Tenures that Shook the World: Worker Turnover in Russia, Poland and Britain

Hartmut Lehmann
Jonathan Wadsworth

December 1999

DISCUSSION PAPER SERIES

I Z A

Forschungsinstitut
zur Zukunft der Arbeit
Institute for the Study
of Labor

Tenures that Shook the World:
Worker Turnover in Russia, Poland and Britain

Hartmut Lehmann

Heriot-Watt University, Edinburgh, IZA, Bonn and
William Davidson Institute, University of Michigan Business School

Jonathan Wadsworth

Centre for Economic Performance, London School of Economics, Royal Holloway College,
University of London and IZA, Bonn

Discussion Paper No. 90
December 1999

ABSTRACT

Tenures that Shook the World:
Worker Turnover in Russia, Poland and Britain[*]

We study worker turnover in a transition economy to investigate to what extent the length of time a worker has been employed by a firm shapes the turnover process. Using data from the Polish Labor Force Survey and The Russian Longitudinal Monitor Survey we compare the pattern of turnover with a Western economy, Britain. We show tenure profiles are higher and flatter in Russia than and steeper and lower in Poland than in Britain. The characteristics of workers hired in the state and private sectors do not look very different. State and private sector firms in Poland offer the same wages to new recruits, but new private sector jobs in Russia appear to offer wage premia relative to new state jobs. We argue that these observations are consistent with a framework where the value of seniority in jobs begun under the old order may be small and the value of a continued job match unsure, offset, in Poland at least, by insider resistance to layoffs.

JEL Classification: J6

Keywords: Job tenure, worker turnover, transition economies

Hartmut Lehmann
School of Management
Heriot-Watt University
Edinburgh EH14 4AS
Tel: 00 44 131 451 3626
Fax: 00 44 131 451 3008
Email: h.lehmann@hw.ac.uk

---

1. Introduction

Economic transition in the countries of Central and Eastern Europe has led to both re-allocation of labor across industries and occupations and re-structuring of tasks within continuing organizations. Re-allocation involves the transfer of labor and other resources from sectors in decline, primarily state owned, to expanding, mainly privately owned, sectors. Re-structuring, on the other hand, occurs within state or privatized firms seeking to adapt and survive in the new economic environment. This requires a more efficient use of labor resources in an attempt to raise productivity. Restructuring will make some working processes obsolete and expose workers to a greater risk of job loss. Labor shedding is then viewed as one consequence of this process. At the same time, any upturn in the rate of new job creation can facilitate job quitting and even within-firm transfers of workers. In what follows, we analyze which workers are affected by the transition process, concentrating on the effect of job tenure on worker separations and on the factors affecting new job accessions.

In one strand of the Western literature (e.g. Mincer and Jovanovic, 1981, and Farber, 1999), the length of job tenure is associated with the intensity of firm-specific capital, which can generate an inverse but convex relationship between job separations, whether worker or firm initiated, and tenure. To what extent tenure helps determine the separation process in an economy undergoing transition, where firm-specific capital for many workers may no longer retain its value, is the first subject of this paper. We argue that if firm-specific capital has depreciated dramatically, then separations, quits and layoffs, may occur higher up the tenure distribution than in a Western economy.

However, there are other factors that may be important in explaining worker turnover in transition economies. Aghion and Blanchard (1994) and Blanchard (1997) argue that high

unemployment will provoke resistance to restructuring through labor shedding in state firms or firms privatized internally. So insider power may act to moderate the rate of separations at any tenure, but also, because job tenure may be correlated with insider power, this would concentrate separations at the lower end of the tenure distribution. This could then generate a steeper tenure-turnover profile than in an economy not subject to mass insider privatization or lacking strong union influence.

The second aspect of worker turnover that we examine is the hiring process. Analyzing the short end of the tenure distribution gives us information about the extent of new hires and, with knowledge of firm ownership, a means of comparing labor requirements in both re-allocation and restructuring. A simple view would be that private sector hiring will be the result of labor re-allocation and new job creation, whilst the state sector will be engaged primarily in re-structuring and therefore replacement hiring.

This paper analyses the patterns of worker turnover in two transition countries, Poland and Russia, and compares these patterns to those of a benchmark Western economy, Britain, located toward the flexible end of the labor market. The two transition economies differ both in their reform stance and in their labor market experiences. In Poland, open unemployment emerged rapidly after a consistent reform program was implemented in 1990. In Russia, transition began later and has been more sporadic, but without the emergence of mass unemployment. Here, labor adjustment has occurred instead mainly on the price side, with a sharp fall in real wages and the build up of large wage arrears affecting more than half of those in work, (Lehmann, Wadsworth and Acquisti 1999). The pace of privatization has been slower in Poland than in Russia, which may have consequences for worker turnover through some insider mechanism. In Russia, failure to index unemployment benefits to inflation and often the failure

4

by the authorities to pay benefits make job reallocation through unemployment more unlikely than in Poland.

There were also differences in how the labor market operated under central planning in the two countries that might have a bearing on the adjustment process during transition. [1] A large legal private non-agricultural sector in Poland in the eighties competed with the state sector for labor resources. This competition ensured that there was virtually no slack in the state sector, a tendency reinforced by substantial labor hoarding in order to meet production targets and enterprise level bonuses, (Góra and Rutkowski, 1990). In contrast, the Soviet labor market, without a legal private sector since the early thirties, had considerable slack throughout its history. This slack manifested itself in regular open unemployment in certain regions (Malle, 1986) despite a public commitment to full employment and lack of unemployment benefits. Overmanning and a low utilization rate of labor resources was also widespread, (Porkett, 1989). In Soviet times, the employment of many Russian workers may therefore have been more tenuous than that of their Polish colleagues.

Porkett (1989) argues that the excess demand system and concentration on labor intensive methods of production meant that many workers in the Soviet Union were found in jobs unsuited to their qualifications, despite an assignment system that placed many graduates and specialized workers in jobs for three years. Faced with a system where unskilled labor was often in demand more highly than academic qualifications, many graduates and technicians left their allotted workplaces and moved to enterprises in search of manual workers. Fringe benefits, such as the provision of housing, or kindergartens, were important factors in the competition for workers. Thus, not only the underutilization of labor through overmanning but also the "wrong" utilization

---

1. Malle (1986), Granick (1987) and Porkett (1989) all discuss labor turnover in the Soviet Union. Freeman (1987), Simatupang (1994), Lehmann and Schaffer (1995) do likewise for Poland.

5

of labor was widespread in the Soviet Union. In Poland, these features were less prevalent in the eighties, because labor market conditions were tighter.

Whilst the excess demand regimes are now gone, the old hiring and turnover patterns may persist in the early phases of transition. For example, Commander, McHale and Yemtsov (1995) have argued that fixed coefficients technology may ensure that certain groups of workers required in communist times continue to be in demand in an environment where investment in new technology is sluggish. If so, then this would distort western notions of allocating workers through rewarding recognized qualifications, instead enhancing the value of experience within a firm. Moreover this type of production process would require a given share of unskilled workers which may lead to hiring rates for certain workers above those expected in a state sector subject to a large negative shock.

In general, the more widespread, the more consistent and the longer the reform process and the shorter the experience under central planning, the less we would expect the legacy of former times to endure. Poland and Russia are at different stages of the "transition cycle". By the autumn of 1994, the Polish economy had been growing for 3 years, whilst the Russian economy was mired in transition induced recession and has continued to be so. This different position of the two economies in the transition cycle and differences in the nature of reform allow us to contrast worker turnover.

Using data from the Polish labor Force Survey, (PLFS), and The Russian Longitudinal Monitor Survey, (RLMS), we match individuals across waves 12 months apart in order to measure the incidence of worker mobility in the years 1994 to 1995. We compare the pattern of turnover with data from Britain for the period 1996-97, when the economy was three years into a recovery. We then look in detail at new jobs, those held by a worker for less than 12 months, in

6

an attempt to identify the principal sectors in which job growth is occurring, the main characteristics of the individuals who fill them and whether there are notable cross-country differences in the pattern of new hires. We split the data into state and private ownership in order to examine, for example, whether workers are leaving the state sector in order to obtain jobs in the private sector, whether less skilled workers are obliged to seek new jobs in the state sector, whether new private sector jobs are more unstable, whether there is any evidence that wage differentials are guiding re-allocation.

Section 2 sets out a simple model of worker turnover that may be relevant to a transition economy. We argue that the returns to seniority in jobs begun under the old order may be small and the value of a continued job match lower than in new sectors. As a result, both voluntary and involuntary turnover can occur at higher levels of the job tenure distribution than may be expected in the West. Insider resistance to restructuring could, however, dampen worker turnover. Section 3 outlines the data sources used in the study, whilst section 4 looks at separation rates across countries and finds evidence of higher turnover at all tenures in Russia than in either Poland or Britain. Section 5 examines the pattern of new hires. Section 6 concludes to the effect that the patterns of worker turnover that we observe in Russia are consistent with the human capital destruction model, but that insider power may have prevented the same pattern from emerging in Poland.

2. Theoretical Considerations

How might worker turnover and job tenure be modeled in a transition economy? A simple, two-period model will suffice to illustrate our main points. Suppose that there are two job types, one in the old sector and one in the new sector, distinguished by their overall productive potential, f, and that $f_o < f_n$ where f_n is normalized to one. The old jobs will be primarily in state

7

or privatized firms which have not yet re-structured and the new jobs will be found in the emerging private and transforming state and privatized sectors. Equally, this dichotomy could be applied to a comparison of a transition and a Western economy. Let the value of a job match, y, rise with firm specific human capital or seniority according to, $y_i(t)$, where i = old, (o) or new, (n). This allows the relationship between tenure and productivity to differ in the two sectors. Hence the wage paid to the worker in either sector is given by

$$W_i = W^a + \lambda_i \, y_i(t) f_i \qquad\qquad i = o, n \qquad\qquad (1)$$

where W^a is the fall-back wage common to both sectors and λ is the worker's share of the value of the job match.[2] Suppose voluntary job quits occur as the result of a simple comparison of the wage at tenure t and the wage in a new job with tenure zero. It follows that a worker will quit an old sector job for the new sector if

$$\lambda_o \, y_o(t) f_o < \lambda_n \, y_n(0) \qquad\qquad\qquad\qquad (2)$$

The existence of a productivity differential will ensure that job quits from old to new could occur at any tenure, but that the quit rate will decline with tenure as rewards to seniority grow. The smaller f_o relative to f_n or the smaller the growth rate of firm-specific capital in the old sector, $y'_o(t)$, then the more likely $w(t)_o < w(0)_n$ for some t that is greater than would occur in an economy not subject to transition. Quits from the old to the new sector happen further up the tenure distribution than in a Western economy. The greater the share of the old sector, the larger the aggregate quit rate at any tenure.[3]

A firm will lay workers off if the wage exceeds the total value of the job match, $V = W^a + y(t)$. The profit of firm i is

---

$$\Pi_i = V_i - W_i = (1-\lambda_i)y_i(t)f_i \tag{3}$$

Following a random negative shock to the value of the worker's output, ϕ, that may, for example, be industry-specific, the profit of a firm falls by ϕ and hence the firm will lay workers off if profits become negative, that is if

$$|\phi| > (1-\lambda_i)y_i(t)f_i , \tag{4}$$

i.e. if the shock is sufficiently greater than the firm's share of the value of the match. It follows that given the same shock there will be more layoffs in the old sector compared to the new sector and that layoffs will also occur further up the tenure distribution in the old sector, since

$$(1-\lambda_o)y_o(t)f_o < (1-\lambda_n)y_n(t) \tag{5}$$

A higher, flatter tenure-turnover profile is therefore consistent with the emergence of differential productivity-tenure relations in the old and new sectors that affect both quit and layoff behavior.

This is, of course, not the only model that may explain tenure-turnover profiles. Aghion and Blanchard's (1994) and Blanchard's (1997) models of restructuring, whilst saying little about tenure explicitly, could be used to invoke a story of insider resistance to restructuring, which would also generate an inverse tenure-turnover profile. According to this model, there may be more insider resistance in Poland than in Russia because unemployment is higher in the former than in the latter and because trade union influence is more prevalent in Poland in state and privatised firms, which still account for the bulk of employment.[4]

We can introduce insider effects into our theoretical framework by allowing the worker's share of the job match to rise with seniority in the old sector. In this case (2) becomes

$$\lambda(t)_o\, y_o(t)f_o < \lambda_n\, y_n(0) \tag{6}$$

and job quits in the old sector become more concentrated at lower tenures. Hence the aggregate tenure turnover profile lies to the left of that of an economy not subject to insider resistance.

More insider power implies, of course, that firms find it harder to layoff workers with higher tenure, even though insider power will reduce the firm's share of the match value, $(1-\lambda(t)_o)y_o(t)f_o$ further and so encourage layoffs higher up the tenure distribution following a negative shock.

There may also be features unique to a transition economy that help explain the dynamics of worker turnover. There is, for example, an implicit assumption above that firms face a hard budget constraint. Whilst this may be true in Poland, the evidence for Russia shows that certain sectors of the economy enjoyed soft budget constraints in our sample period. Polish state firms had to impose hiring freezes because of the hardening of the budget constraint (Konings, Lehmann and Schaffer, 1996), whilst in Russia we observe relatively large hirings by state firms that might be related to the endurance of soft budget constraints.

It is also possible to envisage a re-working of the experience good theory of turnover of Jovanovic (1979). If new information about the quality of the match arrives, generated by the transition process, then a separation could occur at any tenure. There may also be elements of experience good job shopping in the new jobs emerging from the transition process. This learning process may take longer because of unfamiliarity with the new labor market environment and rules. Running counter to these influences, separations may be caused by the intrinsic weakness of the emerging private sector, especially in the early phase of transition. Greater uncertainty and lack of infrastructure may destroy many new job matches soon after their inception.[5] Moreover a fixed coefficient technology may require old, unrestructured firms to hire labor relevant to the old means of production.

In truth, the observed tenure-turnover profile will contain elements of all these factors. We therefore proceed to examine whether there is any evidence that worker turnover patterns are

---

4 Jackman (1995) suggests that wage bargaining is not prevalent in the new private sector.
5. Acquisti and Lehmann (1998) show that job destruction rates are highest in new private sector Russian firms.

consistent with the arguments set out here.

3. Data

For Russia, we use the second phase of the RLMS, a longitudinal panel of around 4000 households across the Russian federation conducted in the autumn of 1994, 1995 and 1996. The data contains a set of demographic and establishment characteristics, together with information on the labor market activities of its sample. Despite its relatively small size, the advantage of this source for our purposes, is that we can track individuals and the incidence of worker turnover over time. We treat each wave as a separate cross section and restrict the matched sample to those present for two consecutive waves.

The data for Poland are drawn from 3 waves of the PLFS, a quarterly survey of around 30,000 households begun in May 1992. Job tenure information was included from May 1994. The data have a panel element. There is an approximate 50% overlap between surveys one year apart. To eliminate seasonal effects in our cross-country comparisons we use the autumn waves for the years 1994, 1995 and 1996. This does not, of course, eliminate the differences between the two countries in the extent and nature of reform.

To provide comparable estimates for a western country we construct a similar data set for Britain, matching workers over the Autumn 1996 and 1997 Labor Force Surveys, a period when Britain was three years into an economic recovery. All the samples cover anyone who classifies themselves as being in work and is not restricted to the population of working age, since, because of the transition process but also for historic reasons, we observe many individuals above statutory pensionable age in work. This gives us a total matched sample of around 7000 for Russia, 12000 for Poland and 27000 for Britain.

Job tenure information in all surveys is given in the form of the number of months and

11

years that the worker has been continuously employed in the same establishment. For the Russian and British data, only the year in which the job started is recorded if the job began more than 8 years prior to the interview. We follow the recommendations of Brown and Light (1992) and ensure internal consistency across waves for the job tenure measures for the same individual for all job tenures 12 months and above. This, the authors argue, will tend to reduce the biases associated with measurement error of job tenure.

We identify a new job as one held by a worker who has been with the same employer for less than 12 months. Farber (1997) notes that this may mean that we over-sample more mobile workers and possibly low quality jobs if low quality jobs break up faster, though in a transition economy, this process of break up is exactly what we hope to measure. Nor do we identify net new jobs. Our definition encompasses hires made as a result of enterprise re-location, worker replacements as well as the creation of genuine new vacancies. However, this aggregate process is exactly the event we wish to examine.

Since there is no information on worker history between interviews, our mobility measures are based on observations 12 months apart. Having only 2 observation points makes it difficult for us to control for any unobserved worker/firm heterogeneity that may affect our results. The 12 month limit also does not allow us to distinguish between jobs that will eventually become good matches and those, which will end soon after. A job-to-job move is defined as one in which the worker was employed and at both observation points, but had job tenure less than 12 months when interviewed for the second time. Job separations are the sum of these job-to-job moves and moves from employment to non-employment between the two observation points. Neither measure captures whether the move was voluntary or otherwise, though anecdotal evidence from Russia suggests that firms may try to disguise layoffs in an attempt to avoid

redundancy payments. Nor can we apply continuous time methods of estimation to information gathered in this way. Some studies (for example, Grogan and van den Berg, 1999, and Adamchik and King, 1999) have attempted to create continuous time data by using retrospective information on time in the current state matched to information on labor market status one year earlier. This approach however leaves open the possibility of missing any transitions between the state occupied 12 months earlier and the start of the current spell, so we do not pursue this course here. We are only able to match individuals between 1994 and 1995 of the PLFS because of the lack of individual identifiers in subsequent waves.

Respondents in the RLMS are asked to state the amount of money received from their employers after tax in the past month together with hours worked. There is no distinction made between basic wages and any bonus. These wages are then deflated by a national price deflator indexed to 100 at January 1996[6]. The PLFS elicits net monthly wage and information for full-time employees only. The British data are gross monthly wages. All are converted to weekly wages and indexed to January 1996 values for the respective countries.

The results for Russia will be affected by the presence of wage arrears. Lehmann, Wadsworth and Acquisti, (1999) show that between 40 and 60% of the workforce are affected by arrears. We choose not to remove those in arrears from the estimation but include instead a dummy variable for the presence of wage arrears in the Russian regressions. The existence of short-time working will also introduce additional measurement error into hourly wage estimates. For these reasons we do not deflate wages by hours in what follows.

Our definition of the private sector includes the self-employed and those in privatized firms together with those in new private firms, in the absence of any identifying information in

---

6. Source: Russian Economic Trends

13

the data sets. The wage data do, however, exclude the self-employed.

4. Separations

Table 1 displays the job tenure distribution in the three countries in 1994 and 1996. Around 14% of the Polish workforce are in new jobs, with tenure under one year, and about 19% of the Russian workforce. The latter is similar to both the British fraction and Farber's (1997) estimates for the United States. So, on this simple measure, the pace of re-allocation is not much faster in the transition economies. The Polish distribution has a large concentration of workers with tenure in excess of 20 years. Some of this is explained by the presence of private sector farming and the large share of agriculture in the Polish economy, (25%). When we remove agriculture, the fraction of these long-term jobs falls to 16%. Of these, 85% are in the state sector, against a state share of 65% in total employment. The Russian distribution does not look radically different from Western tenure profiles. Unlike in Britain, however, the rate of new hires is lower for women than men. The state sector (not shown) again accounts for a larger share of jobs with tenure in excess of 20 years, 63% against a total state employment share of 56%. The age distributions of the working populations in Poland and Russia are similar and are, therefore, unlikely to explain much of the difference in the tenure stocks.[7]

We now turn to job separations in order to examine the correlation between mobility and job tenure. Table 2 and Figure 1 outline the worker separation rate conditional on job tenure. After the first year, the tenure-turnover profile for Russia is higher and flatter than that for Britain. For Poland, however, there is evidence of a steeper, tenure-mobility profile than in either Russia or Britain, during the first 5 years on the job and a lower profile thereafter[8]. Most of these

---

7. The British age distribution has slightly fatter tails. The respective proportions of employed workers in Russia, Poland and Britain aged under 30 are 0.228, 0.219 and 0.26, while the proportions of those 50 and over are 0.177, 0.168 and 0.222. The effects of the fatter tails for the tenure distribution in Britain will tend to offset each other.
8 Unlike the tenure distribution, the Polish turnover data are not affected by the inclusion of agriculture.

14

higher tenure workers will be employed in privatized or state firms. This could indicate that insider forces help shape the turnover process in Poland more than in Russia.[9]

For Russia, this profile tails off after around ten years and remains at a much higher level throughout. In every country, more than one third of all new jobs end within two years, (row 1). In Russia, one fifth of jobs that have lasted between two and five years will break up within the following year. Around one in six jobs in Poland or Britain will do so. Even after ten years, one in six Russian jobs break up, twice the Polish rate and seventy-five per cent higher than in Britain. Note the job-to-job profiles for Poland and Russia lie generally below that of Britain. So the higher aggregate profile for Russia is driven by moves into non-employment.

The differences in the tenure profiles are reflected in the age-turnover profiles in the bottom panel of Table 2[10]. Turnover amongst Russian workers is much higher than in Britain at all levels of the age distribution beyond age 19. One quarter of Russian 30-34 year olds will separate from their jobs within a year, compared with one in 5 British and one in 6 Polish workers. Job-to-job moves continue at a near uniform rate in Russia between the ages of twenty-five and fifty, while the age-turnover profile for Poland falls with age and, as such, is similar to that of Britain[11].

Table 3 confirms that whilst mobility declines as experience and tenure grow, there remains a large degree of turnover in new jobs at all ages, (column 1) This is not however, confined to the transition economies. Turnover in new jobs held by British workers is also high at all age levels. Mobility appears to fall with age at given tenures, in particular job-to-job moves.

---

9   Again, removal of the Polish agricultural sector does not much change the separation rates by age for those in the 5 year's tenure and over groups.

10   Mincer and Jovanovic (1981) show that the observed age turnover profile $ds/dX = (\delta s/\delta T * dT/dX) + \delta s/\delta X$ where s is separations, T is tenure and X is experience. Convexity in the tenure profile, dT/dX, reinforces convexity in the age-turnover profile.

11   The Polish turnover results are changed little by the removal of agriculture.

15

These results are somewhat at odds with Mincer and Jovanovic's (1981) earlier findings for the U.S. that mobility does not decline at given tenure intervals across age groups.

State v. Private

We now examine differences in turnover patterns across the state and private sectors.[12] Table 4 and Figure 2 give the tenure-turnover profiles in the two sectors, together with the destination state of those who separate from their jobs. Separation rates in the state sector are higher in Russia than in Poland. Moreover the decline of turnover with tenure in Poland is much faster in the state sector than in Russia. This is consistent with the productivity differential and insider stories outlined in section 2. Separation rates from the private sector are, however, higher at all tenures under twenty years than in the state sector in all three countries. Whether the source of this differential lies with the behavior of the privatized or new private sectors cannot be elicited from the data. Private sector separation rates are highest in Russia. Given the dominance of the state sector in overall employment in the transition economies, this means that aggregate turnover in Russia is high, primarily because turnover in the state sector is relatively higher. Aggregate turnover in Poland is relatively low because the private sector in Poland accounts for a lower share of the workforce than in Britain.

Table A1 in the appendix shows fifty per cent of all separations in the Polish private sector and forty per cent in Russia are from jobs that have lasted less than one year. This is consistent with a higher incidence of job shopping and experience good sampling in the private sector. Evidence also, perhaps, that the re-allocation process was more advanced in Poland is that there are more state-to-state moves in Russia. However the overall incidence of state-to-

---

12.   Ownership is self-assessed in every case.

16

private sector moves is the same in both countries[13].

Table 5 attempts to establish whether these findings hold controlling for other factors. We present simple binary probit estimates of the probability that a worker will separate from a job within a year. The set of explanatory variables control for differences in gender, education, region, firm size and industry, together with age and job tenure. We present marginal effects alongside their standard errors, where the marginal effects give percentage point deviations scaled relative to the default tenure category, (ten years and over), with all other variables set to their sample means. The reference probabilities are given at the foot of the Table. The first column for each country reports the tenure profile in the absence of regression controls. The other columns include controls. The results from the cross tabulations are not overturned. Turnover declines with tenure, but, after the first year, the Polish and British profiles generally lie below the Russian one. When the data are split into the state and private sectors, (Table 6), the tenure-turnover profiles observed in Table 4 remain robust to the inclusion of controls. Turnover in the Russian state sector is higher than turnover in the Polish state sector at all tenures greater than one year.

Tables A3-A5 in the appendix, present marginal effects from multinomial logit estimates of the likelihood that a worker in employment will stay in the same job, move between jobs or move into non-employment over the 12 month observation interval, in order to see whether tenure effects differ according to the destination state. In Poland (and Britain), the job-to-job turnover effects are smaller than the tenure profiles determining moves into non-employment. In Russia, the opposite pattern is observed. In all countries, moves into non-employment are more

---

[13] Table A2 in the appendix documents the shares of new hires from employment and non-employment.

likely to be experienced by the under 25s and those approaching retirement age[14]. The age effects on mobility are also larger for Russia.

5. New Jobs

We now examine the pattern of new job creation in the transition economies, focusing on the characteristics of the workers hired and the relative pay in these new jobs, as a proxy for their quality. Table 7 undertakes a simple steady state exercise to establish the likely number of new jobs a worker can expect to hold over the working lifetime, if current worker turnover patterns were to persist. Following Hall (1982), we calculate the flow of new job matches across age categories and use this to estimate the number of new jobs held in each age group. In a steady state, the annual number of new jobs is twice the fraction with job tenure of 6 months or less. The number of jobs held over a five year period is then five times this annual rate and the expected number of lifetime jobs is the sum over the entire working age range. Using 1996 as the base, the average Polish worker could expect to hold around 12 jobs over the life cycle and the average Russian worker 13 jobs, if current conditions persist. Two thirds of these jobs are held before the age of 30 and reflect the large degree of turnover observed amongst younger workers. This also explains the higher number of total number of jobs for both countries compared to Britain.

Table 8 outlines the pattern of survival of new job matches over time. Following job tenure cohorts across subsequent waves of data we can estimate quarterly retention rates for Britain and Poland and annual rates for Russia for all workers in jobs with tenure under 12 months in November 1994. We also identify state and private sector jobs separately since the national totals are influenced by the national shares of each sector. Table 8 indicates that new job matches in Poland break up faster than in Britain and Russia, particularly within the first year.

---

[14]   Fifty-five for women and sixty for men, though certain occupations provide for retirement at earlier ages.

This is consistent with the steeper Polish tenure-turnover profiles in Table 2. Around one half of all new jobs in Poland end within one year and forty percent of new Russian jobs. A further 10 per cent of the new job stock disappears within another year in both countries. Job survival rates are higher in the state sector. Around 44% of Polish state sector jobs survive for at least two years and only 30% of private sector jobs. In Russia, the respective two-year survival rates are 56% and 39%.

Table 9 presents marginal effects from probit estimates of the likelihood that a worker is observed in a new job. We present separate estimates for the state and private sector, which may give us an insight into potential differences in the hiring requirements of the re-allocation and restructuring processes. The coefficients are marginal effects and are calculated as percentage point deviations from the sample mean proportions of workers with tenure less than 12 months. The means differ across sectors and countries, so some caution must be exercised when comparing these marginal effects. The results suggest that younger workers dominate the stock of new hires in both sectors. However, beyond age 25 the new hire rate is relatively flat, around 10 to 17 percentage points below that of the default youth category. Whilst the likelihood ratio tests accept the state-private sample split in all three countries, the marginal effects, if the respective sample means are taken into account, imply little difference in the age share of new hires between state and private sectors. Women are generally less likely than men to be in new jobs in the transition economies, but the opposite is true in Britain. Firm size too is an important determinant of new hires. Enterprises with more than 100 workers have new hire rates around 5 points lower than small firms with less than 6 workers. The latter firms dominate particularly new hires in the Russian private sector. There is no evidence that the capital city has any differential effects on hiring rates in the transition economies.

19

Tables 10 to 12 present OLS estimates of the weekly wage gap between new jobs and other jobs for full-time employees in an effort to assess the relative size of wage offers in new jobs.[15] The default tenure category is 1 to 2 years job tenure. The results suggest that the payoffs associated with new jobs depend on the sector in which the job is created and the country concerned.[16] For Poland (Table 10), there is little difference between state and private sector wages in new jobs. The average new job pays around 5 per cent less than the default category in both sectors. It may be that re-structuring firms in Poland have to pay the same wage as the private sector in order to recruit new workers. The within sector wage-tenure profiles in Poland are significantly flatter than in Britain and indeed turn down after ten years. This may give support to the idea that long-tenure jobs in the privatized sector are valued only little more than new private sector jobs. In the state sector, returns rise monotonically with seniority. In Russia, there is an absence of any return to job tenure in either the state or the private sector, other than the fact that the new state sector jobs seem to pay much less than the average (Table 11). Russian private sector jobs pay around 13% more than jobs in the state sector, net of wage arrears.[17] This premium in itself may help explain the higher Russian turnover rates that we observe in the previous section.

20

6. Conclusions

It seems that there is an inverse tenure-turnover profile in both transition countries, which is higher in Russia than in Poland. Turnover is higher in the private sector at all tenures than in state sector firms, but turnover in the Russian state sector is relatively high and this explains why the aggregate turnover profile in Russia lies above that of Poland (and Britain). Since most workers with tenure greater than five years will be in privatized rather than new private sector firms, it appears that privatized firms are shedding labor faster than state firms. However less than one fifth of workers leaving a state sector job are in private sector work one year later. The pace of new job creation is higher in the private sector, but the chance of private sector jobs lasting two years are only half that of a new state sector job. Whilst we do find that separation rates are larger at any given tenure level in Russia than in a Western economy toward the flexible end of the labor market, there is no evidence to suggest that this also holds for Poland. This seems difficult to square with a simple story of accelerated depreciation of firm-specific capital acquired before transition. Insider forces may then be helping shape worker turnover in Poland more than in Russia. We find little difference in the characteristics of those hired in the state and private sectors during transition. The demands of firms re-structuring and those involved in the re-allocation of labor appear to be similar. We do however find evidence in Russia, that job tenure does little to explain wage levels, whereas the earnings differential between new and existing jobs in Poland is of a similar magnitude to those observed in the West. This may be because the labor market transition process in Poland has been less volatile and smoother than in Russia, where uncertainty looks set to dominate over the next few years.

21

Table 1. Distribution of Job Tenure, Poland & Russia, 1994,1996

Length of current job	Total		Men		Women	
	1994	1996	1994	1996	1994	1996
Poland						
<1 year	13.8 (0.2)	14.3 (0.2)	15.1 (0.3)	15.7 (0.2)	12.3 (0.2)	12.5 (0.3)
1-2 years	6.5 (0.2)	8.1 (0.2)	7.0 (0.2)	8.3 (0.2)	6.0 (0.3)	8.0 (0.2)
2-5 years	16.8 (0.1)	15.9 (0.2)	17.7 (0.3)	16.4 (0.3)	15.7 (0.3)	15.3 (0.3)
5-10 years	15.8 (0.2)	17.4 (0.2)	15.3 (0.3)	17.6 (0.3)	16.5 (0.3)	17.1 (0.3)
10-20 years	22.1 (0.3)	20.6 (0.2)	21.4 (0.3)	19.9 (0.3)	23.0 (0.4)	21.4 (0.4)
20 years+	24.9 (0.3)	23.8 (0.3)	23.6 (0.4)	22.2 (0.3)	26.4 (0.4)	25.8 (0.4)
Russia						
<1 year	19.3 (0.6)	19.7 (0.6)	22.8 (0.9)	21.3 (0.9)	16.0 (0.7)	18.2 (0.8)
1-2 years	12.2 (0.5)	11.5 (0.5)	13.5 (0.7)	13.3 (0.8)	10.9 (0.6)	10.0 (0.6)
2-5 years	21.4 (0.6)	22.8 (0.7)	21.3 (0.8)	24.1 (1.0)	21.5 (0.8)	21.5 (0.9)
5-10 years	15.4 (0.5)	15.3 (0.6)	12.7 (0.7)	13.0 (0.8)	18.1 (0.8)	17.4 (0.8)
10-20 years	19.0 (0.6)	17.6 (0.6)	16.6 (0.8)	15.7 (0.8)	21.3 (0.8)	19.4 (0.9)
20 years+	12.7 (0.5)	13.1 (0.5)	13.2 (0.7)	12.7 (0.7)	12.2 (0.7)	13.5 (0.7)
Britain						
<1 year		18.2 (0.2)		16.9 (0.2)		19.6 (0.2)
1-2 years		10.4 (0.1)		9.5 (0.2)		11.5 (0.2)
2-5 years		18.6 (0.2)		17.0 (0.2)		20.6 (0.2)
5-10 years		21.8 (0.2)		20.1 (0.3)		23.9 (0.3)
10-20 years		19.9 (0.2)		21.3 (0.2)		18.4 (0.2)
20 years+		11.0 (0.1)		15.2 (0.1)		6.0(0.1)

Note: Sample sizes in 1994 and 1996 are 26909, 27205 for Poland, 4225, 4842 for Russia and 62960 for Britain. Standard errors in brackets.

22

Table 2. Worker Separations and Job-to-Job Moves by Tenure, Age

	Total Separation Rate			Job-to-Job		
	Russia	Poland	Britain	Russia	Poland	Britain
Tenure						
<1 year	37.0 (1.4)	38.8 (1.2)	37.4 (0.7)	21.3 (1.2)	16.3 (0.9)	26.5 (0.7)
1-2 years	23.8 (1.5)	19.9 (1.4)	22.1 (0.8)	11.7 (1.1)	10.8 (1.1)	15.8 (0.7)
2-5 years	19.0 (1.0)	14.9 (0.8)	16.1 (0.5)	9.4 (0.8)	6.4 (0.5)	11.8 (0.4)
5-10 years	16.4 (1.1)	9.2 (0.6)	10.6 (0.4)	7.7 (0.8)	3.4 (0.4)	7.1 (0.3)
10-20 years	13.8 (0.9)	6.8 (0.5)	7.8 (0.3)	7.5 (0.7)	2.6 (0.3)	4.5 (0.3)
20 years+	14.0 (1.1)	9.0 (0.5)	8.2 (0.5)	3.4 (0.6)	1.4 (0.2)	3.1 (0.3)
Total	20.5 (0.5)	14.1 (0.3)	16.1 (0.2)	10.2 (0.4)	5.4 (0.2)	11.0 (0.2)
Age						
16-19	48.7 (5.6)	34.5 (2.4)	39.7 (1.7)	15.0 (4.0)	16.4 (1.8)	27.5 (1.6)
20-24	32.4 (2.0)	22.7 (1.2)	28.3 (1.0)	16.9 (1.6)	11.5 (1.0)	22.3 (1.0)
25-29	22.7 (1.5)	14.3 (1.0)	21.0 (0.7)	12.1 (1.2)	6.9 (0.7)	15.8 (0.7)
30-34	23.1 (1.4)	13.7 (0.8)	17.0 (0.6)	13.5 (1.1)	5.9 (0.6)	11.8 (0.5)
35-39	17.9 (1.1)	10.3 (0.6)	13.8 (0.5)	10.3 (0.9)	4.3 (0.4)	10.2 (0.5)
40-44	15.6 (1.1)	10.8 (0.7)	12.4 (0.5)	9.6 (0.9)	5.0 (0.5)	8.6 (0.5)
45-49	16.2 (1.2)	11.2 (0.8)	11.4 (0.5)	9.5 (1.0)	3.2 (0.5)	7.5 (0.4)
50-55	15.7 (1.6)	12.6 (1.1)	12.4 (0.6)	5.4 (1.0)	2.9 (0.6)	7.0 (0.4)

Note. Standard errors in brackets. Sample sizes; 12753 Poland, 6665 Russia and 27648 Britain

Table 3. Worker Separations by Tenure and Age

					Tenure (years)				
Total	<1	1-3	3-5	5-7	7-9	9-11	11-15	15-19	19+
Russia									
16-29	45.0	22.2	23.9	22.8	12.2	19.2			
30-39	32.2	27.7	21.0	19.0	16.8	16.5	12.2	11.4	
40-49	35.1	22.3	12.7	11.9	8.9	8.4	13.6	12.2	10.1
50+	33.3	24.8	23.9	25.9	16.7	14.9	17.1	17.2	16.2
Poland									
16-29	39.5	22.6	14.6	7.5	7.1	10.3			
30-39	38.7	14.1	12.5	7.0	6.4	10.3	4.2	5.8	
40-49	36.7	15.3	11.2	10.6	9.5	8.5	6.1	5.1	4.8
50+	42.9	24.5	21.0	17.4	18.4	20.9	12.4	11.1	12.3
Britain									
16-29	43.6	29.4	20.8	12.9	13.9	11.5			
30-39	26.2	22.5	13.3	11.6	9.0	6.7	5.0	7.6	
40-49	27.9	16.0	11.5	11.5	8.0	8.5	7.2	7.1	7.5
50+	29.5	17.8	17.4	7.7	13.3	13.4	9.3	12.2	13.0
Job-to-job									
Russia									
16-29	25.8	10.6	11.4	9.5	4.1	11.5			
30-39	20.8	15.7	11.5	12.3	10.2	9.6	7.0	7.2	
40-49	20.4	14.8	7.9	8.2	5.0	3.4	8.1	6.3	5.4
50+	11.1	7.0	5.2	4.7	2.6	2.1	5.7	4.6	2.4
Poland									
16-29	19.1	12.1	7.7	2.6	2.7	3.1			
30-39	15.1	8.0	6.0	3.7	3.7	5.4	2.1	2.8	
40-49	14.7	8.0	4.2	2.5	4.7	3.7	2.6	1.6	1.5
50+	9.8	6.5	2.0	3.5	2.3	3.3	3.7	1.6	1.3
Britain									
16-29	28.3	19.1	13.9	8.7	6.8	8.6			
30-39	16.1	14.8	10.6	7.1	5.6	6.2	2.1	2.3	
40-49	18.3	9.9	8.4	6.1	4.4	4.3	3.6	3.1	2.6
50+	14.5	5.8	10.2	2.8	2.7	3.4	4.2	5.6	3.4

24

Table 4. Worker Turnover in State and Private Firms by Tenure, 1994/96

Job Length	Total			Job-to-State		Job-to-Private		Unemployment		Inactivity	
	Poland	Russia	Britain	Poland	Russia	Poland	Russia	Poland	Russia	Poland	Russia
Private											
<1 year	40.2 (1.5)	46.1 (2.0)	39.3 (0.8)	7.5	15.4	32.9	33.8	38.7	21.9	20.9	28.9
1-2 years	23.3 (1.8)	28.3 (2.5)	24.5 (0.9)	7.2	14.8	47.4	24.6	24.7	42.6	20.6	18.0
2-5 years	17.5 (1.0)	22.0 (1.8)	17.5 (0.6)	10.1	22.0	31.9	29.0	25.4	24.0	32.6	25.0
5-10 years	11.4 (1.2)	19.7 (2.1)	11.8 (0.5)	13.0	12.2	26.1	26.5	30.4	14.3	30.4	46.9
10-20 years	8.3 (0.9)	14.6 (1.7)	8.5 (0.4)	4.4	26.5	26.1	20.4	17.4	24.5	52.2	28.6
20 years+	8.8 (0.7)	17.6 (2.2)	7.9 (0.6)	16.7	4.8	16.7	11.9	27.8	9.5	38.9	73.8
Total	17.4 (0.5)	26.1 (0.9)	18.0 (0.3)	8.5	16.5	33.6	27.9	32.5	23.3	25.4	32.3
State											
<1 year	36.4 (2.0)	28.8 (1.8)	25.6 (1.7)	25.4	25.9	16.9	28.1	39.0	18.0	18.8	28.1
1-2 years	12.2 (2.1)	20.9 (1.9)	12.7 (1.5)	20.0	25.4	23.3	24.0	40.0	16.9	16.7	33.8
2-5 years	10.8 (1.1)	17.4 (1.3)	10.9 (0.9)	18.7	22.3	26.4	15.2	16.5	16.1	38.5	46.4
5-10 years	7.9 (0.8)	15.2 (1.3)	7.3 (0.6)	13.1	19.3	22.2	14.8	22.2	19.3	42.4	46.6
10-20 years	6.1 (0.5)	13.7 (1.1)	6.3 (0.6)	15.5	31.8	18.1	15.3	26.7	18.8	40.0	34.1
20 years+	9.2 (0.8)	12.5 (1.3)	8.8 (0.9)	9.7	8.1	6.7	4.8	9.0	8.1	74.6	79.0
Total	10.9 (0.4)	17.5 (0.6)	10.1 (0.4)	17.7	23.0	17.4	18.3	25.6	16.7	39.2	42.0

Note. Standard errors in brackets. Sample sizes 6457 (private) 6296 (state) in Poland; 2577 and 4344 in Russia; 20609 and 6794 Britain

25

Table 5. Probit Estimates of Worker Separation (Marginal Effects)

	Poland	Poland	Russia	Russia	Britain	Britain
Ten. < 1 yr	.310 (.013)*	.258 (.015)*	.232 (.016)*	.170 (.017)*	.294 (.008)*	.255 (.008)*
Ten. 1-2 yr	.125 (.015)*	.098 (.015)*	.100 (.017)*	.068 (.018)*	.142 (.009)*	.117 (.009)*
Ten. 2-5 yr	.072 (.009)*	.061 (.009)*	.051 (.012)*	.029 (.014)*	.081 (.006)*	.065 (.006)*
Ten. 5-10 yr	.013 (.007)	.014 (.008)	.026 (.014)*	.018 (.015)	.027 (.005)*	.020 (.005)*
Age 25-34		-.020 (.006)*		-.037 (.015) *		-.021 (.005)*
Age 35-44		-.035 (.007)*		-.059 (.015) *		-.043 (.005)*
Age 45-54		-.008 (.008)		-.078 (.015)*		-.041 (.005)*
Age 55+		.050 (.012)*		-.003 (.018)		-.015 (.006)*
Female		.004 (.005)		-.002 (.010)		.008 (.004)
University		-.020 (.010)*		-.039 (.015)*		-.004 (.006)
Technical		-.022 (.011)*		-.027 (.012)*		-.010 (.007)
High School		-.023 (.007)*		.012 (.014)		-.005 (.005)
Tech. High		-.004 (.011)		-.027 (.016)		-.002 (.005)
Tech Train		-.012 (.006)*		-.035 (.013) *		----
Capital		-.013 (.010)		.018 (.021)		.006 (.006)
Firm 6-20		.025 (.009)*		-.009 (.017)		----
Firm 21-50		.015 (.009)		-.024 (.018)		-----
Firm 51-100		-.001 (.010)		-.046 (.016)*		-.001 (.005)
Firm 101 +		-.021 (.008)*		-.049 (.017)*		-.005 (.004)
State		.001 (.007)		-.036 (.010)*		-.035 (.004)*
Mean D. V.	.142	.142	.206	.206	.161	.161
Evaluated at	.080	.077	.138	.146	.079	.085
Log L	-4659.7	-4467.7	-3245.3	-3107.2	-11230.3	-11050.1
Pseudo R^2	.088	.125	.038	.079	.079	.094
N	12479	12479	6639	6639	27605	27605

Note: marginal effects give percentage point deviation from default which is worker with ten years or more tenure and all other variables set to sample means. Standard errors in brackets, heteroskedasticity adjusted. Regressions also contain 1 digit industry, occupation and regional dummies, Default categories are; Tenure 10years+, Age 16-24, Primary qualifications, Firms size 1-5 employees.

Table 6. Probit Estimates of Worker Separation by Ownership (Marginal Effects)

	Poland		Russia		Britain	
	State	Private	State	Private	State	Private
Ten. < 1 yr	.256 (.023)*	.254 (.025)*	.132 (.022)*	.228 (.028)*	.183 (.022)*	.277 (.009)*
Ten. 1-2 yr	.051 (.022)*	.116 (.022)*	.068 (.023)*	.078 (.030)*	.052 (.018)*	.138 (.010)*
Ten. 2-5 yr	.030 (.012)*	.076 (.015)*	.029 (.017)	.028 (.024)	.036 (.011)*	.077 (.007)
Ten. 5-10 yr	.001 (.009)	.025 (.015)	.012 (.017)	.025 (.027)	.002 (.009)	.029 (.006)
Age 25-34	-.009 (.011)	-.031 (.010)*	-.030 (.019)	-.048 (.025)	-.025 (.012)*	-.018 (.005)*
Age 35-44	-.030 (.011)*	-.047 (.011)*	-.048 (.020)*	-.072 (.026)*	-.048 (.013)*	-.038 (.005)*
Age 45-54	-.003(.012)	-.018 (.012)	-.077 (.018)*	-.078 (.026)*	-.045 (.013)*	-.039 (.006)*
Age 55+	.119 (.028)*	.028 (.016)	.009 (.024)	-.020 (.031)	-.007 (.015)	-.016 (.007)*
Female	.005 (.007)	.011 (.007)	-.001 (.013)	-.003 (.017)	.006 (.007)	.007 (.004)
University	-.029 (.013)*	-.023 (.017)	-.036 (.019)	-.047 (.024)	-.012 (.013)	-.013 (.007)
Technical	-.039 (.015)*	.004 (.025)	-.027 (.015)	-.028 (.020)	-.017 (.013)	-.009 (.008)
High School	-.028 (.009)*	-.028 (.011)*	.018 (.019)	.004 (.023)	-.008 (.011)	-.003 (.005)
Tech. High	-.018 (.013)	.004 (.018)	-.013 (.021)	-.044 (.025)	-.007 (.011)	-.001 (.005)
Tech Train	-.014 (.009)	-.019 (.009)*	-.022 (.017)	-.054 (.022)*	----	----
Capital	-.005 (.015)	-.020 (.015)	.019 (.028)	-.004 (.032)	.007 (.013)	.006 (.007)
Firm 6-20	.016 (.019)	.010 (.011)	-.029 (.021)	.028 (.029)	----	----
Firm 21-50	.005 (.017)	-.001 (.014)	-.023 (.024)	-.026 (.031)	----	----
Firm 51-100	-.009 (.016)	-.009 (.017)	-.037 (.021)	-.063 (.026)*	-.001 (.011)	.001 (.005)
Firm 101 +	-.026 (.016)	-.026 (.015)	-.039 (.022)	-.057 (.028)*	.009 (.009)	-.009 (.004)*
Mean D. V.	.110	.173	.173	.261	.101	.181
Evaluated at	.067	.092	.137	.167	.076	.087
Log L	-1816.4	-2600.2	-1789.3	-1290.8	-2082.8	-8906.3
Pseudo R^2	.139	.118	.064	.094	.061	.095
N	6077	6402	4159	2481	6785	20817

Note: see Table 5.

Table 7. Lifetime Job Distribution in Poland, Russia and Britain, 1996

	Poland			Russia			Britain		
	New Jobs a Year	New Jobs Over the Interval	Cumulative Number of Jobs	New Jobs a Year	New Jobs Over the Interval	Cumulative Number of Jobs	New Jobs a Year	New Jobs Over the Interval	Cumulative Number of Jobs
Age 16-19	1.10	4.4	4.4	1.132	4.5	4.5	0.805	3.2	3.2
Age 20-24	.596	3.0	7.4	.604	3.0	7.5	0.396	2.0	5.2
Age 25-29	.268	1.3	8.7	.252	1.3	8.8	0.273	1.4	6.6
Age 30-34	.176	0.7	9.4	.228	1.1	9.9	0.199	1.0	7.6
Age 35-39	.168	0.8	10.2	.240	1.2	11.1	0.178	0.9	8.5
Age 40-44	.124	0.6	10.8	.160	0.8	11.9	0.139	0.7	9.3
Age 45-49	.096	0.5	11.3	.208	1.0	12.0	0.120	0.6	9.7
Age 50-54	.088	0.4	11.7	.136	0.7	12.7	0.107	0.5	10.3
Age 55-59	.068	0.3	12.0	.120	0.6	13.3	0.103	0.5	10.8

Table 8. Survival Rates of New Matches by State and Private Sector

	Feb95	May95	Aug95	Nov95	Feb96	May96	Aug96	Nov96
				Proportion of Surviving Matches with <12 months tenure in Nov. 94				
Poland								
State	.860	.710	.624	.564	.568	.566	.498	.437
Private	.817	.651	.514	.442	.433	.395	.315	.294
Total	.847	.697	.583	.522	.517	.498	.424	.387
Russia								
State				.756				.559
Private				.564				.391
Total				.622				.482
Britain								
State	.962	.766	.712	.712	.709	.621	.567	.548
Private	.891	.729	.643	.569	.509	.444	.430	.371
Total	.900	.734	.653	.589	.536	.466	.449	.396

Table 9. Probit Estimates of Likelihood of Being in New Job by Ownership- 1996 (Marginal effects)

	Britain		Poland		Russia	
	State	Private	State	Private	State	Private
Female	.004 (.006)	.020 (.004)*	-.014 (.005)*	-.007 (.006)	-.034 (.012)*	-.038 (.015)*
Age 16-24						
Age 25-34	-.105 (.006)*	-.147 (.004)*	-.095 (.004)*	-.114 (.006)*	-.115 (.011)*	-.149 (.017)*
Age 35-44	-.142 (.006)*	-.196 (.004)*	-.151 (.006)*	-.156 (.006)*	-.138 (.012)*	-.195 (.018)*
Age 45-54	-.169 (.006)*	-.222 (.003)*	-.133 (.005)*	-.161 (.005)*	-.144 (.010)*	-.191 (.015)*
Age 55+	-.121 (.003)*	-.199 (.003)*	-.077 (.003)*	-.170 (.005)*	-.143(.009)*	-.200 (.011)*
Primary/less						
University	.014 (.008)	-.007 (.006)	.012 (.014)	-.039 (.012)*	.012 (.018)	.027 (.025)
Tech. Coll.	-.027 (.010)*	-.023 (.011)*	.002 (.013)	-.043 (.017)*	-.010 (.016)	.005 (.022)
High School	-.020 (.008)*	-.031 (.006)*	-.022 (.008)*	-.018 (.009)	.061 (.021)*	.026 (.025)
Tech. High	.001 (.008)	-.025 (.005)*	-.017 (.009)	-.001 (.014)	.055 (.026)*	-.043 (.028)
Tech. Train			-.029 (.006)*	-.007 (.008)	-.012 (.018)	-.011 (.026)
Capital	.023 (.010)*	.002 (.007)	-.014 (.010)	-.027 (.012)*	.034 (.028)	.035 (.032)
Firm 1-5						
Firm 6-20			-.003 (.013)	.050 (.009)*	.009 (.027)	-.031 (.026)
Firm 21-50			-.009 (.012)	.030 (.011)*	-.006 (.028)	-.094 (.025)*
Firm 51-100	-.036 (.007)*	.014 (.006)*	-.019 (.011)	.018 (.014)	-.024 (.025)	-.077 (.024)*
Firm 101 +	-.055 (.008)*	-.042 (.005)*	-.059 (.013)*	-.048 (.009)*	-.049 (.023)*	-.124 (.022)*
OtherServs						
Agriculture	.084 (.093)	-.089 (.010)*	-.055 (.023)*	-.180 (.014)*	.007 (.026)	.016 (.037)
Manufactu	-.047 (.022)*	-.045 (.008)*	-.022 (.025)	-.036 (.014)	.014 (.024)	.023 (.032)
Construction	-.013 (.016)	-.046 (.009)*	.049 (.034)	-.055 (.020)*	.036 (.033)	.045 (.043)
Energy	-.059 (.029)*	-.066 (.014)*	.063 (.035)	-.042 (.028)	.022 (.029)	.013 (.042)
Transport	-.026 (.011)*	-.014 (.010)	-.009 (.029)	-.033 (.017)	-.008 (.025)	.037 (.043)
Retail	.065 (.027)*	-.011 (.008)	.098 (.035)*	-.015 (.015)	.053 (.037)	.124 (.040)*
Finance	-.006 (.013)	-.027 (.008)	.001 (.053)	-.007 (.021)	-.022 (.047)	.212 (.075)*
Health/Educ	.023 (.006)*	.012 (.010)	-.023 (.023)	-.025 (.031)	-.004 (.021)	-.012(.041)
Mean D.V.	.115	.203	.089	.184	.147	.208
Log L	-4651.2	-20972.0	-3025.7	-5888.3	-1727.3	-1375.7
LR Test (df)		419.8 (29)*		321.0 (31)*		62.6 (31)*
Psuedo R^2	.089	.083	.159	.094	.076	.104
N	14275	45358	11972	15025	4483	3000

Note: marginal effects give percentage point deviation from sample mean in presence of relevant variable.
Standard errors in brackets. LR Test (df) is likelihood ratio test for private/state sector split.
Russian data is pooled over 1995 and 1996.

Table 10. OLS Estimates of Log Weekly Earnings – Poland 1995/96

Variable	Total	Private	State
Constant	4.548 (.019) *	4.497 (.035) *	4.513 (.028) *
Tenure 1-2 years			
Tenure < 12 mths	-.122 (.026) *	-.053 (.014) *	-.050 (.016) *
Tenure 2-5 years	.032 (.011) *	.021 (.014) *	.052 (.015) *
Tenure 5-10 years	.073 (.011) *	.066 (.017) *	.096 (.015) *
Tenure 10-20 years	.097 (.011) *	.056 (.019) *	.126 (.014) *
Tenure 20+ years	.115 (.012) *	.035 (.022) *	.149 (.015) *
State*Ten.<12mths	.044 (.015) *	--	--
State	-.069 (.008) *	--	--
Female	-.209 (.006) *	-.202 (.010) *	-.211 (.007) *
Age 16-24			
Age 25-34	.081 (.009) *	.084 (.013) *	.080 (.012) *
Age 35-44	.138 (.009) *	.117 (.013) *	.148 (.012) *
Age 45-54	.154 (.010) *	.141 (.017) *	.163 (.014) *
Age 55+	.164 (.018) *	.039 (.034) *	.200 (.021) *
Primary/less			
University	.606 (.011) *	.728 (.030) *	.581 (.012) *
Technical College	.314 (.013) *	.296 (.036) *	.311 (.014) *
High School	.239 (.009) *	.198 (.016) *	.257 (.009) *
Tech. High School	.243 (.012) *	.210 (.023) *	.258 (.014) *
Technical Training	.087 (.008) *	.084 (.014) *	.092 (.009) *
Capital	.149 (.010) *	.252 (.025) *	.122(.017) *
N	16294	5529	10765
F Test (n1, n2) State/private split			8.37(37, 16220)*
Adj. R²	.397	.353	.432

Hetroskedastic adjusted standard errors in brackets. Regressions also contain 9 regional dummies, 5 firm size and 8 industry dummies. F Test is for validity of sample split into state and private.

31

Table 11. OLS Estimates of Log Weekly Earnings – Russia 1995/96

Variable	Total	Private	State
Constant	11.803 (.108) *	12.139 (.158) *	11.332 (.140) **
Tenure 1-2 years			
Tenure<12mths	-.013 (.061)	-.064 (.075)	-.222 (.065) **
Tenure 2-5 years	-.083 (.046)	-.123 (.073)	-.045 (.059)
Tenure 5-10 years	-.101 (.049)*	-.052 (.083)	-.101 (.063)
Tenure 10-20 years	-.028 (.048)	-.084 (.082)	.024 (.061)
Tenure 20+ years	.053 (.053)	-.032 (.088)	.099 (.066)
State*Ten.<12mths	-.254 (.067) *	--	--
State	-.126 (.031) *	--	--
Female	-.433 (.027) *	-.445 (.044) *	-.407 (.035) *
Age 16-24			
Age 25-34	.116 (.051) *	.146 (.084)	.100 (.063) *
Age 35-44	.181 (.051) *	.158 (.083)	.193 (.063) *
Age 45-54	.163 (.054) *	.182 (.087) *	.162 (.068) *
Age 55+	-.139 (.057) *	-.130 (.097)	-.111 (.071)
Primary/less			
University	.365 (.041) *	.313 (.065) *	.413 (.052) *
Technical College	.174 (.038) *	.132 (.061) *	.215 (.047) *
High School	-.044 (.045)	-.104 (.071)	.019 (.058)
Tech. High School	-.039 (.049)	-.054 (.078)	-.034 (.068)
Technical Training	-.057 (.051)	-.115 (.085)	-.043 (.058)
Capital	.186 (.062) *	.280 (.092) *	.083 (.083)
N	4145	1708	2437
F Test (n1, n2) - state/private split			3.34 (38,4890)*
Adj. R^2	.297	.283	.307

Heteroskedastic adjusted standard errors in brackets. Regressions also contain 8 regional dummies, 8 industry dummies a year dummy and a control for the presence of wage arrears.

Table 12. OLS Estimates of Log Weekly Earnings – Britain 1996

Variable	Total	Private	State
Constant	4.856 (.043) *	4.722 (.056) *	5.111 (.079) *
Tenure 1-2 years			
Tenure<12mths	-.085 (.026) *	-.098 (.026) *	.031 (.058)
Tenure 2-5 years	.091 (.023) *	.076 (.025) *	.174 (.054) *
Tenure 5-10 years	.128 (.021) *	.106 (.024) *	.234 (.052) *
Tenure 10-20 years	.164 (.023) *	.128 (.026) *	.296 (.052) *
Tenure 20+ years	.253 (.026) *	.190 (.029) *	.452 (.056) *
State*Ten.<12mths	.046 (.041)	--	--
State	.028 (.021) *	--	--
Female	-.264 (.013) *	-.297 (.016) *	-.174 (.023) *
Age 16-24			
Age 25-34	.413 (.021) *	.435 (.023) *	.243 (.047) *
Age 35-44	.502 (.022) *	.522 (.025) *	.329 (.049) *
Age 45-54	.468 (.024) *	.503 (.026) *	.269 (.052) *
Age 55+	.362 (.029) *	.383 (.032) *	.163 (.064) *
Primary/less			
University	.492 (.018) *	.492 (.022) *	.459 (.031) *
Technical College	.343 (.025) *	.389 (.045) *	.235 (.053) *
High School	.263 (.018) *	.270 (.022) *	.206 (.033) *
Tech. High School	.107 (.016) *	.118 (.017) *	.042 (.032)
Capital	.219 (.021) **	.240 (.027) **	.179(.032) *
N	5851	4290	1561
F Test (n1, n2) state/private split			3.66 (35, 5781)*
Adj. R^2	.421	.442	.341

Hetroskedastic adjusted standard errors in brackets. Regressions also contain 9 regional dummies, 5 firm size and 8 industry dummies.

Table A1. Share of Moves Across Ownership Types by Tenure, 1994/96

Job Length	Total		of which (%)								
			Job-to-State		Job-to-Private		Unemployment		Inactivity		
	Poland	Russia	Britain	Poland	Russia	Poland	Russia	Poland	Russia	Poland	Russia
Private											
<1 year	52.7	40.0	38.7	46.5	37.4	51.5	48.6	62.9	37.6	43.4	35.8
1-2 years	14.2	12.2	15.4	12.1	10.8	20.1	10.7	10.9	22.2	11.6	6.8
2-5 years	20.3	19.9	16.9	24.1	26.5	19.2	20.7	15.8	20.5	26.0	15.4
5-10 years	6.8	9.8	14.6	10.3	7.2	5.2	9.3	6.3	5.9	8.1	14.2
10-20 years	3.4	9.8	9.0	1.7	15.7	2.6	7.1	1.8	10.2	6.9	8.6
20 years+	2.6	8.4	5.1	5.2	2.4	1.3	3.6	2.3	3.4	4.1	19.1
Total	100.0	100.0	100.0		100.0		100.0		100.0		100.0
State											
<1 year	31.2	25.0	27.2	44.6	28.1	30.2	38.2	47.4	26.9	14.9	16.7
1-2 years	4.4	12.8	11.5	5.0	14.1	5.9	16.7	6.9	12.9	1.9	10.3
2-5 years	13.3	20.1	17.5	14.1	19.5	20.2	16.7	8.6	19.4	13.1	22.2
5-10 years	14.5	15.8	15.7	10.7	13.3	18.5	12.8	12.6	18.3	15.7	17.5
10-20 years	17.0	15.3	15.0	14.9	21.1	17.7	12.8	17.7	17.2	17.2	12.4
20 years+	19.6	11.1	13.1	10.7	3.9	7.6	2.9	6.9	5.4	37.3	10.9

Table A2. Share of New Hires Across Ownership Types 1994/96

Origin State	Share in Total		Share in State		Share in Private	
	Poland	Russia	Poland	Russia	Poland	Russia
Job – State	14.2	35.9	22.9	36.4	9.8	35.2
Job – Private	26.3	18.7	18.7	18.7	28.7	18.6
Unemp< 12 m	15.0	0.9	13.7	0.6	19.0	1.3
Unemp >12	14.9	1.6	14.9	1.5	16.2	1.7
Unemp New Entrant/ Missing	9.6	3.5	7.4	3.7	11.3	3.3
Inactive <12m	3.4	1.8	3.2	1.6	2.6	2.1
Inactive >12m	7.2	11.4	9.7	9.2	4.7	13.8
Inactive New Entrant /Missing	9.4	26.2	9.5	28.2	7.7	24.1

Table A3. Multinomial Logit Estimates of Worker Separation (Marginal Effects)

	Poland		Russia		Britain	
	Job-to-Job	Non-Emp.	Job-to-Job	Non-Emp.	Job-to-Job	Non-Emp.
Age 25-34	-.007 (.003)	-.006 (.005)	-.006 (.009)	-.029 (.010)*	-.010 (.003)*	-.006 (.003)*
Age 35-44	-.012 (.003)*	-.017 (.005)*	-.015 (.010)	-.042 (.011)*	-.019 (.003)*	-.016 (.004)*
Age 45-54	-.015 (.004)*	.013 (.006)*	-.028 (.011)*	-.050 (.012)*	-.024 (.003)*	-.007 (.003)*
Age 55+	-.027 (.006)*	.055 (.006)*	-.052 (.014)*	.028 (.010)*	-.034 (.005)*	.022 (.004)*
State	-.003 (.003)	.005 (.005)	-.012 (.006)*	-.020 (.006)*	-.023 (.003)*	-.010 (.003)*
Ten. < 1 yr	.040 (.002)*	.077 (.004)*	.070 (.005)*	.042 (.007)*	.079 (.002)*	.043 (.002)*
Ten. 1-2 y	.028 (.003)*	.027 (.006)*	.029 (.008)*	.024 (.009)*	.052 (.002)*	.019 (.003)*
Ten. 2-5 yr	.018 (.002)*	.024 (.004)*	.017 (.007)*	.008 (.008)	.040 (.002)*	.003 (.003)
Ten. 5-10 y	.005 (.003)	.007 (.005)	.009 (.009)	.008 (.009)	.020 (.002)*	-.003 (.003)
Mean D. V.	.061	.099	.105	.102	.108	.053
Evaluated at	.020	.060	.058	.081	.040	.040
Log L	-5498.6		-3938.8		-13611.9	
Pseudo R^2	.126		.088		.093	
LR Test	288.9 (41) *		228.6 (42) *		489.7 (40)*	
N	12479		6640		27605	

Note: marginal effects give percentage point deviation from default tenure category (ten years and over) with all other variables set to sample means. Standard errors in brackets, heteroskedasticity adjusted. Regressions also contain education, gender, firm size and 1 digit industry, occupation and regional dummies. LR Test is Chi^2 likelihood ratio test (degrees of freedom) for sample split of movers into job-to-job and non-employment (coefficients equal).

Table A4. Multinomial Logit Estimates of Move From Private Firms (Marginal Effects)

Variable	Poland		Russia		Britain	
	Job-to-Job	Non-Emp	Job-to-Job	Non-Emp	Job-to-Job	Non-Emp
Age 25-34	-.018 (.007)*	-.008 (.006)	-.016 (.015)	-.027 (.017)	-.008 (.002)*	-.006 (.003)
Age 35-44	-.026 (.009)*	-.014 (.006)*	-.026 (.016)	-.040 (.018)*	-.018 (.003)*	-.015 (.003)*
Age 45-54	-.030 (.011)*	.009 (.006)	-.025 (.018)	-.053 (.021)*	-.024 (.004)*	-.007 (.004)
Age 55+	-.060 (.018)*	.040 (.010)*	-.052 (.023)*	.021 (.019)	-.036 (.005)*	.022 (.004)*
Ten < 1 y	.059 (.010)*	.063 (.011)*	.094 (.009)*	.058 (.011)*	.088 (.003)*	.044 (.002)*
Ten 1-2 y	.046 (.009)*	.025 (.007)*	.033 (.014)*	.031 (.014)*	.059 (.003)*	.021 (.003)*
Ten 2-5 y	.025 (.007)*	.026 (.007)*	.028 (.012)*	.001 (.015)	.044 (.002)*	.006 (.003)
Ten 5-10 y	.005 (.009)	.014 (.007)*	.021 (.015)	.005 (.017)	.023 (.003)*	.001 (.004)
Mean D.V.	.122	.168	.134	.131	.124	.056
Evaluated at	.022	.064	.071	.074	.040	.038
Log L		-3238.1		-1683.56		-11046.2
LR Test		213.8 (40)*		100.9 (41)*		384.2 (39) *
Pseudo R^2		.123		.099		.093
N		6402		2473		20817

Table A5. Multinomial Logit Estimates of Likelihood of Move From State Firms (Marginal Effects)

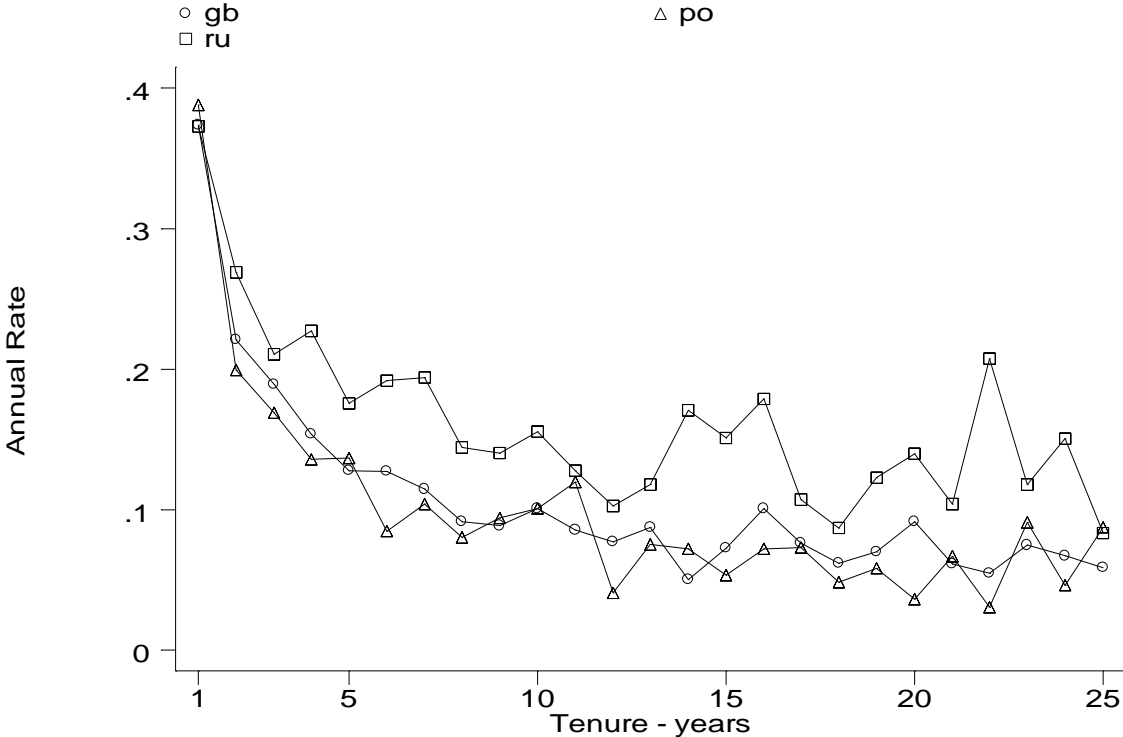| Variable	Poland		Russia		Britain	
	Job-to-Job	Non-Emp	Job-to-Job	Non-Emp	Job-to-Job	Non-Emp
Age 25-34	-.004 (.004)	-.004 (.008)	.001 (.013)	-.029 (.013)*	-.017 (.006) *	.012 (.012)
Age 35-44	-.008 (.004) *	-.019 (.008) *	-.006 (.013)*	-.038 (.014)*	-.026 (.008)*	-.003 (.012)
Age 45-54	-.012 (.005) *	.010 (.008)	-.031 (.015)*	-.044 (.015)*	-.031 (.009)*	.009 (.012)
Age 55+	-.009 (.008)	.068 (.010) *	-.054 (.018)*	.032 (.012)*	-.029 (.011)*	.038 (.012)*
Ten < 1 yr	.036 (.003) *	.069 (.005) *	.058 (.007)*	.031 (.009)*	.056 (.010)*	.030 (.006)*
Ten 1-2 ys	.016 (.005) *	.016 (.011)	.031 (.010)*	.019 (.010)	.026 (.007)*	.008 (.009)
Ten 2-5 ys	.014 (.003) *	.006 (.008)	.011 (.010)	.013 (.009)	.027 (.006)*	-.009 (.007)
Ten 5-10 y	.004 (.004)	-.004 (.007)	-.001 (.011)	.013 (.010)	.011 (.005)*	-.011 (.006)
Mean D.V.	.038	.072	.083	.092	.059	.042
Evaluated at	.018	.056	.059	.074	.043	.036
Log L		-2188.9		-2179.2		-2491.7
LR Test		111.8 (40)		184.1 (41)*		113.1
Pseudo R^2		.139		.087		.071
N		6077		4135		6785

References

Acquisti, A., and Lehmann, H., (1998), 'Job Creation and Job Destruction in the Russian Federation', Trinity College Dublin, September, mimeo.

Adamchik, V. and King, A., (1999), 'The Impact of Private Sector Development on Unemployment, Labor Force Reallocation and Labor Market Flows in Poland', Lehigh University, mimeo. Bethlehem, Pennsylvania.

Aghion, P. and Blanchard, O., (1994), 'On the Speed of Transition in Central Europe', *NBER Macroeconomics Annual*, pp. 283-319.

Altonji, J. and Shakotko, R. (1987), 'Do wages Rise with Job Seniority?, *Review of Economic Studies*, 54, pp. 437-39.

Blanchard, O., (1997), *The Economics of Post-Communist Transition*, Clarendon Press, Oxford.

Brown, J. and Light, A., (1992), 'Interpreting Panel Data on Job Tenure', *Journal of Labor Economics*, Vol. 10, No. 3, pp. 219-57.

Commander S., McHale and Yetmtsov R., (1995), 'Russia', in Commander, S. and Coricelli, F. (eds.), *Unemployment, Restructuring, and the Labor Market in Eastern Europe and Russia*, EDI/World Bank.

Farber, H., (1997), 'Job Creation in the United States: Good or Bad?', Princeton University Working Paper.

Farber, H., (1999), 'Mobility and Stability: The Dynamics of Job Change in the Labor Markets', in O. Ashenfelter (ed.) *Handbook of Labor Economics*, North Holland.

Freeman, R. ,(1987), 'If it doesn't work, fix it if you can: reforming the labor market in socialist Poland', mimeo, London School of Economics and Harvard University, January.

Gora,M, and Rutkowski, M., (1990), 'The Demand for Labor and the Disguised Unemployment in Poland in the 1980s', *Communist Economies*, Vol. 2, No. 3, pp. 325-34.

Granick, D., (1987), *Job Rights in the Soviet Union: Their Consequences*, Cambridge: Cambridge University Press.

Gregg, P. and Wadsworth, J., (1996), 'A Short History of Labor Turnover, Job Tenure and Job Security, 1975-93', *Oxford Review of Economic Policy*, Vol. 11, No. 1, pp. 73-90.

Grogan, L. and van den Berg, G., (1999), ' The Duration of Unemployment in Russia', Tinbergen Institute Working Paper No 99-011.

Hall, R. E., (1982), 'The Importance of Lifetime Jobs in the U.S. Economy', *American Economic Review*, 72, pp. 716-24.

Jackman, R. (1995), 'Economic Policies, Employment And Labor Markets In Transition In Central And Eastern Europe', Centre for Economic Performance, Discussion Paper No. 265. London: London School of Economics.

Jovanovic, B., (1979), 'Job Matching and the Theory of Turnover', *Journal of Political Economy*, vol. 87, pp. 108-22

Konings, J., H. Lehmann and Schaffer, M., (1996), 'Job Creation and Job Destruction in a Transition Economy: Ownership, firm size and gross flows in Polish manufacturing 1988-91', *Labour Economics*, Vol. 3, pp. 299-317.

Lehmann, H. and Schaffer, M.E., (1995), 'Productivity, Employment and Labor Demand in Polish Industry in the 1980s: Some Preliminary Results from Enterprise-level Data', *Economics of Planning*, vol.28, no.1, pp. 1-27.

Lehmann, H. and Wadsworth, J., (1997a), 'New Jobs, Employment Polarisation and Worker Turnover in Poland', *European Economic Review*, pp. 915-923.

Lehmann, H. and Wadsworth, J., (1997b), 'Labor Force Participation and the Household: Evidence from five Russian Regions', in Lippoldt, D. (ed.), *Labor Market Dynamics in Russia*, OECD, Paris, 1997.

Lehmann, H., Wadsworth, J. and Acquisti, A., (1999), 'Grime and Punishment: Job Insecurity and Wage Arrears in the Russian Federation', *Journal of Comparative Economics*, December.

Malle, S., (1986), 'Heterogeneity of the Soviet Labor Market as a Limit to a more Efficient Utilization of Manpower', in Lane D. (ed*.), Labor and Employment in the USSR*.

Mincer, J. and Jovanovic B., (1981), 'Labor Mobility and Wages' in *Studies in Labor Markets*, ed. S. Rosen, NBER, University of Chicago Press.

Porkett, J. L., (1989), *Work, Employment and Unemployment in the Soviet Union*.

Pissarides, C., (1994), 'Search Unemployment with On-the-Job Search', *Review of Economic Studies*, Vol. 61, pp. 457-75.

Simatupang, B., (1994), *The Polish Economic Crisis*, Routledge, London.

Topel, R. (1991), 'Specific Capital, Mobility and Wages: Wages Rise with Seniority', *Journal of Political Economy*, 99, pp. 145-176.

Figure 1. Annual Separation Rates by Tenure, Britain, Poland, Russia, 1995/96
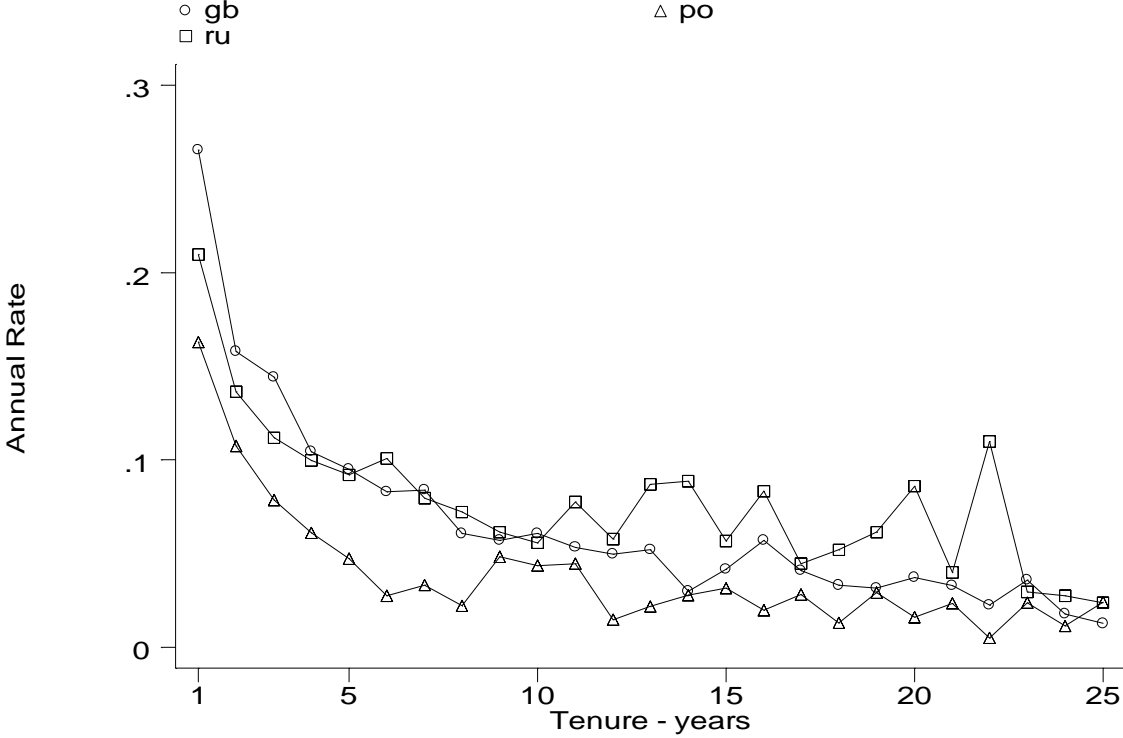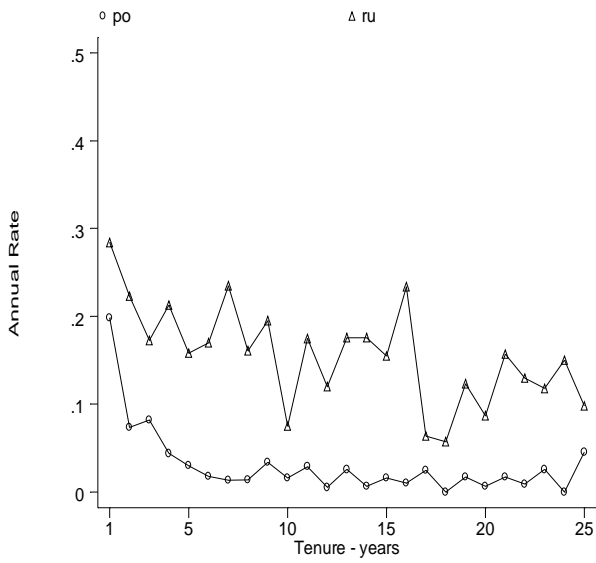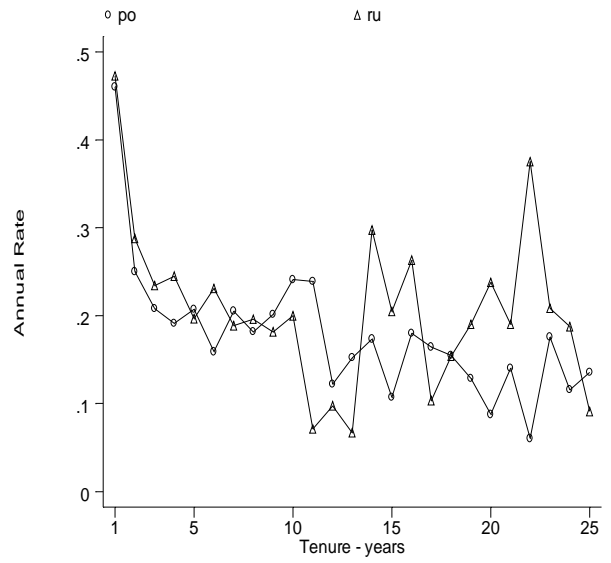
a) Separations

b) Job-to-Job

40

Figure 2. Separation Rates by Ownership

a) Separations: state

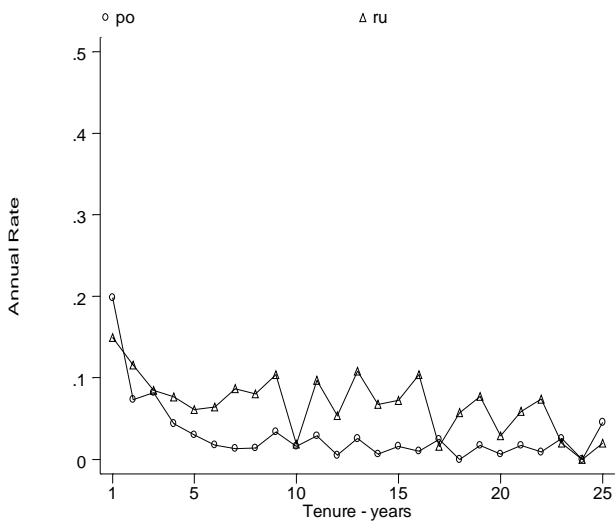**b) Separations : private**

c) Job-to-Job: state

d) Job-to-Job: private

41