The Speed of Leaving the Old Job

A Study on Job Changes and Exits into Unemployment During the East German Transition Process*

By Joachim Wolff and Parvati Trübswetter

Abstract

This paper analyses how quickly old job matches ceased to exist during the East German transition process from July 1990 to December 1993. Using job spells from the German Socio-Economic Panel-East, we estimate the effects of important covariates on the transition rates from the old job to a new one and into unemployment by a competing-risks duration model. Our results suggest that the speed of exit into new jobs rises with skills. The special short-time allowance slowed down the exit rate into unemployment. Workers increased their rate of job change temporarily just after the end of this program.

JEL Classification: C 41, J 63, P 2

1. Introduction

Since production in socialist economies was relatively labour intensive, the destruction of a large number of jobs in the old firms was inevitable in the transition process. This paper studies how quickly old job matches ceased to exist in East Germany and to what extent they terminated by a job change or by exit into unemployment.

The reallocation of labour was expected to lead to considerable flows between employment and unemployment and vice versa. But in many transition economies these flows remained low by Western standards (Boeri, 1994). This also applies to East Germany (Wolff, 1998). To a large extent, the reallocation of labour from old less productive jobs to new ones took place by direct job changes. According to data from the Labour Market Monitor, East German

job changes made up for roughly 55% of total hiring from November to November of the years 1991 to 1993 (German Federal Labour Office, 1994). This figure is considerably higher than in market economies.[1]

East Germany chose a strategy of a rapid transition. With the introduction of the German Economic, Monetary, and Social Union in July 1990 and unification in October 1990, the West German institutional framework was adopted. A consequence was that wages would adjust rapidly to the much higher West German levels. Already in 1991 some collective agreements aimed at reaching this goal quickly.[2] Due to the wage rise and high subsidies for new capital investment in East Germany, a large proportion of the new jobs were good jobs with a high productivity and wage level. Hence, new firms chose more capital and human-capital intensive production technologies than prior to the transition process. Thus, they needed highly talented applicants to fill their vacancies, while old firms needed to retain talented workers to turn their jobs into profitable ones. The speed of exit of workers from old jobs into new jobs should hence increase in skills, past occupational position and past wages, which are proxies for their talents. The reverse should be true for exits into unemployment.

Protection against dismissal may be another important determinant of the speed of exit from the old job. Protection may be more complete the older the worker and the higher his or her tenure. It may also be more complete for workers with children. Therefore, the transition rates both into new jobs and into unemployment should decline with age, children and tenure.

As many old jobs were likely to become unprofitable, an important temporary program of special allowances for short-time work was introduced to reduce job losses. Prior to its end in January 1992, the old firms had a means of retaining their most talented workers, even if their jobs were not yet profitable. This should have kept the exit rates from the old jobs into unemployment initially relatively low compared with the period after December 1991. However, it could also explain variation in the speed of exit into new jobs over time.

Before the end of the short-time allowance program, new employers had difficulties finding talented unemployed applicants. Therefore, they may have hired workers directly from their old firm, which would have caused transition rates into new jobs to be relatively high. When the short-time allowance program ended, the old firms had to shed quickly a large proportion of their staff,

---

[1] Pissarides (1994) summarized evidence on job changes in several countries: Blanchard and Diamond (1989) found that between 1968 to 1986 about 20% of new hires in the U.S. result from job changes. According to estimates of Burda and Wyplosz (1994) for West-Germany in the year 1987 at 17% this proportion is even lower.

[2] A contract in the metal industry agreed to reach West German gross wages by 1994. The median real monthly consumer wage rose by more than 80% in the first six years of transition (Hunt, 2001).

so that workers' incentives to search on-the-job and to accept a job offer were relatively high. Consequently, we expect the job-to-job transition rate to peak just after December 1991. In the course of 1992 and 1993 it should be relatively low, as it became easier to fill vacancies with talented unemployed applicants.

Previous empirical studies did not address the speed of exit from old to new jobs. Licht and Steiner (1994) used the German Socio-economic Panel East (GSOEP-East) to study employment duration for the first nine months since July 1990. They analysed the determinants of exit from employment into short-time work, unemployment and non-participation by a logistic duration model. One important result was that the likelihood of remaining employed rises with a worker's wage in May 1990. Another empirical study on employment duration in East Germany of Hunt (2002) regards a much longer time horizon and distinguished between voluntary and involuntary separations from employment as competing risks. Her analysis also relies on the GSOEP-East and confirms that the wage in May 1990 had a positive effect on the probability of remaining employed of people who were employed in mid 1990. If wages under socialism increased with talents, this may reflect attempts by old firms to keep their most talented workers and attempts by firms creating jobs to hire them.

Some of our hypotheses contradict implications of a model developed by Boeri (1997) to explain high job-to-job movements in transition economies. His starting point is that under socialism the most educated workers had little incentive to develop their skills on the job, due to wage compression. For this reason, and due to the fact that dismissing low-productivity workers was almost impossible, managers had little incentive to monitor their workers' productivity. Under some further assumptions his model explains why a high proportion of new hires resulted from job changes. He assumes that past occupation, past wage, or vocational attainment during socialism do not signal the productivity of a worker to the employers who create new jobs. His model predicts high job-to-job movements, but according to this assumption and in contrast to our views, one would not expect that the speed at which people leave their old job for a new one varies considerably with differences in these attributes.

Our analysis is based on retrospectively collected individual job duration data from the GSOEP-East. We study the determinants of the duration of old jobs over the period July 1990 to December 1993 and apply standard econometric duration models for investigating the above hypotheses.

2. The East German labour market
in the first years of transition

In East Germany the impact of the transition to a market economy on the labour market was remarkable. Employment fell from more than 9.7 million people in the first quarter of 1989 to 6.2 million people at its (first) trough five years later. More than 90% of this net job loss had occurred by the first quarter of 1992. By that time the unemployment rate had reached more than 15%.

Table 1 displays some differences between the East and West German labour market with respect to the unemployment rate, the inflow rate into unemployment, as well as the outflow rate from unemployment from 1991 to 1993. These statistics are computed using data from the Federal Labour Office and the Microcensus. At monetary union in July 1990, the East German unemployment rate was less than four percent. By 1991 it was already above ten percent. In the following two years it went up to roughly 16% and was about twice as high as in West Germany. Even though there was a large employment reduction, by Western standards East German flows into and out of unemployment do not seem extremely high. Between 1991 and 1993, per month on average 1.5% of the people in the labour force became unemployed. For West Germany this average monthly inflow rate into unemployment was between one and 1.2%.

Table 1

Unemployment rate and unemployment dynamics from 1991 to 1993
(in percent)

	East Germany			West Germany		
	1991	1992	1993	1991	1992	1993
Unemployment Rate	10.3	14.8	15.8	6.3	6.6	8.2
Gross Inflow Rate into Unemployment[a]	1.4	1.6	1.5	1.0	1.0	1.2
Gross Outflow Rate from Unemployment[b]	9.6	10.8	10.3	18.3	16.9	14.9

[a] Average monthly inflow into registered unemployment divided by the labour force.
[b] Average monthly outflow from registered unemployment divided by the annual average unemployment stock.

Sources: Federal Labour Office and Microcensus

One reason for the low inflow rates may have been the special short-time allowance that was in force until the end of 1991. It gave workers at risk of losing their job time to find a new one without entering unemployment. In West Germany this program only applies to firms affected by temporary economic shocks, while in East Germany it applied to any firm with a need to

restructure.[3] In 1991 1.8 million workers – more than 25% of the East German employment – were on this program. Collective agreements on temporary protection against dismissal that were in force until June 1991 also partly explain the moderate inflow rates.

Table 1 also shows that the outflow rates were low by Western standards. From 1991 to 1993 the monthly average outflow rate from unemployment in East Germany was close to 10% while in West Germany it ranged from 14.9 to 18.3%. The low East German outflow rates may reflect the fact that employers hired workers directly from their old jobs rather than from the pool of unemployed.

3. Methods and data

3.1 Econometric methods

We analyse the discrete random variable duration of the old job, T. The hazard rate measures the probability of exiting from the old job in month t to any destination state, provided that the individual has been in the old job up to the beginning of that month. A hazard rate may additionally be conditioned on a vector of explanatory variables $\underline{x}(t)$. The conditional probability of exiting to a specific destination state, $J = j$, is called transition rate and is denoted as:

$$(1) \qquad P[T = t, J = j | T \geq t, x(t)] = \theta_j(t|\underline{x}(t)), \qquad j = 1, \ldots, M$$

The unconditional probability that a spell does not end with an exit up to the month $T = t$ is the survival probability and is defined as:

$$(2) \qquad S(t|\underline{x}(t)) = \prod_{\tau=1}^{t} \left[1 - \sum_{j=1}^{M} \theta_j(t|\underline{x}(t)) \right]$$

We assume the logistic specification for modelling the discrete random variable T (Allison, 1982; Jenkins, 1995). The transition rates are then specified as

$$(3) \qquad \theta_j(t|\underline{x}(t)) = \frac{\exp[\alpha_{tj} + \underline{x}(t)' \cdot \underline{\beta}_j]}{1 + \sum_{m=1}^{M} \exp[\alpha_{tm} + \underline{x}(t)' \cdot \underline{\beta}_m]} \quad ,j = 1, \ldots, M \ ,$$

where α_{tj} represents a parameter for the time effect, which may vary from month to month. The parameter vector, $\underline{\beta}_j$, of the covariates differs for each

---

[3] Short-time workers with children received 68% of their net wage loss, while those without children received 63%.

exit state. We consider transitions to a new job and to unemployment. Within-firm job changes are not considered to be a transition. Spells that end with a transition to some destination state *j* contribute to the likelihood by the product of the corresponding transition rate with the survival probability. Spells that end without a transition during our observation period (right-censored spells) contribute to the likelihood function by the survival probability alone. Since transitions to non-participation are rare, we treat spells that end by such an exit as right-censored. Assuming the logistic specification, the likelihood function can be transformed into the likelihood of a multinomial logit model.

3.2 Data

The GSOEP-East, a representative sample of the East German population on a household basis, is the data source for our analysis.[4] This panel study collects information on the start and end of jobs retrospectively, which enabled us to construct job spells of workers who held an ongoing job in July 1990. Their jobs are old jobs in the sense that they were created prior to monetary union. We defined July 1990 as the job start in order to analyse how long old job matches survived during the transition process. Completed spells end with an exit prior to 1994. Spells that continued in 1994 are regarded as right-censored. We used the calendar information to determine the exit state.

Our sample was limited to workers who are younger than 53 years in 1990. Older workers had the additional option of exiting into special early retirement programs. Hence, their behaviour with respect to new job or unemployment exits would differ much from that of workers who were not eligible for early retirement. We also dropped job spells of women on maternity leave at their first interview in 1990. They did not provide information on a large number of important job-related covariates. We dropped spells if a covariate value is missing from the start of the spell. If a time-varying covariate is not missing at the start but at some other point in time during a spell, we treat the spell as right-censored in the month before the missing value occurs. This left us with a sample size of more than 2,400 observations.

3.3 Descriptive Statistics

Table 2 displays the composition of our spell sample by destination state and gender, before spells are dropped owing to missing covariate information. Slightly more than 50% of the spells represent men. More than 22% of the spells of men but only 13.9% of the spells of women end in a job change (rows four and six). The modal female exit state is unemployment. We esti-

---

[4] For a general description of the GSOEP-East see Wagner et al. (1993). The data were provided by the Deutsches Institut für Wirtschaftsforschung.

Composition of the sample of old job spells by destination state

	Men		Women	
	Number	Proportion (percent)	Number	Proportion (percent)
Sample size	1381	100	1264	100
Right-censored	805	58.3	730	57.8
Exits into new jobs	312	22.6	176	13.9
Exits into unemployment	228	16.5	334	26.4
Exits into non-participation	36	2.6	24	1.9

mated Kaplan-Meier survival probabilities in the old job. By the end of 1993 about 49.5% of men and 46% of women survived in their old job. We also estimated these probabilities for a sample of workers from the GSOEP-West, who held a job in July 1990. About 80% of men and 75% of women in West Germany still held their old job at the end of 1993. These proportions are substantially higher than for East Germany, and demonstrate that East German workers left their old jobs rapidly during the transition process.

Table 3 shows the means of the main variables (and the standard deviations of continuous variables). The samples of 1,286 male and 1,193 female spells used in the regression analysis are smaller than those used to calculate the Kaplan-Meier estimates. The first set of covariates are the time intervals of the baseline hazard, which are not of equal length for various reasons. For example, we chose a very short interval of three months length for the period December 1991 to February 1992 to quantify the temporary rise of the exit rates after the short-time allowance ended. The last interval instead exceeds one year, as the number of exits in this interval is very small.

The next set of covariates, age and the number of children, represent personal and household attributes. Table 3 shows that the share of young men exceeds that of young women. This is not surprising as young mothers are more likely to be non-participants than young fathers. As far as children are concerned the distribution is quite similar for both sexes. Table 3 also presents descriptive statistics on occupational qualification. 71% of men and 67.6% of women have no degree or an apprenticeship. 19% of men and 24.5% of women are either master craftsmen or got an engineering or technical degree. We refer to these categories as technical school. More than 10% of men and about 8% of women hold a degree from a university or a technical college.

The last set of covariates characterize the old job in 1990. We distinguish between four occupational categories: The first – missing, self-employed or trainee – represents a very small share of both samples. The second, blue collar workers, is the modal group for men, while the third – foremen, un-or

Table 3

Characteristics of the male and female spell samples

Covariates		Male sample		Female sample	
		Mean	Std. Dev.	Mean	Std. Dev.
Calendar Time	July 90 – Aug. 90	0.090		0.093	
	Sept. 90 – Nov. 90	0.120		0.127	
	Dec. 90 – Feb. 91	0.108		0.114	
	Mar. 91 – May 91	0.095		0.099	
	June 91 – July 91	0.055		0.056	
	Aug. 91 – Nov. 91	0.103		0.103	
	Dec. 91 – Feb. 92	0.069		0.068	
	Mar. 92 – July 92	0.096		0.092	
	Aug. 92 – Dec. 93	0.264		0.247	
Personal and household characteristics:					
Age	< 26	0.183		0.158	
	26 to 35	0.334		0.346	
	36 to 45	0.278		0.298	
	> 45	0.205		0.199	
Own children	No children < 17 years	0.443		0.411	
	1 child	0.260		0.289	
	more than 1 child	0.297		0.300	
Occupational qualification	No degree or apprenticeship	0.707		0.676	
	Technical school	0.190		0.245	
	University or technical college	0.103		0.079	
Characteristics of old job in 1990:					
Occupation	Missing, self-employed, trainee	0.082		0.057	
	Blue-collar worker	0.624		0.295	
	Foremen, un- or semi-skilled white collar workers	0.130		0.467	
	Professional or managerial position	0.165		0.181	
Tenure in June 1990	≤ 2 years	0.163		0.159	
	3 – 4 years	0.126		0.135	
	5 – 7 years	0.121		0.135	
	8 – 10 years	0.103		0.111	
	11 – 15 years	0.164		0.175	
	> 15 years	0.323		0.285	
Other	ln (hourly wage)	1.781	0.734	1.726	0.647
Sample size (expanded sample)		27044		24402	
Number of spells		1286		1193	

semi-skilled white collar workers – is the modal group for women. The last group are professional or managerial workers. Job tenure prior to July 1990 was divided into six groups: 2 or less, 3 – 4 years, 5 – 7 years, 8 – 10 years, 11 – 15 years, and more than 15 years. We also control for the logarithm of the hourly wage rate in May 1990.

Additional unreported covariates are industry, public sector worker, not working in job trained for, company taken over, working short-time, the logarithm of the real equivalent household income and of the vacancy-unemployment ratio. The time-varying covariates are time-intervals, children, equivalent household income, company has been taken over, short-time work and the regional vacancy-unemployment ratio. Descriptive statistics on these covariates are available on request.

4. The determinants of the transition rates into new jobs and unemployment

The estimation was carried out for men and women separately. The reference individual is 26 to 35 years old, childless and has a qualification no higher than an apprenticeship. He / she works in the primary sector, i.e., agriculture, forestry or fishing, as a blue collar worker with a tenure of 2 years or less. The person works in the job trained for but not as a public sector employee and wage information is available. Neither was his / her company taken over nor is the individual working short-time. We discuss only one specification for each gender.[5] The coefficients together with their t-statistics are not presented in this paper, but are available on request. To discuss our estimation results, we present some predicted transition rates and the wage elasticities of the transition rate.

Figure 1 plots the predicted transition rates to a new job of a male and a female with average characteristics against calendar time. The exit rates to a new job were relatively high at the start of the transition process, and quite low after July 1992. For women, this difference is substantial. We are not very confident about this result for men given the lack of statistical significance of many of the period coefficients. At nearly 2%, we find a significant spike in the male transition rates for the three months after the end of the special short-time allowance in December 1991. It is more than twice as high as the mean exit rate (0.81%) of the average male. In the same interval also women exit into new jobs at a relatively high rate, but the effect is not significant.

---

[5] Other specifications considered additionally the covariates marital status, relationship to household head, number of adult household members and firm size as well as dummy variables for the federal states. According to likelihood-ratio tests their coefficients were jointly not statistically significant for either gender.
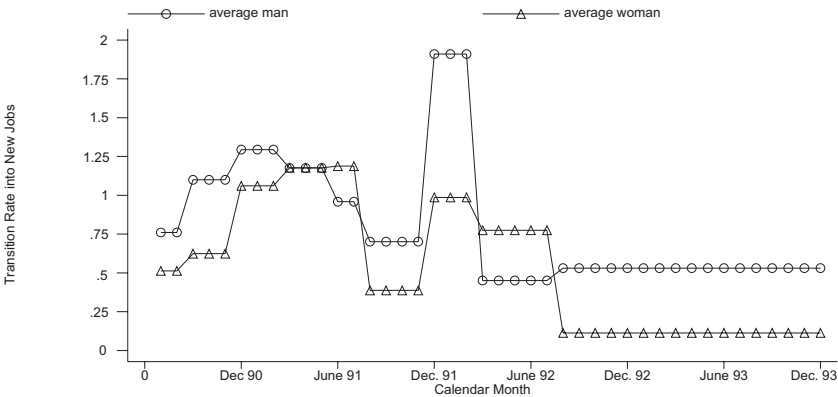
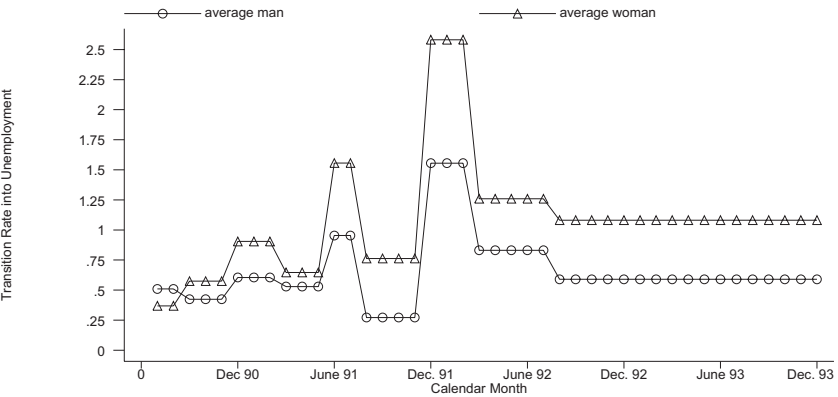Figure 1: Predicted transition rates into new jobs in percent

Figure 2: Predicted transition rates into unemployment in percent

According to Figure 2, the unemployment exit rates of an average man and woman vary substantially with calendar time. Until May 1991 their transition rates are relatively low. They range from 0.42 to 0.60% for the male and from 0.37 to 0.90% for the female. There is a little spike in the period June 1991 to July 1991, when the agreements on protection against dismissal ended. For men only the coefficient for the interval December 1991 to February 1992 is significant. It implies a large spike at 1.6%. For the woman the spike in this interval is higher at 2.6%. It reflects the strong labour shedding after the end of the special short-time allowance. After July 1992 men exit into unemployment at a speed similar to that of the start of the transition process, while the

average female's exit rate at 1.1% is above her initial exit rates. The spike could also be capturing seasonal effects, and the tendency of respondents to recall that jobs began at the beginning of the year.

Table 4 displays some predicted transition rates for different individuals. The first set of exit rates describes their variation with age and the number of children. We expected the exit rates into both destination states to decline with age and children, as protection against dismissal is likely to be more complete the older the workers are and the more children they have. At 1.2 to 1.3% males who are younger than 36 years exit into new jobs at a somewhat higher rate than males older than 35 years. The job change rate of women at 1.7% is highest at an age of 26 to 35 years. At 0.95% it is quite low for women younger than 26 or older than 45 years. For men and women all the age coefficients of the exit state unemployment are insignificant. To sum up, both transition rates do not generally decline in age. Additional effects like a higher job mobility of young versus old workers and preferences of employers for young workers who adapt more easily to new production techniques than older workers may be reflected in these results.

A childless man has an transition rate into a new job of 1.3%, a much lower one than fathers at 1.8 to 2%. By contrast, the presence of children implies a fall for the female exit rate to new jobs. Presumably new employers were reluctant to hire mothers but not fathers. The speed of exit into unemployment declines considerably with the presence of children for men and somewhat for women. Hence, protection against dismissal based on family status may be more complete than protection based on age. However, there may be counteracting effects. Over the observation period, a reduction of child-care facilities made the combination of work and family life more difficult. Hence, the exit rates into unemployment of women may rise with the number of children, if we regard insured unemployment as a first step to leaving the labour force. This would explain why the male exit rates into unemployment fall more strongly with children than the female ones.

There is significant variation across skill groups in the male but not female transition rates. Men's exit rate into new jobs rises considerably with qualification. While the predicted probability for the reference category apprenticeship or no degree is only 1.3%, it is about 2% for technical school or university degree / technical college. This is evidence that employers filled new jobs by hiring highly skilled workers rather than workers with low skills directly from their old job. With respect to the unemployment transition rates, the results are less clear. Compared with the reference group a man with a degree from a technical school exits at a 70% lower rate into unemployment. However, a university degree implies a somewhat higher exit rate into unemployment than apprenticeship. This is not generally in line with the hypothesis that old firms attempted to keep the highly skilled workers.

Table 4

Predicted transition rates for men and women in percent

	Men		Women	
	New Job	Unempl.	New Job	Unempl.
Personal characteristics:				
Age				
< 26	1.18	1.93	0.95	1.04
26 to 35 (ref.)	1.31	1.69	1.67	1.22
36 to 45	0.95**	1.79	1.31	1.54
> 45	0.92	2.02	0.95**	0.94
Number of own children				
No children (ref.)	1.31	1.69	1.67	1.22
1 child	1.96**	1.32	1.27	0.91*
> 1 child	1.80*	1.09**	0.80**	1.01
Occupational qualification:				
No qual. / apprenticeship (ref.)	1.31	1.69	1.67	1.22
Technical school	2.09**	1.05*	1.57	1.07
University or technical college	2.13*	1.97	2.92	1.30
Selected characteristics of old job in 1990:				
Occupation				
Missing, self-employed, trainee	0.55**	0.96	6.14**	0.15**
Blue collar (ref.)	1.31	1.69	1.67	1.22
Foremen, un- or semi-sk. white col.	1.14	2.70*	3.14**	0.92*
Professional or managerial position	1.24	3.20**	1.98	1.00
Tenure in June 1990:				
≤ 2 years (ref.)	1.31	1.69	1.67	1.22
3 – 4 years	1.37	1.44	1.85	0.99
5 – 7 years	0.85*	1.24	1.28	0.59**
8 – 10 years	1.17	1.16	1.70	0.81*
11 – 15 years	0.97	0.99**	0.98	0.82**
>15 years	0.86**	0.78**	1.23	0.58**
Other				
Elasticity w.r.t hourly wage	0.31	-0.52	0.80**	-0.84**

*Coefficient is significant at ten percent significance level

** Coefficient is significant at five percent significance level

[a] The characteristics of the reference person are: time period – July to August 1990, age of 26 to 35 years, childless, average logarithmic household income and no degree or an apprenticeship as his / her qualification. Additionally, he / she works in the primary sector as a blue collar worker with a tenure of 2 years or less, working in the job trained for but not as a public sector employee. His / her company has not been taken over nor is the person working short-time. The wage in 1990 is set at its sample mean for each gender in 1990. The logarithm of the vacancy-unemployment ratio is –3.4318, its mean for the East German economy over the observation period.

For men and women the effects of occupation on the old job differ considerably. Since the category missing, self-employed or trainee represents less than nine percent of the spells, we focus on the results for blue and white collar workers. The transition rate into new jobs of blue and white collar males hardly differ. For women, by contrast, we find the two groups of white collar workers exit more rapidly into new jobs than the blue collar group. This difference is only statistically significant for the group foreman, un- and semi-skilled white collar workers, who exit at a rate that is more than 80% higher than that of blue collar workers.

The male transition rates into unemployment vary substantially with occupation. The blue collar worker is characterized by an exit rate of about 1.7%. It is with 2.7% much higher for foreman, un- and semi-skilled white collar workers and highest for professional or managerial men at 3%. This high exit rate of white-collar workers is somewhat surprising. For women instead we find white collar workers exit a little less rapidly into unemployment than the blue collar ones.

For men and women alike both transition rates tend to decrease substantially with tenure. For example, more than 15 years of tenure imply an exit rate into unemployment that is more than 50% lower than for a comparable individual with less than 3 years of tenure. However, we find also a particularly low transition rate for the male tenure group $5-7$ years, which often does not differ much from the group with more than 15 years of tenure.

The effects of tenure are consistent with economic intuition. It is harder to dismiss workers with a high tenure than workers with a low one, so that a worker's incentives to change the job fall with tenure. Another reason for our results may be that employers dismiss workers with a relatively low tenure more easily as they have invested little in their firm-specific human capital. But was this really the case during the East German transition process? Our tenure variable represents tenure prior to the transition process. Thus, the firm-specific human capital stems from the socialist period and is likely to have quickly lost its value after the start of monetary union.

The coefficients on the wage are significant for women only. The elasticity of the exit rate of women with respect to the hourly wage in 1990 demonstrates the impact of wages: it is 0.8 for the exit state new job and 0.84 for the exit state unemployment. This may indicate that high wages prior to the transition process were positively related to ability. The higher the ability, the more easily workers find another job and the less likely it is that they exit into unemployment.

5. Conclusions

In contrast to previous studies on employment duration in East Germany of Licht and Steiner (1994) and Hunt (2002) our study regards as an event that employed people change their job. We demonstrated the high speed at which old jobs terminated during the East German transition process. Our econometric analysis showed that the speed of exit into jobs and into unemployment varies considerably with individual characteristics. The evidence is not in line with Boeri's assumption that past occupation, wages and vocational attainment do not signal an applicant's productivity to a new employer. For men, higher skills are associated with a higher speed of exit from old into new jobs. For women there is considerable variation of this exit rate with the past occupation and the past wage.

A negative effect of the wage rate in 1990 on the transition rates from employment into non-employment was found by Licht and Steiner (1994) and Hunt (2002). This finding is in line with the argument that past wages reflect the talents of East German workers. So the least talented workers become unemployed or leave the labour force more rapidly than more talented workers do. Given the rapid adjustment of wages towards West German levels and the high subsidies for capital investment, one would expect that new jobs would be filled by the most talented workers. Therefore, it is not surprising that we find the exit rates into new jobs to be positively and significantly related to the wage rate in 1990. However, this is only true for women.

Our analysis also showed that workers exit at a relatively high speed from their old job into a new one prior to March 1992 for men and prior to August 1992 for women. The speed of job change slowed down substantially in the year 1993. Possibly new employers hired workers from old firms mainly as long as the special short-time allowance was in force. Due to this program, the old firms had a high incentive to keep their best staff, as parts of the wage of their workers were financed by transfers from the state. So new employers believed people who became unemployed had very low productivity. However, once this program ended old firms had to dismiss a larger proportion of highly talented workers than before. Therefore, hiring unemployed people may have become more attractive and indeed the outflow rate from unemployment increased after 1993.

The rate of job change was found to be extremely high in a short period after the special short-time work allowance terminated. Thus, this labour market program may have slowed down the rate of job change prior to its end.

References

Allison, P. D. (1982), Discete-time methods for the analysis of event histories, in: S. Leinhardt (ed.), Sociological Methodology, San Francisco, 61–98.

Blanchard, O. / *Diamond,* P. (1989), The beveridge curve, Brookings Papers on Economic Activity, 0, 1 – 76.

Boeri, T. (1994), Labour market flows and the persistence of unemployment in Central and Eastern Europe, in: T. Boeri (ed.), Unemployment in Transition Countries: Transient or Persistent?, Paris, 13–57.

– (1997), Heterogeneous workers, economic transformation and the stagnancy of transitional unemployment, European Economic Review, 41, 905–914.

Burda, M. / *Wyplosz,* C. (1994), Gross worker and job flows in Europe, European Economic Review, 38 (6), 1287–1315.

German Federal Labour Office (1994), Amtliche Nachrichten der Bundesanstalt für Arbeit: Arbeitsmarkt 1993, 43, Nürnberg.

Hunt, J. (2001), Post-unification wage growth in East Germany, Review of Economics and Statistics, 83 (1): 190 – 195.

– (2002), The transition in East Germany: When is a ten-point fall in the gender wage gap bad news? Journal of Labor Economics, 20 (1), 148–169.

Jenkins, S. P. (1995), Easy estimation methods for discrete-time duration models, Oxford Bulletin of Economics and Statistics, 57 (1), 129–137.

Licht, G. / *Steiner,* V. (1994), Where have all the workers gone? Employment termination in East Germany after unification, in: F. Buttler / G.-G. Wagner (eds.), Labour market dynamics in present day Germany, Frankfurt, New York, Boulder (Colorado), 40–66.

Pissarides, C. (1994), Search unemployment with on-the-job search, Review of Economic Studies, 61, 457–475.

Wagner, G. G. / *Burkhauser,* R. V. / *Behringer,* F. (1993), The english language public use file of the German Socio-Economic Panel, Journal of Human Resources, 28 (2), 429–433.

Wolff, J. (1998), Essays in Unemployment Duration in two Economies in Transition: East Germany and Hungary. PhD thesis, European University Institute, Florence.