice the U.S. figures across the whole twelve-year period covered by the data. On average, median spell duration was about 2.2 months in the United States, but about 5 months in West Germany. More importantly, this relation held over all stages in the business cycle, and both in times of relatively buoyant labor markets in the late 1980s and during the recessions of the early 1990s, U.S. unemployment duration was less than half the German figures. Indeed, the rise of German unemployment duration was quite dramatic in the early 1990s. From a median duration of 4 months in 1990, duration figures increased to more than 6 months in 1992, and even 7.5 months in 1993 and 1994. And in contrast to the U.S. experience, there was no stabilization or even leveling off of these figures by the mid-1990s.

TABLE 2 ABOUT HERE

Unsurprisingly, cross-national differences in reemployment chances are decisive in generating these patterns. Table 1 provides estimates on monthly reemployment probabilities out of the stock of unemployment, which are substantially higher among unemployed in the United States. Over the whole period, the probability of reemployment in the U.S. (.19) was more than twice the comparable German figure (.07). Again, this relation holds through all stages of the cycle: in the late 1980s, reemployment rates were at about .20 in the U.S. and at .08 in Germany; in both economies they declined somewhat to a minimum of some .15, respectively .05 in the recessionary phases of the early 1990s. Thus, unemployment in Germany lasts longer because unemployed workers are much less likely to get reemployed than common in the United States.⁸

It is, however, not only the duration of unemployment that differs between the two labor markets. As evident from the figures for occupational mobility among the unemployed, job outcomes at reemployment apparently also differ considerably. Certainly, displaced workers in Germany are far from being closely tied to their particular labor market sector, and their employment careers do involve a considerable degree of sectoral mobility, but the corresponding U.S. figures are consistently and considerably higher. Whereas about one third of German workers change broad occupational sectors on

reemployment, the respective U.S. figure is even a full 50%. Hence, German sectoral mobility rates amount to only about two thirds of those found for U.S. workers. Similar results are obtained for both finer levels of occupational differentiation, but also if industrial mobility figures not shown here are considered.⁹ Again, the cross-national differences are hardly sensitive to changes over time.

But in any event, the extent of mobility found in both economies across even very broadly defined labor market segments is noteworthy in itself. In both the United States and West Germany, unemployment experiences trigger considerable mobility flows across occupational and industrial sectors, also implying considerable economic frictions in terms of losses of specific skills and associated earnings capacities of workers. Unemployment is certainly associated with more important frictions than are common for job changes: in both countries, sectoral mobility rates among unemployed workers are higher than those established for direct job-to-job transitions without intervening spells of unemployment. For job mobility, comparable U.S. figures amount to mobility rates of about 47% across 12 broad occupational segments, and 60% across two-digit detailed occupations. The respective German rates are at 30% and 37%, respectively.¹⁰ Against that background, the next section of the paper will provide a more detailed assessment of mobility processes among unemployed workers.

EXPLAINING UNEMPLOYMENT PROCESSES: SKILLS, OPPORTUNITY AND LABOR MARKET STRUCTURE

The results of the multivariate analyses performed in this study will be presented in four steps below. First, the outcomes of the hazard rate component of the overall model will be reported, which primarily addresses the question of skill and sector effects on reemployment rates among displaced workers in general. In a second step, I present the results for a series of binary logit regressions focusing on explaining conditional sectoral mobility rates from characteristics of workers and their previous sector of employment. This analysis will be refined in a third step that applies a conditional logit model to explain post-unemployment sectoral location from employment dynamics and other features of different detailed occupations. In a final step, the importance of these structural labor market variables for explaining observed country differences in reemployment processes are assessed from fitting a series of models with cross-nationally pooled data.

The Duration of Unemployment: Reemployment Rates

Turning to the duration of unemployment first, Table 3 provides evidence of both strong skill and important sector effects on workers' reemployment rates in the United States and West Germany. And, comparing reemployment

processes across the two countries, it effectively appears that sector effects occur much more consistently than effects of particular individual level skill covariates. In both economies, reemployment rates first of all strongly depend on labor market dynamics in general, as captured in the quarterly aggregate vacancy ratio. In fact, the magnitude of this effect is very similar in both countries. But also more specific measures of sectoral employment structure and dynamics show a fairly consistent picture in the country comparison. In addition to aggregate labor market dynamics, worker reemployment rates are also positively affected by sectoral employment dynamics: there are significant positive effects of sector churning rates and sectoral vacancy ratios in both the U.S. and West Germany, although as predicted, both effects are larger in magnitude in the German labor market, in particular with respect to churning levels. Interestingly, sectoral employment growth does not improve reemployment rates in either the U.S. or the German labor market, where it is even found to have a negative effect on worker exit rates from unemployment. While somewhat surprising at first sight, this observation in fact coincides with analyses by Fallick (1996b) who reports growing industries to disproportionately recruit new workers from outside the current work force. In any event, this result seems to indicate that reemployment rates among displaced workers are much more governed by short-run job opportunities in their previous occupation – as reflected in quarterly vacancy ratios and occupation job churning levels – than by concerns for more long-run changes in employment prospects in that particular labor market sector. Also, in both the U.S. and Germany, workers from high-skill sectors tend to have somewhat longer spells, whereas high-wage sectors tend to exhibit shorter spells of unemployment.

TABLE 3 ABOUT HERE

There is more cross-national heterogeneity in terms of individual level covariates, however. For example, workers' level of education shows a positive effect only among U.S. workers, whereas I obtained an even slightly negative effect for the German sample. Also, labor force experience was associated with positive effects only among U.S. workers, but had negligible effects among displaced workers in West Germany. In Germany, in turn, completion of vocational training and notably high previous wage rates are related to improved reemployment rates. On the other hand, tenure in the previous job, and hence firm specificity of workers' skills, is related to longer spells of unemployment in both labor markets. However, the disadvantage associated with specific skills again tends to be larger in the German case. Finally, as best seen from the left hand panel in Figure 2, there is negative duration dependence in both U.S. and German hazard rates, consistent with skill depreciation and stigma theories of duration dependence. In fact, duration dependence is unequivocally negative among West German workers, while there is evidence of a more bell-shaped pattern among U.S. workers whose

reemployment rates tend to decline only after about half a year in continuous unemployment.

FIGURE 2 ABOUT HERE

Controlling additionally for the strength of sectoral boundaries in the model (cf. model specification 2) finally produces a very interesting positive effect of segment boundary strength among both U.S. and German workers. Thus, controlling for structure and dynamics of sectoral employment, strong occupational boundaries actually tend to increase job finding rates among the unemployed. It appears as if the potentially negative effect of barriers to seizing available job opportunities elsewhere is actually outweighed by the advantage of restricted job competition within sectors, thus rendering job searches on average more efficient in more structured environments (cf. the reasoning on market congestion effects in Stern 1990). This finding clearly is surprising in the light of arguments focusing primarily on the constraining role of labor market boundaries, but a more complete discussion of the effects of labor market boundaries on unemployment processes will be postponed to the concluding section, after additional evidence on workers' mobility behavior will have been presented.

Sectoral Mobility among Displaced Workers

Looking at the determinants of sectoral mobility upon finding reemployment, the emerging pattern of results almost perfectly reverses the one found for reemployment rates before (cf. Table 4). Duration dependence in sectoral mobility rates is a particularly interesting case in point here. As most clearly evident from the left hand panel in Figure 2 above, sectoral mobility rates exhibit positive duration dependence, i.e. tend to increase with spell duration in both countries. Slightly transforming the results shown in the left hand panel of Figure 2 into an exit rate $\underline{r}_s(t)$ into workers' previous sector of activity and an exit rate $\underline{r}_m(t)$ into any other occupation yields the four rates presented in the right hand panel of Figure 2. According to this perspective on exit rates from unemployment, the United States and West Germany are surprisingly similar as far as sector-specific hazard rates $\underline{r}_s(t)$ are concerned. These rates are virtually equivalent in both labor markets, and also show very similar patterns of negative duration dependence. Hence, whether occurring through actual skill depreciation or through signaling effects, reemployment rates in workers' previous occupation markedly decline with increasing duration of unemployment spells. Country differences occur, however, in hazard rates $\underline{r}_m(t)$ into occupations other than those workers previously worked in. Here, respective hazard rates among German workers are quite low initially, yet hardly show any tendency to decline over spell duration. Among U.S. workers, this hazard rate even increases markedly over the first few months in unemployment, and only drops again after around six months in

unemployment. Although not explicitly tested, these results would certainly seem consistent with slow, if any depreciation of workers' general skills over time, and, at least the U.S. results, potentially also with arguments about the consequences of building up search channels in other sectors which might be more time-consuming than searching only within a restricted and fairly well-known market.

TABLE 4 ABOUT HERE

The observation of reversed effects also applies to most other variables included in the model. Labor force experience, previous wages and having completed vocational training in Germany are all associated with lower propensities to switch occupations, while only among U.S. workers education is found to have positive effects on mobility rates. Also, tenure in previous job has negative effects on sectoral mobility rates, again considerably stronger ones among German workers, emphasizing again the difficulties encountered by workers with high levels of specific skills to adequately accommodate experiences of unemployment. Over and above these skill effects the models show clear effects of employment conditions in workers' previous sector. In general, both U.S. and German workers tend to avoid mobility out of high-wage, growing sectors that offer high vacancy rates as indexed by job churning levels and quarterly vacancy ratios. There is a U.S.-German difference in these effects insofar as sectoral mobility tends to be more common out of high-skill U.S. occupations, whereas high-skill sectors in the German labor market show slightly lower levels of mobility. As expected, sector effects are considerably larger in the German labor market, with sector levels of education being the only exception to this general tendency.

Adding again the measure of segment boundary strength to the model (cf. model specification 2) produces the expected negative effect on mobility rates: workers from more tightly structured occupational sub-markets tend to show lower mobility rates subsequent to unemployment. Interestingly, the U.S.-German difference in the effect magnitude is again quite small, albeit still significant statistically. On the other hand, the changing parameter estimates among the set of sectoral variables also would seem to indicate that the measure of sectoral closure is not fully independent of sectoral employment dynamics, but rather partially also reflects sectoral employment conditions.

Determinants of Sectoral Location: Opportunities and Rewards

While the above analyses have provided evidence of important determinants of worker mobility behavior, the design of the analysis itself has been overly restrictive insofar as it included only individual level factors and effects of employment conditions in workers previous occupations. But given that workers have already been shown to be highly sectorally mobile in both economies, a more complete explanation of the labor market processes under

study apparently requires a broader perspective on available job opportunities and the structure of labor markets more generally. In particular, it would seem of primary importance to take into account various features of available alternative job opportunities outside workers' previous sector of activity in order to assess how worker mobility behavior responds to given labor market opportunities in particular structural environments. To provide for such an extended perspective, a series of conditional logit models have been fitted that explain observed worker mobility across detailed occupations from both individual variables and features of sectoral employment conditions and dynamics.¹¹ In contrast to the case of multinomial logit models more commonly used in sociology, parameters in conditional logit models basically represent the effects of the included features of potential destination states on the probability of ending up in a particular occupation, rather than the respective effect of individual-level variables. Indeed, the latter have also been included into the mixed specification adopted here, but as the respective results have already been discussed before, the presentation will now concentrate on workers' responses to opportunity and reward levels in detailed 2-digits occupations. The respective empirical results are given in Table 5 for U.S. workers, and in Table 6 for the West German sample.

TABLES 5 AND 6 ABOUT HERE

As a first result, the baseline specification (1) only includes sector-level push and pull factors, and hence identify workers' 'gross' mobility response to sectoral opportunities and incentives irrespective of their previous occupations. Indeed, there are striking differences between the two countries in that respect, but these country differences run strongly counter to any notions of structurally weaker adjustment of German unemployed workers to processes of structural change. Quite in contrast, changing opportunities as measured by sector-level differences in employment growth have significantly stronger impacts on German workers' mobility decisions than is found for U.S. workers. On leaving unemployment, German workers apparently respond much more positively to long-run shifts in employment structures than is done by American workers. This difference is striking insofar as other parameters of the response functions are quite similar: sector-level churning rates, for example, show positive effects on post-unemployment occupations, indicating that job availability in the short run is of considerable importance to the unemployed in both countries, although short-run opportunity levels are perhaps even more decisive among U.S. workers who additionally respond more positively to quarterly sectoral vacancy ratios. Also, unemployment obviously triggers dequalification processes among workers insofar as results show a negative response to sectoral skill levels in both the U.S. and West Germany: workers are thus more likely to enter low-skill occupations on exiting unemployment. Against these commonalities, there is a second major difference between worker mobility processes in the two labor markets related

to the extent to which sectoral reallocation occurs in conjunction with losses in wage levels. In both the United States and West Germany, workers tend to experience mobility to low-wage occupations as indexed by negative effects of sectoral wage levels. But comparing the magnitudes of the coefficients, it is apparent that actual wage losses are substantially larger among displaced workers in the United States.

To some extent, the above results might be conflated with worker propensities to predominantly find reemployment in their previous sector of activity, rather than reflecting unconstrained worker flows across the opportunity structure. In more concrete terms, this might imply that e.g. low-wage outcomes of unemployed workers simply reflect the fact that displaced workers tend to be disproportionately drawn from low-wage sectors which they also tend not to leave after the unemployment spell. To control for worker mobility along the diagonal of the mobility matrix, a respective dummy variable and the most important individual-level determinants of sectoral stability became included in model specification (2). In addition, specification (2) also controls the constraining effects of labor market structure, measured by sector proximity scores, approximating skill barriers to sectoral mobility in both labor markets. After all, this specification yields substantively very similar results, indicating the direction of mobility responses over and above structural opportunities and constraints inherent in workers' previous occupations. Controlling for these factors, reemployment among U.S. workers is still associated with stronger tendencies of downward mobility measured by both sectoral skill and, in particular, wage levels than are common among their West German counterparts. Also, U.S. workers tend to respond much more weakly to sustained sectoral employment growth, yet more clearly enter occupations that show high vacancy levels in the short run than done by German workers. Ironically, even the labor market structure measure actually determines U.S. reemployment experiences to a larger extent than found among the West German sample, although the general expectation that mobility tends to occur into more proximate occupations holds in both labor markets.¹² The partially problematic status of the measure has been noted already earlier, but a conservative interpretation of the finding might still read that, compared to the U.S. case, mobility patterns of German unemployed workers deviate more strongly from the baseline structures established for job mobility in Germany. In conjunction with findings of strong responses to sectoral employment growth rates, this should be supportive of Burda and Mertens' (2001) conjecture that a considerable part of structural change is actually accommodated via unemployment in Germany.

Against these baseline findings, the remaining three model specifications report additional results on the interaction between three important aspects of skills – labor market structure, tenure in previous job, and unemployment duration – and worker responses to job opportunities.¹³ Given that the models also provide controls for workers' propensities to stay within their previous sector of activity, the outcomes of the analyses are best seen as

effects conditional on actual worker mobility out of their previous occupation. These models address additional aspects of mobility processes insofar as they relate to how workers responses to current opportunity structures are shaped by labor market boundaries, the specificity of worker skills, and the duration of unemployment itself. Summarizing the main findings across the three specifications again shows marked U.S.-German differences in that respect: For U.S. workers, short-range mobility is associated with relatively better job outcomes in terms of wage levels and sectoral employment growth, but also smaller impacts of short-run vacancy levels in these occupations. In contrast to labor market structure, neither tenure nor unemployment duration have particular implications for worker responses to job opportunities, except that high-tenured workers tend to avoid mobility into low-wage sectors to a larger extent than done by low experience workers.

The corresponding results for Germany tell a fundamentally different story: Short-range mobility, and ultimately also sectoral stability, is found to depend particularly strongly on short-run job opportunity levels, as has already been evident from the hazard rate models discussed before. Also, short-range mobility is associated with more favorable sectoral wage outcomes, although the respective interaction effect is far smaller in magnitude than was apparent for the U.S. data. In contrast, there is stronger evidence of pressures towards downward mobility to increase over spell duration, given that the interaction between duration and sectoral wage levels is more clearly negative than among U.S. workers. Also, more experienced workers in Germany tend to avoid downward mobility more in terms of relative skill levels rather than relative wages. But the really striking difference in cross-national mobility patterns is revealed by mobility responses to structural shifts and longer-run employment growth rates. It has been discussed already before that German workers respond much more promptly to sector differences in employment prospects, but model specifications (3) to (5) indeed add several important twists to this statement. First of all, workers are apparently able to respond more positively to opportunities in relatively distant prospering occupations, indicating that German workers are in fact able to cross tight labor market boundaries if necessitated by structural shifts in employment structures. Hence, and very much in contrast to the U.S. picture, long-range mobility of unemployed workers in Germany is particularly governed by such long-run considerations. This result is underpinned by findings that reemployment outcomes among more long-term unemployed workers in Germany increasingly reflect responses to long-run sectoral growth rates rather than short-run churning levels.

Explaining U.S.-German Differences in Reemployment Processes

By now, the paper has extensively discussed and documented U.S-German differences in labor market structures and their effects on reemployment processes among unemployed workers in both economies. The final question

to be addressed hence is to which extent these country differences in labor market structures actually allow to explain the marked differences in reemployment patterns observed empirically. Table 7 provides respective answers from a series of models estimated on pooled U.S.-German data all of which include a country dummy variable measuring the residual U.S.-German differential given model covariates. Reflecting shorter unemployment spells and higher sectoral mobility rates among U.S. workers, the base model (1) shows a positive U.S. country dummy in the hazard rate part of the model, and a negative U.S. country dummy for sectoral stability in the conditional logit model of reemployment occupations. Successively including individual-level variables (specification 2), labor market variables (specifications 3 and 4), or combinations of those (specifications 5 and 6), the prime interest of the exercise is to assess the cross-national explanatory power of these variables from associated changes in the residual U.S. dummy variable.

TABLE 7 ABOUT HERE

As the results show, cross-national differences in worker backgrounds already explain about one third of the U.S.-German differential in hazard rates. As apparent from more detailed analyses, it is mostly the higher levels of specific skills found among German workers - in terms of higher tenure levels and a large proportion of workers with completed vocational training - that is driving this result. Interestingly enough, however, the inclusion of a single variable, namely the aggregate vacancy ratio, is able to explain almost the full U.S.-German difference in unemployment duration. Longer spell durations among German workers are thus largely a function of lower vacancy levels in the German labor market. Further inclusion of other labor market variables, and also the joint inclusion of individual- and aggregate level variables only reinforces this interpretation. Controlling for the different aspects of labor market structures and individual-level variables covered by the earlier analyses even renders the U.S. dummy variable strikingly negative. Even if hesitating to take these model estimates too literally, this indicates that under similar market environments than encountered by unemployed workers in Germany, U.S. workers would be likely to face longer unemployment spells than their German counterparts.

While labor market structures do thus have considerable explanatory power with respect to unemployment duration, the same result does not hold at all for occupational outcomes at the termination of unemployment spells. In fact, even allowing for country-specific effects in the full model does not contribute to reduce the dummy effect observed in the baseline model, but rather implies an increase of about 40%. Thus, under the same structural environment as found in the German labor market, U.S. workers would likely be even more mobile than under the real conditions of U.S. labor markets in during the 1980s and 1990s. Interestingly, current German labor market structures alone are found to imply a small reduction of the U.S.-German

difference in mobility rates only (cf. specification 4), indicating strong mobility incentives due to structural shifts in opportunity countering tight labor market organization. If one additionally recognizes that increasing country differentials apparent in specifications (2), (5) and (6) are largely due to longer spell durations among German workers inducing subsequently higher mobility levels, it is probably fair to conclude that labor market structures in total contribute little to explain U.S.-German differences in sectoral mobility rates among unemployed workers.

SUMMARY AND CONCLUSIONS

The above analyses have assembled considerable empirical detail on unemployment processes in the American and West German labor market. Many observations, in particular those that relate to the effects of worker characteristics on reemployment rates, tend to confirm results obtained in earlier studies in sociology and labor economics. In both economies, more highly skilled workers typically experience shorter spells of unemployment, although a high level of job-, employer- or occupation-specific skills might imply particular difficulties in securing reemployment. One aspect in that story might be that more specifically skilled workers tend to be less sectorally mobile upon reemployment in both the United States and West Germany, a result that would seem consistent with more highly skilled workers aiming to ensure the continued utility of their own productive resources. On the other hand, workers apparently also face severe trade-offs between ensuring such continuity in their employment careers and the necessity to secure reemployment fairly quickly. In particular, the analyses provided consistent evidence that workers' specific skills depreciate quickly over the course of an unemployment spell: in both the United States and Germany, rates of reemployment in workers' previous occupation decline sharply with spell duration, and this decline in fact drives much of the observed negative duration dependence in total hazard rates, in particular among German workers. To some extent, though, workers are actually able to counter declining chances for reemployment in their previous occupation by increasingly accepting job offers out of other occupational fields, implying positive duration dependence in sectoral mobility rates.

But why do workers switch occupations, and how do sectoral employment conditions and dynamics affect unemployment processes? It is here that the paper presumably provides a number of new observations. First of all, unemployment dynamics have been found to respond significantly to both aggregate and sectoral labor market structures. Unsurprisingly, vacancy levels are of particular importance in explaining unemployment duration, and in fact, the considerably higher vacancy levels in U.S. labor markets rather than anything else do explain most of the country differences in that respect. Also sectoral wage levels contribute to worker flows insofar as workers tend

to avoid mobility out of high-wage sectors, and tend to find reemployment more quickly than those in low-wage sectors. The same can be said for job opportunity levels since workers from high-opportunity sectors tend to find reemployment more quickly, and are also less likely to be found switching sectors upon reemployment. And finally, worker mobility is clearly constrained by skill boundaries in the labor market, reflecting the relative proximities and distances between particular kinds of job skills. And as expected, most of these relations are found to be stronger in Germany's tightly occupationally structured labor market.

Although the analyses thus provide considerable support for the general thrust of the theoretical arguments of the paper, the most important finding has actually been the observation that these prove insufficient to close the circle between structural shifts in the labor market, labor market organization, and unemployment processes. In contrast to conjectures found in earlier analyses, longer spell durations and lower rates of sectoral mobility among unemployed workers in Germany do not reflect a structurally lower capacity to adjust to structural change in the labor market. Even though sectoral labor market boundaries are found to show the mobility-constraining effects behind the argument, stronger sector boundaries in Germany are apparently not driving observed U.S.-German differences in reemployment processes to any important degree. Rather, tight sectoral labor market boundaries have indeed been found to be associated with high reemployment rates among unemployed workers, likely to reflect structurally less intense job competition in these environments (Stern 1990). In the end, longer spell durations among German workers are primarily reflecting lower vacancy levels in the German labor market, a finding that alone points to the necessity of incorporating additional institutional differences in labor markets into the account. If anything, the institutional underpinnings of cross-national differences in worker flows and labor market dynamics are likely to lie in differences of labor market regulation and employment protection arrangements that are considerably more developed in Germany, but also European labor markets more generally (e.g. Burda and Wyplosz 1994).

But even more critical, U.S.-German differences in labor market structures are apparently not well suited to provide an explanation of country differences in terms of post-unemployment occupational outcomes among displaced workers in general, and of Germans' higher propensity to remain within their detailed occupations in particular. While stronger market boundaries do constrain German workers to a larger extent than their U.S. counterparts, this structural difference does not explain workers' occupational outcomes because stronger incentives to mobility in the German labor market of the 1980s and 1990s have largely counteracted the constraining effects of market boundaries. In particular, German workers were found to respond markedly to sector differences in longer-run employment growth rates, indicating considerably more effective mobility responses to structural shifts in the labor market than among U.S. workers. While potentially surprising to

students of social stratification, this result is in fact confirmed indirectly by recent studies of mismatch unemployment that claimed mismatch to be a pronounced problem of the flexible U.S. and British labor markets, but hardly among continental European countries (Manacorda and Petrongolo 1999). In conjunction with observation of smaller scar effects among German workers, in particular in terms of sectoral wage levels, this result might in fact be indicative of effects of marked country differences in terms of welfare state policies. Obviously, German workers exhibit considerably more positive reemployment outcomes than do displaced workers in the U.S. labor market. It seems likely that these favorable outcomes are achieved by both higher levels of social protection and more efficient public employment services in Germany. Through more extensive support of search activities and improved information and guidance of job searchers, it might well be the case that workers are better able to find adequate reemployment in relatively more prospering occupations and industries. Naturally, only future research will allow to assess these conjectures.

APPENDIX A

Descriptive statistics of the estimation samples (spell data)

	United States		West Germany	
	Mean	Std.dev.	Mean	Std.dev.
<i>Worker characteristics</i>				
Female	0.407		0.401	
Non-white / non-German	0.208		0.109	
Age	35.451	11.424	35.163	12.570
Education (years)	12.410	1.796	12.089	1.829
Vocational training	N/A		0.586	
Labor force experience (years)	14.461	11.293	8.454	5.176
Wage rate in previous job (1990 US\$)	15.298	20.977	7.215	3.985
Duration of previous job (months)	27.302	60.959	43.155	58.302
<i>Sectoral characteristics</i>				
Wage level (1990 US\$)	7.890	2.559	6.807	1.234
Educational level (years)	12.505	0.885	11.833	1.036
Employment growth (3-year)	1.033	0.221	1.005	0.097
Job churning level (annual)	0.628	0.239	0.449	0.153
Vacancy ratio (quarterly)	3.452	1.960	0.882	0.501
Segment boundary strength	-0.724	0.469	0.430	0.608
Aggregate vacancy ratio (quarterly)	2.661	0.830	0.819	0.248
<hr/>				
N individuals	14,381		59,731	
N unemployment spells	18,305		79,075	
% censored	0.160		0.179	
% work exits	0.606		0.627	

Sources:

Survey of Income and Program Participation, Panels 1984, 1986, 1988, 1990, 1992 and 1993;
IAB Employment Register Sample 1975-1995.

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NOTES

¹ Alternatively, network models of labor market attainment (e.g. Montgomery 1992; Korpi 2001) might be used to justify positive duration dependence in sectoral mobility rates if it is assumed that search channels in other sectors than the one workers previously worked in have to be built up over time. While I am unaware of any explicitly related model in the literature, network arguments would presumably also imply this positive duration dependence for mobility into sectors offering adequate employment.

² Implicitly, the paper will follow Kalleberg's (1987) reasoning to equate labor market structure with occupational boundaries, as occupations are seen to define the job skills traded in the labor market here. Hence, industry effects or industrial mobility will not be treated within this paper (but cf. Fallick 1993 or Thomas 1996), although some related comments follow occasionally below.

³ The data presented have been generated from the same databases that will be used in the empirical analyses later on. I hence postpone a more intense discussion of these data sources to Section 3 below. The data underlying the figure represent relative sector proximities in terms of logit coefficients that were generated from multinomial logit models of sectoral destinations in job-to-job transitions. The origin sector has been used as the base category and is hence scaled to a zero logit score. The less frequent mobility flows occur into a particular destination sector relative to the origin sector, the more negative the logit score will become for that particular sector. Obviously, this procedure is fully equivalent to the results of a saturated log-linear model for the same data.

⁴ More specifically, the analyses use the combined SIPP 1984, 1986, 1988, 1990, 1992 and 1993 Panel studies (U.S. Bureau of the Census 1984ff.) and the 1984-1995 West German data from the 1975-1995 IAB-BS register file (Zentralarchiv für empirische Sozialforschung 1999). In order to abstract from the particular historical circumstances generated by massive industrial restructuring following German reunification, East German workers will not be considered in this study.

⁵ Both the labor force experience and the wage rate variable suffer from particular censoring problems inherent in the IAB-BS data, so that both measures tend to underestimate both the actual means and the variances of labor force experience and pre-unemployment wages for German unemployed. Comparing the results reported here with those from GSOEP data does not suggest that findings on parameter estimates are seriously invalidated, however.

⁶ All wage data have been deflated to 1990 currency values using standard consumer price indices; 1990 German marks have been converted to 1990 US dollar by using 1990 purchasing power parities.

⁷ The very same independence assumption is built into traditional competing-risk models, although made probably less transparent than in

Petersen's two-step formulation (cf. also Petersen 1988: 146f.; Heckman and Singer 1984: 120f.).

⁸ Of course, these figures are not strictly comparable as the respective stock of unemployed at any one time will differ between the two economies. It is easy to see that, given the longer duration of unemployment in Germany, the stock of unemployed will, on average, contain individuals with longer ongoing spells of unemployment there (appendix A clarifies that differences in the duration distribution will be the major difference between the stocks. In general, there is a surprisingly high similarity in the social structure of workers experiencing unemployment in the two economies). As will be more clearly shown from the multivariate analyses, this does not invalidate the observation completely, yet rather qualifies it.

⁹ Averaged across the 1984-1995 period, industrial mobility rates among U.S. workers were 52% across 1-digit industrial sectors, and 63% across 2-digit industries. The corresponding German figures are 42% and 50%.

¹⁰ The reported mobility rates in fact closely reproduce results of earlier studies, often based on other data sources (cf. Mayer and Blossfeld 1988; Carrington 1993; Mertens 1998; Burda and Mertens 2001).

¹¹ The particular model is sometimes also referred to as a mixed (conditional) logit model, given that the specifications include both attributes of the alternative destination sectors and characteristics of unemployed workers.

¹² This observation also holds in the unconditional model specification excluding explicit controls for workers' previous occupation, although the country differences are of somewhat smaller magnitude.

¹³ Virtually identical results are obtained from a model that includes all three sets of interaction effects simultaneously. For purely presentational purposes, parameter estimates for the simpler models containing only a single set of interactions are presented.

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TABLE 1
Sectoral employment growth rates in 2-digit occupations, 1984-1995

Percentiles	United States		West Germany	
	average annual growth rates	12-year growth rates	average annual growth rates	12-year growth rates
10	-16.1%	-26.1%	-6.1%	-33.7%
25	-4.9%	-1.9%	-2.3%	-14.3%
50	+2.2%	+16.5%	+0.4%	+2.4%
75	+10.2%	+49.0%	+2.8%	+16.2%
90	+20.3%	+95.6%	+4.7%	+31.9%

Sources:
Survey of Income and Program Participation, Panels 1984, 1986, 1988, 1990, 1992 and 1993;
IAB Employment Register Sample 1975-1995.

TABLE 2
Unemployment processes among displaced workers in the United States and West Germany, 1984-1995

	1984-1995	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
United States													
Median spell duration (months)	2.24	2.22	2.01	2.13	2.06	1.84	2.01	1.82	2.47	2.85	2.53	2.43	2.83
Hazard rate (r_{ue} stock)	0.187	0.184	0.207	0.196	0.203	0.226	0.211	0.207	0.162	0.146	0.17	0.187	0.177
% work exits (r_{ue} / r_u stock)	0.738	0.741	0.755	0.742	0.768	0.735	0.752	0.720	0.706	0.711	0.715	0.746	0.796
Occupational mobility													
- 7 broad sectors	0.463	0.429	0.471	0.481	0.478	0.475	0.490	0.436	0.444	0.427	0.452	0.487	0.482
- 12 broad segments	0.509	0.488	0.514	0.519	0.515	0.517	0.540	0.482	0.496	0.469	0.500	0.534	0.532
- 2-digit occupations (85 occ.)*	0.639	0.634	0.681	0.647	0.648	0.632	0.685	0.612	0.619	0.584	0.624	0.660	0.632
- 3-digit occupations (471 occ.)*	0.686	0.686	0.742	0.702	0.692	0.681	0.721	0.654	0.656	0.632	0.665	0.706	0.684
West Germany													
Median spell duration (months)	4.97	4.69	3.99	4.05	4.12	4.08	3.98	4.02	4.70	6.29	7.67	7.41	8.59
Hazard rate (r_{ue} stock)	0.072	0.075	0.087	0.082	0.082	0.083	0.082	0.08	0.067	0.054	0.052	0.063	0.078
% work exits (r_{ue} / r_u stock)	0.759	0.736	0.771	0.775	0.775	0.768	0.766	0.766	0.743	0.713	0.723	0.772	0.814
Occupational mobility													
- 7 broad sectors	0.334	0.270	0.290	0.300	0.300	0.321	0.347	0.374	0.356	0.363	0.361	0.371	0.367
- 12 broad segments	0.364	0.294	0.314	0.331	0.328	0.350	0.374	0.406	0.387	0.396	0.392	0.404	0.404
- 2-digit occupations (84 occ.)*	0.425	0.353	0.379	0.387	0.387	0.409	0.434	0.465	0.453	0.455	0.457	0.468	0.464
- 3-digit occupations (272 occ.)*	0.484	0.408	0.434	0.442	0.441	0.466	0.498	0.523	0.513	0.520	0.522	0.529	0.524

Notes: *detailed occupational classification not directly comparable across countries.

Sources: Survey of Income and Program Participation, Panels 1984, 1986, 1988, 1990, 1992 and 1993, weighted data;
IAB Employment Register Sample 1975-1995.

TABLE 3
Skill and sector effects on reemployment rates, discrete-time logit estimates

	United States		West Germany	
	(1)	(2)	(1)	(2)
Intercept	-2.777 (.262)*	-2.547 (.270)*	-1.285 (.085)*	-0.979 (.090)*
Aggregate vacancy ratio ¹⁾	0.268 (.048)*	0.272 (.048)*	0.216 (.023)*	0.283 (.023)*
<i>Duration dependence</i>				
- t	0.065 (.015)*	0.065 (.015)*	-0.088 (.004)*	-0.087 (.004)*
- t ²	-0.009 (.001)*	-0.009 (.001)*	0.002 (3e ⁻⁴)*	0.002 (3e ⁻⁴)*
- t ³	1.8e ⁻⁴ (3e ⁻⁵)*	1.8e ⁻⁴ (3e ⁻⁵)*	-2.3e ⁻⁵ (5e ⁻⁶)*	-2.3e ⁻⁵ (5e ⁻⁶)*
<i>Skill effects</i>				
Education	0.064 (.008)*†	0.064 (.008)*†	-0.018 (.005)*†	-0.012 (.005)*†
Vocational training	-	-	0.131 (.016)*	0.087 (.017)*
Labor force experience ¹⁾	0.121 (.019)*†	0.120 (.019)*†	0.014 (.009)†	0.012 (.009)†
Wage rate in previous job ¹⁾	0.024 (.017)†	0.020 (.017)†	0.163 (.006)*†	0.167 (.006)*†
Duration of previous job ¹⁾	-0.052 (.007)*†	-0.051 (.007)*†	-0.103 (.004)*†	-0.105 (.004)*†
<i>Sector effects</i>				
Wage level ¹⁾	0.163 (.055)*†	0.131 (.056)*†	0.636 (.047)*†	0.610 (.046)*†
Educational level	-0.095 (.020)*	-0.096 (.020)*	-0.100 (.010)*	-0.132 (.010)*
Employment growth ¹⁾	0.022 (.016)†	0.020 (.016)†	-0.052 (.020)*†	-0.098 (.020)*†
Job churning level ¹⁾	0.090 (.028)*†	0.070 (.028)*†	0.618 (.019)*†	0.589 (.019)*†
Vacancy ratio ¹⁾	0.198 (.024)*†	0.188 (.024)*†	0.337 (.015)*†	0.286 (.016)*†
Segment boundary strength		0.093 (.026)*		0.137 (.012)*
σ_i	0.567 (.036)*	0.568 (.036)*	0.678 (.012)*	0.673 (.012)*
N months	67,665	67,665	690,315	690,315
Log-likelihood	-29,836.5	-29,830.2	-160,561.8	-160,499.5
LR-Test χ^2 (df)	1,850 (23)*	1,863 (24)*	35,510 (23)*	35,635 (24)*
Pseudo-R ²	0.030	0.030	0.100	0.100

Notes: As additional controls, all specifications include gender, ethnicity, age, and a seam month dummy for the SIPP data; statistical significance level indicated at *p<.05, and at †p<.05 for cross-national comparisons of effects. ¹⁾ natural log of original variable.

Sources: Survey of Income and Program Participation, Panels 1984, 1986, 1988, 1990, 1992 and 1993; IAB Employment Register Sample 1975-1995.

TABLE 4
Skill and sectoral effects on sectoral mobility rates, logit estimates

	United States		West Germany	
	(1)	(2)	(1)	(2)
Intercept	-1.782 (.627)*	-4.137 (.637)*	1.846 (.252)*	-0.752 (.261)*
Aggregate vacancy ratio ¹⁾	0.257 (.114)*	0.179 (.112)	-0.043 (.069) [†]	-0.681 (.072)** [†]
<i>Duration dependence</i>				
- t	0.204 (.034)*	0.207 (.034)*	0.127 (.012)*	0.117 (.012)*
- t ²	-0.008 (.004)*	-0.009 (.004)*	-4.9e ⁻⁴ (8e ⁻⁴)	1.4e ⁻⁵ (9e ⁻⁴)
- t ³	1.0e ⁻⁴ (1e ⁻⁴)	1.2e ⁻⁴ (9e ⁻⁵)	-2.3e ⁻⁵ (2e ⁻⁵)	-3.0e ⁻⁵ (2e ⁻⁵)
<i>Skill effects</i>				
Education	0.096 (.019)** [†]	0.095 (.018)** [†]	0.003 (.015) [†]	-0.058 (.015)** [†]
Vocational training	-	-	-0.611 (.048)*	-0.200 (.049)*
Labor force experience ¹⁾	-0.089 (.045)*	-0.086 (.044)*	-0.160 (.027)*	-0.148 (.027)*
Wage rate in previous job ¹⁾	-0.299 (.040)** [†]	-0.268 (.040)** [†]	-0.083 (.019)** [†]	-0.124 (.019)** [†]
Duration of previous job ¹⁾	-0.024 (.016) [†]	-0.030 (.016) [†]	-0.138 (.013)** [†]	-0.117 (.013)** [†]
<i>Sectoral effects</i>				
Wage level ¹⁾	-0.148 (.126) [†]	0.214 (.126) [†]	-1.025 (.130)** [†]	-0.829 (.130)** [†]
Educational level	0.283 (.048)** [†]	0.273 (.047)*	-0.083 (.028)** [†]	0.206 (.029)*
Employment growth ¹⁾	-0.096 (.040)** [†]	0.070 (.039) [†]	-0.561 (.058)** [†]	-0.108 (.058) [†]
Job churning level ¹⁾	-0.380 (.067)** [†]	0.148 (.066)** [†]	-1.820 (.059)** [†]	-1.577 (.057)** [†]
Vacancy ratio ¹⁾	-0.073 (.056) [†]	0.063 (.057) [†]	-0.251 (.045)** [†]	0.227 (.047)** [†]
Segment boundary strength		-1.027 (.067)** [†]		-1.284 (.039)** [†]
σ_i	1.306 (.096)*	1.232 (.096)*	1.797 (.048)*	1.752 (.048)*
N exits	11,012	11,012	45,789	45,789
Log-likelihood	-6,777.9	-6,631.6	-27,219.9	-26,580.9
LR-Test χ^2 (df)	661 (23)*	953 (24)*	7,829 (23)*	9,107 (24)*
Pseudo-R ²	0.046	0.067	0.126	0.146

Notes: As additional controls, all specifications include gender, ethnicity, age, and a seam month dummy for the SIPP data; statistical significance level indicated at *p<.05, and at [†]p<.05 for cross-national comparisons of effects. ¹⁾ natural log of original variable.

Sources: Survey of Income and Program Participation, Panels 1984, 1986, 1988, 1990, 1992 and 1993; IAB Employment Register Sample 1975-1995.

TABLE 5
Conditional logit models of destination occupations, U.S. workers

	(1)	(2)	(3) proximity interactions	(4) tenure interactions	(5) duration interactions
Inflow sector	-	1.583 (.07)*	1.651 (.08)*	1.588 (.08)*	1.549 (.08)*
Skill covariates ²⁾	No	Yes	Yes	Yes	Yes
<i>Sector effects</i>					
Wage level ¹⁾	-0.416 (.04)*	-0.190 (.04)*	0.031 (.07)	-0.252 (.05)*	-0.170 (.07)*
Educational level	-0.164 (.01)*	-0.194 (.02)*	-0.233 (.03)*	-0.199 (.02)*	-0.213 (.03)*
Employment growth ¹⁾	0.208 (.05)*	0.078 (.05)	0.298 (.07)*	0.116 (.06)	0.110 (.08)
Job churning level ¹⁾	0.750 (.03)*	0.616 (.03)*	0.583 (.04)*	0.602 (.03)*	0.602 (.05)*
Vacancy ratio ¹⁾	0.043 (.01)*	0.034 (.01)*	0.014 (.01)	0.035 (.01)*	0.045 (.01)*
Sector proximity score		0.523 (.01)*	0.574 (.15)*	0.520 (.01)*	0.546 (.01)*
Interaction x wage level ¹⁾			0.170 (.04)*	0.053 (.03)*	-0.020 (.06)
Interaction x educ. level			-0.029 (.01)*	0.002 (.01)	0.019 (.02)
Interaction x empl. growth ¹⁾			0.179 (.04)*	-0.029 (.03)	-0.033 (.07)
Interaction x churning ¹⁾			-0.026 (.02)	0.012 (.02)	0.016 (.04)
Interaction x vacancy ratio ¹⁾			-0.017 (5e ⁻³)*	-4.4e ⁻⁴ (3e ⁻³)	-0.012 (.01)
Interaction x proxim. score				0.001 (.01)	-0.024 (.02)
Log-likelihood	-44,076.5	-31,953.6	-31,923.8	-31,949.4	-31,950.9
Pseudo-R ²	0.034	0.257	0.257	0.257	0.257

Notes: N = 11,012 work exits. Statistical significance level indicated at *p<.05. ¹⁾ natural log of original variable; ²⁾ spell duration, labor force experience, tenure in previous job and wage rates in previous job included as individual covariates affecting sectoral stability.

Sources: Survey of Income and Program Participation, Panels 1984, 1986, 1988, 1990, 1992 and 1993.

TABLE 6
Conditional logit models of destination occupations, West German workers

	(1)	(2)	(3) proximity interactions	(4) tenure interactions	(5) duration interactions
Sectoral stayers	-	3.510 (.06)*	3.583 (.06)*	3.543 (.06)*	3.511 (.06)*
Skill covariates ²⁾	No	Yes	Yes	Yes	Yes
<i>Sectoral effects</i>					
Wage level ¹⁾	-0.053 (.01)*	-0.038 (.01)*	-0.035 (.01)*	-0.021 (.02)	0.024 (.02)
Educational level	-0.171 (.01)*	-0.130 (.01)*	0.072 (.01)*	-0.202 (.03)*	-0.204 (.02)*
Employment growth ¹⁾	3.960 (.10)*	3.776 (.13)*	2.457 (.18)*	3.467 (.29)*	2.801 (.24)*
Job churning level ¹⁾	0.738 (.02)*	0.545 (.03)*	0.906 (.04)*	0.720 (.06)*	0.646 (.05)*
Vacancy ratio ¹⁾	-0.059 (.01)*	-0.018 (.02)	0.076 (.03)*	-0.011 (.04)	-0.010 (.03)
Sector proximity score		0.265 (.01)*	-0.607 (.07)*	0.253 (.02)*	0.279 (.01)*
Interaction x wage level ¹⁾			0.012 (.01)*	-0.008 (.01)	-0.044 (.01)*
Interaction x educ. level			0.079 (.01)*	0.030 (.01)*	0.049 (.01)*
Interaction x empl. growth ¹⁾			-0.780 (.07)*	0.137 (.11)	0.704 (.14)*
Interaction x churning ¹⁾			0.223 (.02)*	-0.078 (.02)*	-0.079 (.03)*
Interaction x vacancy ratio ¹⁾			0.042 (.01)*	-0.011 (.02)	-0.001 (.02)
Interaction x proxim. score				0.005 (.01)	-0.010 (.01)
Log-likelihood	-81,710.7	-44,472.8	-44,237.8	-44,458.5	-44,438.6
Pseudo-R ²	0.028	0.450	0.453	0.451	0.451

Notes: N = 19,076 work exits, equaling a random 40% sample of work exits used for the analyses reported in Table 4. Statistical significance level indicated at *p<.05. ¹⁾ natural log of original variable; ²⁾ spell duration, labor force experience, tenure in previous job and wage rate in previous job included as individual covariates affecting sectoral stability.

Sources: IAB Employment Register Sample 1975-1995.

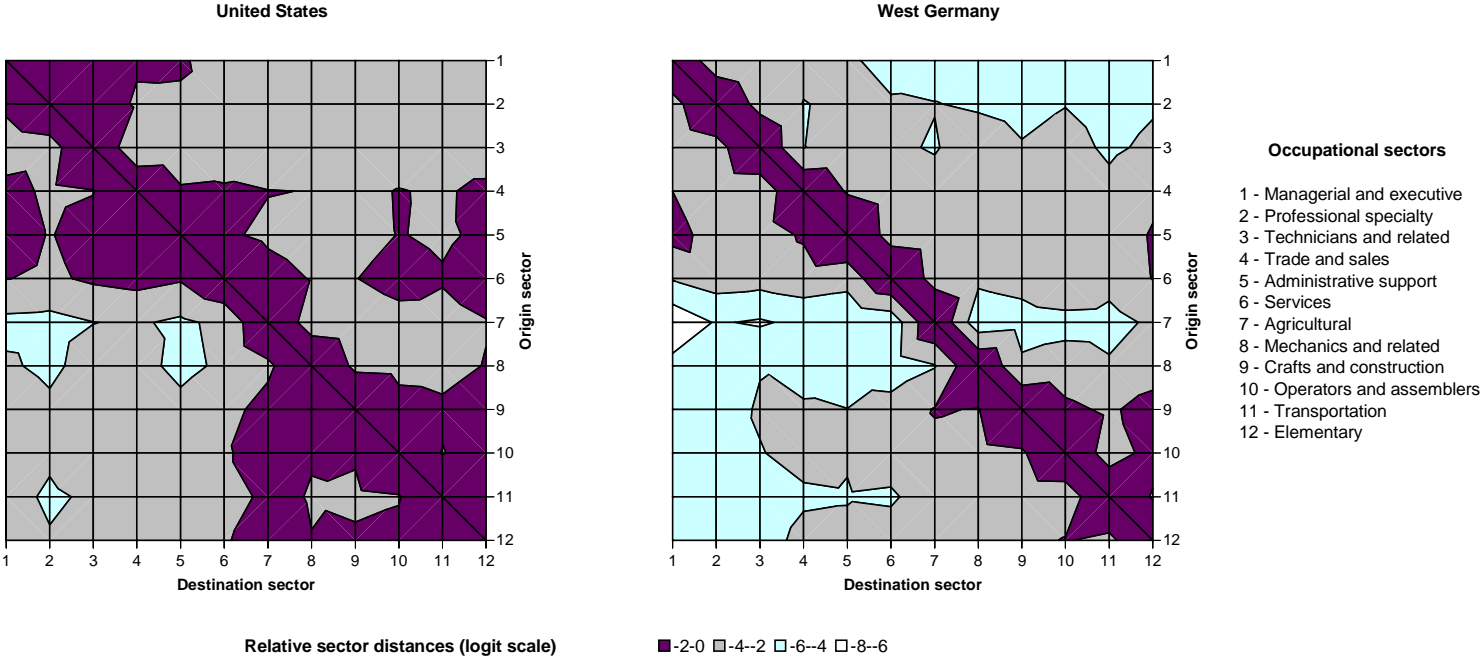
TABLE 7
Structural explanations of U.S.-German differences, pooled model estimations

	(1) Base model	(2) worker structure (skill effects)	(3) aggregate vacancy ratio	(4) labor market structure	(5) skills + labor market structure	(6) skills + labor market structure (country-specific effects)
Reemployment rate						
$\Delta r_{U.S.}(t)$	+0.610 (.019)*	+0.392 (.031)*	+0.059 (.039)	-1.068 (.124)*	-1.019 (.129)*	-1.533 (.219)*
% reduction in $\Delta r_{U.S.}(t)$	-	0.357	0.903	2.751	2.670	3.513
Post-unemployment occupation (sectoral stability based on conditional logit analyses)						
$\Delta \beta_{diag U.S.}$	-1.113 (.028)*	-1.448 (.035)*	N/A	-1.053 (.029)*	-1.622 (.104)*	-1.581 (.106)*
% reduction in $\Delta \beta_{diag U.S.}$	-	-0.301	N/A	0.054	-0.457	-0.420

Notes: Figures represent country dummy effect from pooled regression models including the specified control variables. Country-specific effects have been incorporated using effect coding of variables. Statistical significance level indicated at *p<.05.

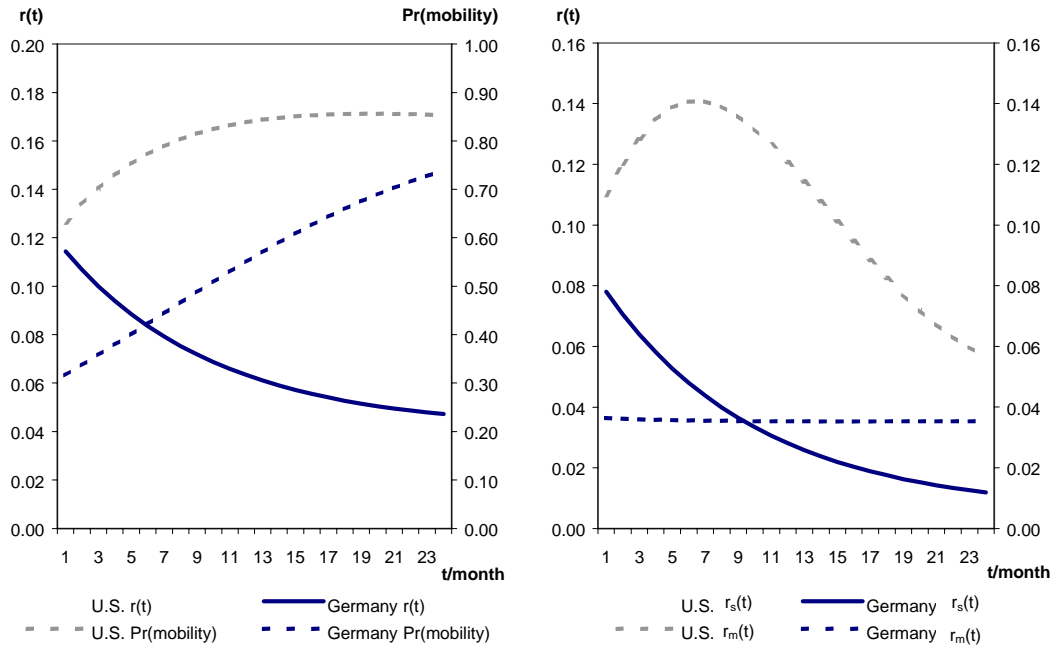
Labor market structure matrix, contour plots

FIGURE 1



Sources: Survey of Income and Program Participation, Panels 1984, 1986, 1988, 1990, 1992 and 1993; IAB Employment Register Sample 1975-1995.

FIGURE 2
Duration dependence in hazard rates



Notes:

Average predicted conditional hazard rates from model specifications (2) in Tables 3 and 4.