Tenures That Shook the World: Worker Turnover in Russia, Poland, and Britain[1]

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We study worker turnover to investigate to what extent the length of time a worker has been employed by a firm shapes the turnover process in a transition economy. Using survey data, we compare the pattern of turnover with a Western economy, Britain. We show that tenure-turnover rates are higher in Russia 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 in which 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. *J. Comp. Econ.,* December 2000, **28**(4), pp. 639–664. Heriot-Watt University, Edinburgh, IZA, Bonn, The

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1. INTRODUCTION

··· a sample of the confused events in those feverish days, when everyone knew that something was going to happen, but nobody knew just what. —John Reed, *Ten Days That Shook the World* (1926)

Economic transition in the countries of Central and Eastern Europe has led to both reallocation of labor across industries and occupations and restructuring of tasks within continuing organizations. Reallocation involves the transfer of labor and other resources from sectors in decline, primarily state owned, to expanding, mainly privately owned, sectors. On the other hand, restructuring 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. At the same time, any upturn in the rate of new job creation can facilitate job quitting and within-firm transfers of workers. In what follows, we analyze worker turnover during 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 on turnover, e.g., Jovanovic and Mincer (1981) and Farber (1999), 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 human 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, separations, i.e., quits and layoffs, will occur higher up the tenure distribution than in a Western economy. However, there are other factors that may be important for 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. Because job tenure may be correlated with insider power, separations would be concentrated at the lower end of the tenure distribution. This could generate a steeper tenure-turnover profile than in an economy not subject to mass insider privatization or lacking strong union influence.

This paper analyzes the patterns of worker turnover in two transition countries, Poland and Russia, and compares these patterns to those of a benchmark Western

economy, Britain. 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, 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 et al., 1999). The pace of privatization has been slower in Poland than in Russia, which may have consequences for worker turnover through insider mechanisms. In Russia, failure to index unemployment benefits to inflation and, often, failure by the authorities to pay benefits make job reallocation through unemployment more unlikely than in Poland.

While the old regimes are gone, the old hiring and turnover patterns may persist in the early phases of transition.[2] For example, Commander et al. (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 in which investment in new technology is sluggish. If so, 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 that 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, when our data begin, the Polish economy had been growing for 3 years, while the Russian economy was mired in a transition-induced recession. These different positions of the two economies in the transition cycle and differences in the nature of reform allow us to contrast worker turnover.

The worker flows observed in the two transition countries could also be driven by differences in institutions understood in a broad sense. Labor market legislation and the general business environment, which is fostered by subsidy, tax, and product market structures, might influence strongly worker turnover. During the period under investigation, unemployment legislation provided more generous benefits in Poland than in Russia. Early retirement schemes were also more prevalent in Poland than in Russia.[3] Employment protection laws were equally

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[2] Malle (1986) and Granick (1987) discuss labor turnover in the Soviet Union. Simatupang (1994) and Lehmann and Schaffer (1995) do likewise for Poland. These studies suggest that worker turnover in both countries was high by Western standards.

[3] Benefit regulations and regulations concerning bridging schemes can be found in Ministerstwo Pracy i Polityki Socjalnej (1999) for Poland and in Gusov (2000, pp. 74–99), for Russia.

stringent in both countries. Hence, on the basis of official labor market legislation, one would expect to observe larger worker turnover in Poland than in Russia, and this is in contrast to the turnover patterns that we observe in the data. An important factor of worker turnover in a transition economy is the ease with which small and medium-sized enterprises (SMEs) can create new jobs. An EBRD (2000) comparative study of business conditions that might boost or hamper job creation among SMEs shows that job creation conditions are more favorable in Poland than in Russia. Besides tax regulations biased against SMEs and the lack of legislation encouraging product market competition, the subsidization of nonviable firms by the state also creates an unfavorable business environment for SMEs by distorting product markets in Russia. Subsidies to state-owned enterprises also influence directly separations since a subsidized firm might, ceteris paribus, retain workers more readily. As subsidies have been much higher in Russia than in Poland,[4] we would expect lower separation rates in Russia and not the observed higher ones in comparison with Poland. In conclusion, we are confident that the cited institutional factors are not driving the observed turnover patterns in the two transition countries. We suggest instead, on the basis of a simple model and the empirical results below, that the specificity of human capital and the insider power of workers are more plausible determinants of these patterns.

Using data from the Polish Labor Force Survey (PLFS) and the Russian Longitudinal Monitor Survey (RLMS), we measure the incidence of worker mobility in the years 1994 to 1995 and compare the pattern of turnover with data from Britain for the period 1996 to 1997, when that 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 an attempt to identify the principal sectors in which job growth is occurring, the main characteristics of the individuals who fill new jobs, 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 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, and whether there is any evidence that wage differentials are guiding reallocation.

Section 2 sets out a simple model of worker turnover for 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 may be 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; Section 4 looks at separation rates across countries

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[4] For example, in 1996, budgetary subsidies amounted to 2.5% of GDP in Poland and to 7.9% of GDP in Russia (EBRD, 1999).

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 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

What are the likely influences of firm-specific human capital accumulation and insider forces on worker turnover by job tenure in a transition economy? A simple adaptation of a model in Pissarides (1994) of on-the-job search 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 $f_{old} < f_{new}$. The old jobs will be primarily in state or privatized firms that have not yet restructured. New jobs will be found in the emerging private and transforming state and privatized sectors. This dichotomy could also be applied to a Western economy, although we would expect the differences between the old and new sectors to be less stark. For simplicity, we assume that on-the-job search, and hence quits, occur only in the old sector, but layoffs may be observed anywhere.[5] Let the output of a job rise with firm-specific human capital or seniority according to $y_i(t)f_i$, where i = old or new. This allows the relationship between tenure and productivity to differ in the two sectors.

Given a discount rate r, the asset equation for the expected return to a worker from holding a job at tenure t in the new sector will be

$$rE_{new}(t) = w_{new}(t) - s_{new}[E_{new}(t) - N] + E'_{new}(t), \qquad (1)$$

where $w_{new}(t)$ is the current wage at tenure t, $s_{new}[E_{new}(t) - N]$ is the expected value of job loss given an exogenous separation probability s_{new}, with N the expected value of nonemployment, and $E'_{new}(t)$ is the future change in the value of holding a job in the new sector. For a new sector firm, the flow value of a job with tenure t is given by

$$rJ_{new}(t) = y_{new}(t)f_{new} - w_{new}(t) - s_{new}[J_{new}(t) - V_{new}] + J'_{new}(t), \qquad (2)$$

where $s_{new}[J_{new}(t) - V_{new}]$ is the expected value of job loss given the value of a vacancy, V_{new}, and $J'_{new}(t)$ is the future change in the value of a job to a new sector firm.[6]

If workers receive a fraction λ of the total match surplus, $[J_{new}(t) - V_{new} + E_{new}(t) - N]$, following Pissarides' reasoning, wages are given by

[5] Although somewhat simplistic in a transition economy, this assumption, also used by Pissarides, allows us to make our main points more concisely.

[6] We assume that the cost of vacancies is zero in both sectors.

$$w_{new}(t) = rN + \lambda_{new}[y_{new}(t)f_{new} - rN]. \qquad (3)$$

Workers get the expected return from the outside option and a fraction of the net surplus that the job creates.

If there is search on the job at zero cost in the old sector and a probability of a successful transition to the new sector p_{new}, the worker's and the firm's expected returns become

$$rE_{old}(t) = w_{old}(t) - s_{old}[E_{old}(t) - N] + p_{new}[E_{new}(0) - E_{old}(t)] + E'_{old}(t) \quad (4)$$

$$rJ_{old}(t) = y_{old}(t)f_{old} - w_{old}(t) - (s_{old} + p_{new})[J_{old}(t) - V_{old}] + J'_{old}(t). \qquad (5)$$

Wages are now given by

$$w_{old}(t) = rN + \lambda_{old}[y_{old}(t)f_{old} - rN] - (1 - \lambda_{old})[p_{new}(E_{new}(0) - N)]. \quad (6)$$

Workers with tenure t will quit a job in the old sector for the new sector if

$$rE_{old}(t) < rE_{new}(0). \qquad (7)$$

Comparison of Eqs. (1) and (4) in conjunction with wage equations (3) and (6) suggests that there will be more quits at any tenure if any of the following conditions hold:

(a) the smaller is the worker's marginal product in the old sector, f_0 relative to f_n;

(b) the smaller is the growth rate of firm-specific capital in the old sector, $y'_{old}(t)$;

(c) the higher are the chances of finding a new sector job;

(d) the greater is the separation probability in the old relative to the new sector;

(e) the lower is the rate of evolution of the value of old sector jobs;

(f) the lower is the match share λ in the old relative to the new sector.

Conditions (a), (b), (d), (e), and, in the absence of insider power, (f) are likely to hold in a transition economy. Because the old sector has experienced relatively larger productivity shocks, the evolution of future firm-specific human capital is likely to be lower and separation probabilities are likely to be higher in the old sector of the transition economy. Without strong unions, the decline in firm-specific capital in the old sector will reduce any insider power and, hence, lower the match share. Condition (c) may hold in the West, although it is unlikely that the differential will be so large that it offsets all the other factors. Taken together, these conditions suggest that more quits are likely from the old to the new sector 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.

Firms will lay off workers if the value of the job match, $J(t)$, becomes

negative. Hence, in either sector, as Eqs. (2) and (5) show, layoffs will be more likely at any tenure, given an exogenous separation rate s:

(i) the lower the output of the job, $y_i(t) f_i$;
(ii) the higher the wage, $w_i(t)$ relative to output;
(iii) the higher the separation value, $J_i(t) - V_i$;
(iv) the lower the accumulation of the job value, $J_i'(t)$

Following the arguments given above, we would expect conditions (i), (ii), and (iv) to hold in the old declining sectors of a transition economy, while (iii) is likely to hold in the West. However, within the transition economy, layoffs will occur further up the tenure distribution, generating a flatter aggregate tenure-turnover profile than in the West. Note that both the quit and layoff considerations indicate more turnover at higher tenures in the transition economy.[7]

Of course, this is not the only model that may explain tenure-turnover profiles. Aghion and Blanchard (1994) and Blanchard (1997) model restructuring, while saying little about tenure explicitly. These models could be used to support a story of insider resistance to restructuring, which would also generate an inverse tenure-turnover profile. According to such a 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 privatized firms that still account for the bulk of employment.[8]

We can introduce insider effects into the framework by allowing the worker's share of the job match, and hence the wage, to rise with seniority. We assume insider power in the old sector comes from unions, given the probable decline of any firm-specific human capital rents. We also assume that there are no insider rents in the new sector, given the absence of unions and the probable dominance of general human capital over firm-specific human capital in the emerging new sector.

The quit condition $rE_{old}(t) < rE_{new}(0)$, which in turn depends on a comparison of wages in both sectors, is given by

$$\lambda_{old}(t)[y_{old}(t) f_{old} - rN] - (1 - \lambda_{old}(t))[p_{new}(E_{new}(0) - N)]$$
$$< \lambda_{new}[y_{new}(0) f_{new} - rN]. \quad (8)$$

At higher tenures, as $\lambda_{old}(t)$ rises, this inequality is now less likely to hold than in the absence of insider power. Job quits in the old sector become more concentrated at lower tenures. Hence, the aggregate tenure-turnover profile lies

[7] While the distinction between quits and layoffs is not important here, the Polish data distinguish quits and layoffs only for nonemployed but not for job-to-job movers. The Russian data do not differentiate between quits and layoffs for anyone.

[8] Jackman (1995) suggests that wage bargaining is not prevalent in the new private sector.

above that of an economy not subject to insider resistance at low tenures and lies below at higher tenures. 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 at higher tenures. This again pivots the tenure-turnover profile in a clockwise direction. If we let insider power be determined by rules that convey insider status after tenure t^*, we would expect a falling tenure-turnover profile up to t^* and a flat profile thereafter. Any additional effect of firm-specific human capital would imply a declining tenure-turnover profile beyond t^*, rather than a flat profile.

There may also be features unique to a transition economy that help explain the dynamics of worker turnover. For example, there is an implicit assumption above that firms face a hard budget constraint. Although 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 et al., 1996), while 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 reworking of the "experience good" theory of turnover of Jovanovic (1979). In this theory, a job is an experience good in the sense that the quality of a job match can be ascertained only by forming the match and experiencing it. If new information about the quality of the match is generated by the transition process, 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.[9] Moreover a fixed coefficient technology may require old, unrestructured firms to hire labor relevant to the old means of production.

In essence, the observed tenure-turnover profile will contain elements of all these factors. Therefore, we proceed to examine the evidence to see whether worker turnover patterns are consistent with the arguments set out here.

3. DATA

For Russia, we use the second phase of the RLMS, a longitudinal panel of around 4,000 households across the Russian Federation conducted in the autumns of 1994, 1995, and 1996. The data contains a set of demographic and establishment characteristics, together with information on the labor market activities of

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[9] Acquisti and Lehmann (2000) show that job destruction rates are highest in new private-sector Russian firms.

the households sampled. Despite its relatively small size, the advantage of this source 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 three 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. Of course, this does not 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. The samples cover all individuals who classify themselves as being with work and are not restricted to the population of working age. Because of the transition process but also for historic reasons, we observe many individuals with work above statutory pension age. This gives us a total matched sample of around 7,000 for Russia, 12,000 for Poland, and 27,000 for Britain.

Job tenure information in all surveys is given in the form of the number of months and years that the worker has been employed continuously 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. The authors argue that this 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 oversample more mobile workers and possibly low-quality jobs if low-quality jobs break up faster. However, 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 relocation and worker replacements, as well as the creation of genuine new vacancies. 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 two 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 that will end soon after. A job-to-job move is defined as one in which the worker was employed 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 nonemployment between the two observation points. Neither measure captures whether the move was voluntary or otherwise, although anecdotal evidence from Russia suggests that firms may try to disguise layoffs in an attempt to avoid redundancy payments. We can not apply continuous time methods of estimation to information gathered in this way. Some studies, for example, Grogan and van den Berg (2001) 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. However, this approach 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 approach. We are able to match individuals only 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 (Russian Economic Trends, 1997). 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 et al. (1999) show that between 40 and 60% of the work force are affected by arrears. We choose not to remove those in arrears but include instead a dummy variable for the presence of wage arrears in the Russian regressions. The existence of short-time work 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 the data sets. However, the wage data do 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 work force are in new jobs, with tenure under one year, and about 19% of the Russian work force. The latter is similar to both the British fraction and estimates in Farber (1997) for the United States. On this simple measure, the pace of reallocation 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%.

TABLE 1

Distribution of Job Tenure, Poland and Russia, 1994 and 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 26,909, 27,205 for Poland, 4,225, 4,842 for Russia, and 62,960 for Britain. Standard errors are in brackets.

Of these, 85% are in the state sector compared with 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 for men. The state sector (not shown) again accounts for a larger share of jobs with tenure in excess of 20 years, 63% compared with 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.[10]

We now turn to job separations in order to examine the correlation between mobility and job tenure. Table 2 and Fig. 1 outline the worker separation rate

[10] 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.

TABLE 2

Worker Separations and Job-to-Job Moves by Tenure and 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 are in brackets. Sample sizes: 12,753, Poland; 6,665, Russia; 27,648, Britain.

conditional on job tenure.[11] After the first year, the tenure-turnover profile for Russia is higher throughout. For Poland, there is evidence of a sharper fall in the tenure-mobility profile than in either Russia or Britain, during the first 5 years and a lower profile than in Russia thereafter.[12] Most of these 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.[13]

In every country, more than one-third of all new jobs end within two years (row 1 of Table 2). 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 10 years, one in six Russian jobs break up, which is twice the Polish rate and 75% higher than in Britain. Note that the job-to-job profiles for Poland and Russia lie generally below that of Britain.

[11] The figures are taken from kernel regressions using a Gaussian kernel and one-year bandwidth.

[12] Unlike the tenure distribution, the Polish turnover data are not affected by the inclusion of agriculture. Given the information on quits and layoffs from the subset of movers into nonemployment, it does appear that separations at the upper end of the tenure distribution are driven by retirements, while moves at the lower end of the tenure distribution are a mixture of quits and layoffs.

[13] Again, removal of the Polish agricultural sector does not change much the separation rates by age for those in the five-year tenure and over groups.

a Separations
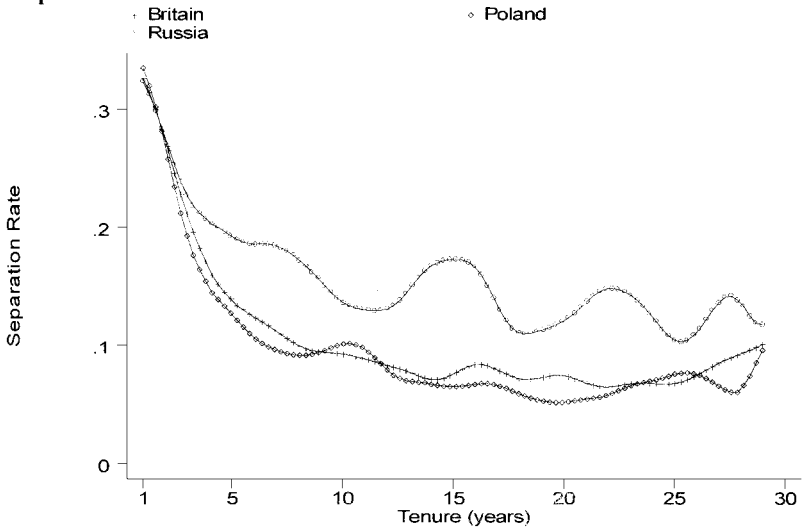
b Job-to-Job

FIG. 1. Annual separation rates by tenure, for Britain, Poland, and Russia, 1995/1996.

Hence, the higher aggregate profile for Russia is driven by moves into nonemployment.

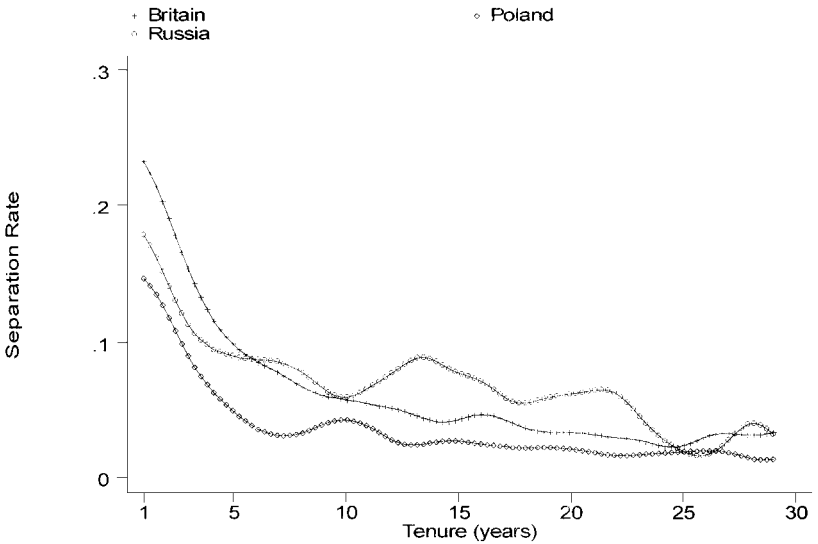The differences in the tenure profiles are reflected in the age-turnover profiles

TABLE 3

Worker Turnover in State and Private Firms by Tenure, 1994/1996

| 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	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 are in brackets. Sample sizes: 6,457 (private) and 6,296 (state) in Poland; 2,577 and 4,344 in Russia; 20,609 and 6,794 in Britain.

in the bottom panel of Table 2.[14] Turnover among 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 five British and one in six 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.[15]

We now examine differences in turnover patterns across the state and private sectors in the two transition countries.[16] Table 3 and Fig. 2 give the tenure-turnover profiles in the two sectors. Separation rates in the state sector are higher in Russia than in Poland, after around two years in the job. Moreover the decline of turnover with tenure in Poland is much faster in the state sector than in Russia and also tails off after around 10 years, unlike in Russia. Section 2 suggests that insider power would generate a steeper tenure-turnover profile. Hence, these

[14] Jovanovic and Mincer (1981) show that the observed age turnover profile, ds/dX, is equal to $(\delta s/\delta T * dT/dX) + \delta s/\delta X$, 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.

[15] The Polish turnover results are changed little by the removal of agriculture.

[16] Ownership is self-assessed in every case.

a Separations: state
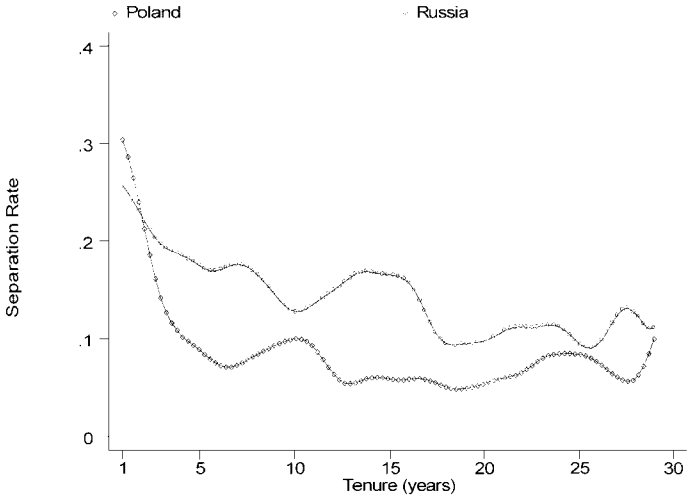
b Separations : private
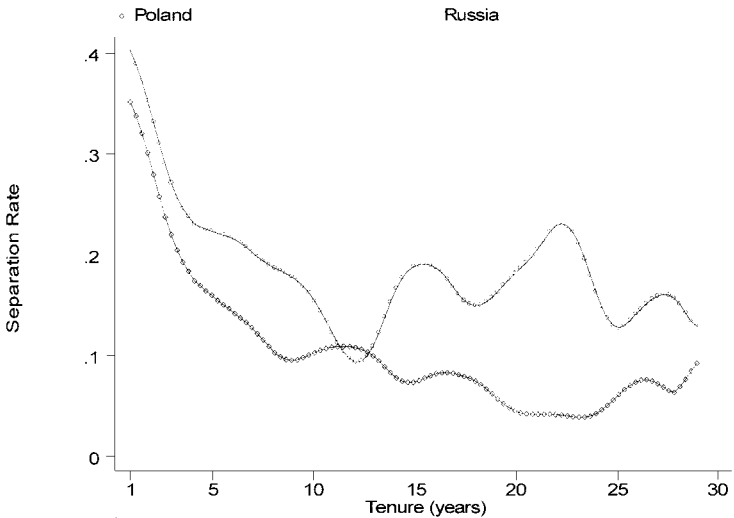
FIG. 2. Separation rates by ownership type.

patterns are consistent with the existence of more insider power in Polish state firms. Separation rates from the private sector are higher at all tenures under 20 years than those in the state sector in both countries. Whether the source of this differential lies in the behavior of the privatized or new private sectors can not be elicited from the data. Private sector separation rates are highest in Russia,

c   **Job-to-Job: state**

d   **Job-to-Job: private**

FIG. 2—*Continued*

notably at high tenures. Again this may be because insider forces in what must
be privatized firms are more prevalent in Poland. Given the dominance of the
state sector in overall employment in the transition economies, aggregate turn-

TABLE 4

Probit Estimates of Worker Separation (Marginal Effects)

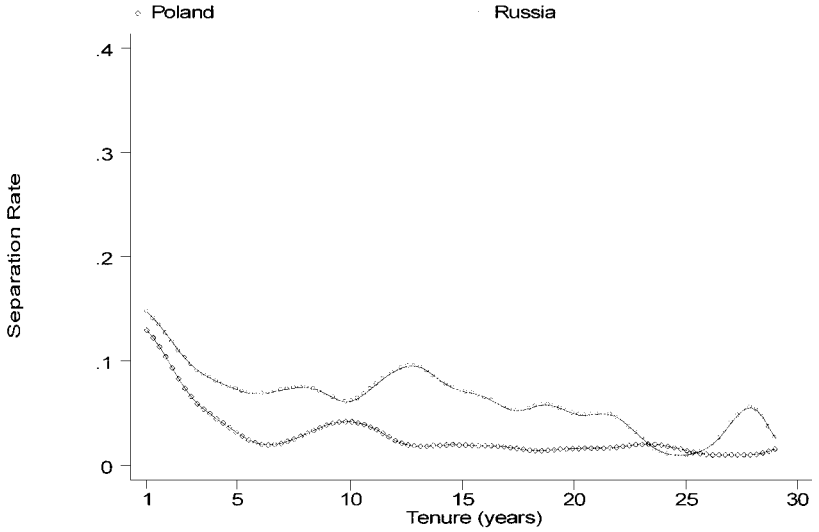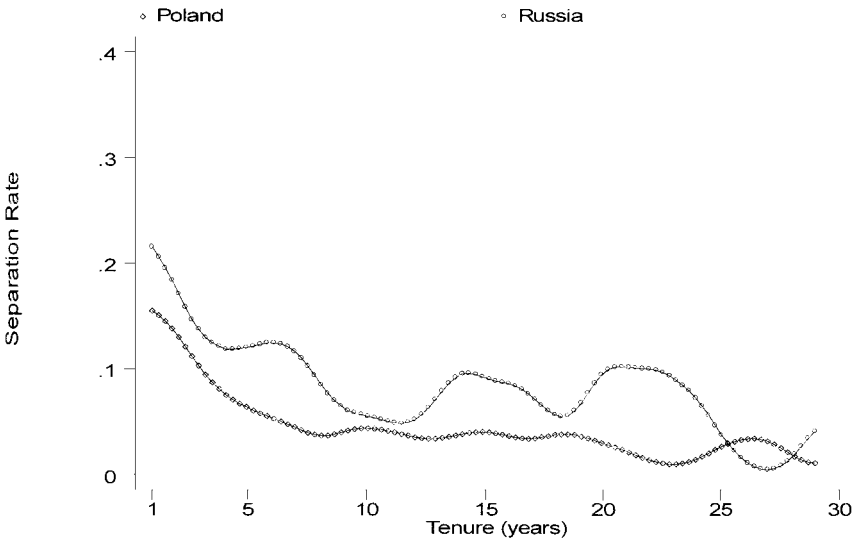|	Poland	Poland	Russia	Russia	Britain	Britain
Ten. <1 yr	0.310 (0.013)*	0.258 (0.015)*	0.232 (0.016)*	0.170 (0.017)*	0.294 (0.008)*	0.255 (0.008)*
Ten. 1–2 yr	0.125 (0.015)*	0.098 (0.015)*	0.100 (0.017)*	0.068 (0.018)*	0.142 (0.009)*	0.117 (0.009)*
Ten. 2–5 yr	0.072 (0.009)*	0.061 (0.009)*	0.051 (0.012)*	0.029 (0.014)*	0.081 (0.006)*	0.065 (0.006)*
Ten. 5–10 yr	0.013 (0.007)	0.014 (0.008)	0.026 (0.014)*	0.018 (0.015)	0.027 (0.005)*	0.020 (0.005)*
Age 25–34		−0.020 (0.006)*		−0.037 (0.015)*		−0.021 (0.005)*
Age 35–44		−0.035 (0.007)*		−0.059 (0.015)*		−0.043 (0.005)*
Age 45–54		−0.008 (0.008)		−0.078 (0.015)*		−0.041 (0.005)*
Age 55+		0.050 (0.012)*		−0.003 (0.018)		−0.015 (0.006)*
Female		0.004 (0.005)		−0.002 (0.010)		0.008 (0.004)
University		−0.020 (0.010)*		−0.039 (0.015)*		−0.004 (0.006)
Technical		−0.022 (0.011)*		−0.027 (0.012)*		−0.010 (0.007)
High School		−0.023 (0.007)*		0.012 (0.014)		−0.005 (0.005)
Tech. High		−0.004 (0.011)		−0.027 (0.016)		−0.002 (0.005)
Tech Train		−0.012 (0.006)*		−0.035 (0.013)*		—
Capital		−0.013 (0.010)		0.018 (0.021)		0.006 (0.006)
Firm 6–20		0.025 (0.009)*		−0.009 (0.017)		—
Firm 21–50		0.015 (0.009)		−0.024 (0.018)		—
Firm 51–100		−0.001 (0.010)		−0.046 (0.016)*		−0.001 (0.005)
Firm 101+		−0.021 (0.008)*		−0.049 (0.017)*		−0.005 (0.004)
State		0.001 (0.007)		−0.036 (0.010)*		−0.035 (0.004)*
Mean D.V.	0.142	0.142	0.206	0.206	0.161	0.161
Evaluated at	0.080	0.077	0.138	0.146	0.079	0.085
Log L	−4659.7	−4467.7	−3245.3	−3107.2	−11230.3	−11050.1
Pseudo R^2	0.088	0.125	0.038	0.079	0.079	0.094
N	12479	12479	6639	6639	27605	27605

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

* Indicates 5% level of significance.

over in Russia is high primarily because turnover in the state sector is relatively higher.

Table A1 in the Appendix shows that 50% of all separations in the Polish private sector and 40% 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 that the reallocation process was perhaps more advanced in Poland is found in more state-to-state moves in Russia. However, the overall incidence of state-to-private sector moves is the same in both countries.[17]

Table 4 attempts to establish whether the patterns in Figs. 1 and 2 hold after controlling for other factors. We present simple binary probit estimates of the

[17] Table A2 in the Appendix documents the shares of new hires from employment and nonemployment.

TABLE 5

Probit Estimates of Worker Separation by Ownership (Marginal Effects)

	Poland		Russia		Britain	
	State	Private	State	Private	State	Private
Ten. <1 yr	0.256 (0.023)*	0.254 (0.025)*	0.132 (0.022)*	0.228 (0.028)*	0.183 (0.022)*	0.277 (0.009)*
Ten. 1–2 yr	0.051 (0.022)*	0.116 (0.022)*	0.068 (0.023)*	0.078 (0.030)*	0.052 (0.018)*	0.138 (0.010)*
Ten. 2–5 yr	0.030 (0.012)*	0.076 (0.015)*	0.029 (0.017)	0.028 (0.024)	0.036 (0.011)*	0.077 (0.007)
Ten. 5–10 yr	0.001 (0.009)	0.025 (0.015)	0.012 (0.017)	0.025 (0.027)	0.002 (0.009)	0.029 (0.006)
Age 25–34	−0.009 (0.011)	−0.031 (0.010)*	−0.030 (0.019)	−0.048 (0.025)	−0.025 (0.012)*	−0.018 (0.005)*
Age 35–44	−0.030 (0.011)*	−0.047 (0.011)*	−0.048 (0.020)*	−0.072 (0.026)*	−0.048 (0.013)*	−0.038 (0.005)*
Age 45–54	−0.003 (0.012)	−0.018 (0.012)	−0.077 (0.018)*	−0.078 (0.026)*	−0.045 (0.013)*	−0.039 (0.006)*
Age 55+	0.119 (0.028)*	0.028 (0.016)	0.009 (0.024)	−0.020 (0.031)	−0.007 (0.015)	−0.016 (0.007)*
Female	0.005 (0.007)	0.011 (0.007)	−0.001 (0.013)	−0.003 (0.017)	0.006 (0.007)	0.007 (0.004)
University	−0.029 (0.013)*	−0.023 (0.017)	−0.036 (0.019)	−0.047 (0.024)	−0.012 (0.013)	−0.013 (0.007)
Technical	−0.039 (0.015)*	0.004 (0.025)	−0.027 (0.015)	−0.028 (0.020)	−0.017 (0.013)	−0.009 (0.008)
High School	−0.028 (0.009)*	−0.028 (0.011)*	0.018 (0.019)	0.004 (0.023)	−0.008 (0.011)	−0.003 (0.005)
Tech. High	−0.018 (0.013)	0.004 (0.018)	−0.013 (0.021)	−0.044 (0.025)	−0.007 (0.011)	−0.001 (0.005)
Tech Train	−0.014 (0.009)	−0.019 (0.009)*	−0.022 (0.017)	−0.054 (0.022)*	—	—
Capital	−0.005 (0.015)	−0.020 (0.015)	0.019 (0.028)	−0.004 (0.032)	0.007 (0.013)	0.006 (0.007)
Firm 6–20	0.016 (0.019)	0.010 (0.011)	−0.029 (0.024)	0.028 (0.029)	—	—
Firm 21–50	0.005 (0.017)	−0.001 (0.014)	−0.023 (0.024)	−0.026 (0.031)	—	—
Firm 51–100	−0.009 (0.016)	−0.009 (0.017)	−0.037 (0.021)	−0.063 (0.026)*	−0.001 (0.011)	0.001 (0.005)
Firm 101+	−0.026 (0.016)	−0.026 (0.015)	−0.039 (0.022)	−0.057 (0.028)*	0.009 (0.009)	−0.009 (0.004)*
Mean D.V.	0.110	0.173	0.173	0.261	0.101	0.181
Evaluated at	0.067	0.092	0.137	0.167	0.076	0.087
Log L	−1816.4	−2600.2	−1789.3	−1290.8	−2082.8	−8906.3
Pseudo R^2	0.139	0.118	0.064	0.094	0.061	0.095
N	6077	6402	4159	2481	6785	20817

Note. See Table 4.

probability that a worker will separate from a job within a year. The set of explanatory variables controls 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 (10 years and over), with all other variables set to their sample means. The reference probabilities are given in the second row of the bottom panel 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; however, 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 5), the tenure-turnover profiles again 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. To the extent that we observe a steep fall in the tenure profile up until two years in the Polish state sector and a relatively flat turnover profile thereafter compared with a more prolonged and less steep decline in the Russian state sector profile,

TABLE 6

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	0.596	3.0	7.4	0.604	3.0	7.5	0.396	2.0	5.2
Age 25–29	0.268	1.3	8.7	0.252	1.3	8.8	0.273	1.4	6.6
Age 30–34	0.176	0.7	9.4	0.228	1.1	9.9	0.199	1.0	7.6
Age 35–39	0.168	0.8	10.2	0.240	1.2	11.1	0.178	0.9	8.5
Age 40–44	0.124	0.6	10.8	0.160	0.8	11.9	0.139	0.7	9.3
Age 45–49	0.096	0.5	11.3	0.208	1.0	12.0	0.120	0.6	9.7
Age 50–54	0.088	0.4	11.7	0.136	0.7	12.7	0.107	0.5	10.3
Age 55–59	0.068	0.3	12.0	0.120	0.6	13.3	0.103	0.5	10.8

we could construe this as consistent with greater insider power in Poland and more deterioration of firm-specific human capital in Russia.

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 nonemployment over the 12-month observation interval allow us to see whether tenure effects differ according to the destination state.[18] In Poland and Britain, the job-to-job turnover effects are smaller than the tenure profiles determining moves into nonemployment. In Russia, the opposite pattern is observed. In all countries, moves into nonemployment are more likely to be experienced by workers under 25 and those approaching retirement age.[19] 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. The theoretical framework suggests that worker turnover depends, in part, on wage offers in vacancies, which in turn depend on the characteristics of the firms that hire and of the workers who fill vacant jobs. Table 6 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

[18] The results of these multinomial logit regressions are not shown here. They are available upon request from the authors.

[19] Retirement age is 55 for women and 60 for men, although certain occupations allow retirement at earlier ages.

TABLE 7

Survival Rates of New Matches by State and Private Sector (Proportion of Surviving Matches with <12 Months Tenure in November 1994)

	Feb95	May95	Aug95	Nov95	Feb96	May96	Aug96	Nov96
Poland								
State	0.860	0.710	0.624	0.564	0.568	0.566	0.498	0.437
Private	0.817	0.651	0.514	0.442	0.433	0.395	0.315	0.294
Total	0.847	0.697	0.583	0.522	0.517	0.498	0.424	0.387
Russia								
State				0.756				0.559
Private				0.564				0.391
Total				0.622				0.482
Britain								
State	0.962	0.766	0.712	0.712	0.709	0.621	0.567	0.548
Private	0.891	0.729	0.643	0.569	0.509	0.444	0.430	0.371
Total	0.900	0.734	0.653	0.589	0.536	0.466	0.449	0.396

with job tenure of six 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 among younger workers. This also explains the higher total number of jobs for both countries compared to Britain.

Table 7 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 7 indicates that new job matches in Poland break up faster than in Britain and Russia, particularly within the first year. 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 while this figure is 40% for Russia. A further 10% 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 8 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 provide insight into potential differences in the hiring requirements of the reallocation and restructuring processes. The coefficients are

TABLE 8

Probit Estimates of Likelihood of Being in New Job by Ownership Type in 1996
(Marginal Effects)

	Britain		Poland		Russia	
	State	Private	State	Private	State	Private
Female	0.004 (0.006)	0.020 (0.004)*	−0.014 (0.005)*	−0.007 (0.006)	−0.034 (0.012)*	−0.038 (0.015)*
Age 16–24						
Age 25–34	−0.105 (0.006)*	−0.147 (0.004)*	−0.095 (0.004)*	−0.114 (0.006)*	−0.115 (0.011)*	−0.149 (0.017)*
Age 35–44	−0.142 (0.006)*	−0.196 (0.004)*	−0.151 (0.006)*	−0.156 (0.006)*	−0.138 (0.012)*	−0.195 (0.018)*
Age 45–54	−0.169 (0.006)*	−0.222 (0.003)*	−0.133 (0.005)*	−0.161 (0.005)*	−0.144 (0.010)*	−0.191 (0.015)*
Age 55+	−0.121 (0.003)*	−0.199 (0.003)*	−0.077 (0.003)*	−0.170 (0.005)*	−0.143 (0.009)*	−0.200 (0.011)*
Primary/less						
University	0.014 (0.008)	−0.007 (0.006)	0.012 (0.014)	−0.039 (0.012)*	0.012 (0.018)	0.027 (0.025)
Tech. Coll.	−0.027 (0.010)*	−0.023 (0.011)	0.002 (0.013)	−0.043 (0.017)*	−0.010 (0.016)	0.005 (0.022)
High School	−0.020 (0.008)*	−0.031 (0.006)*	−0.022 (0.008)*	−0.018 (0.009)	0.061 (0.021)*	0.026 (0.025)
Tech. High	0.001 (0.008)	−0.025 (0.005)*	−0.017 (0.009)	−0.001 (0.014)	0.055 (0.026)*	−0.043 (0.028)
Tech. Train			−0.029 (0.006)*	−0.007 (0.008)	−0.012 (0.018)	−0.011 (0.026)
Capital	0.023 (0.010)*	0.002 (0.007)	−0.014 (0.010)	−0.027 (0.012)*	0.034 (0.028)	0.035 (0.032)
Firm 1–5						
Firm 6–20			−0.003 (0.013)	0.050 (0.009)*	0.009 (0.027)	−0.031 (0.026)
Firm 21–50			−0.009 (0.012)	0.030 (0.011)*	−0.006 (0.028)	−0.094 (0.025)*
Firm 51–100	−0.036 (0.007)*	0.014 (0.006)*	−0.019 (0.011)	0.018 (0.014)	−0.024 (0.025)	−0.077 (0.024)*
Firm 101+	−0.055 (0.008)*	−0.042 (0.005)*	−0.059 (0.013)*	−0.048 (0.009)*	−0.049 (0.023)*	−0.124 (0.022)*
OtherServs						
Agriculture	0.084 (0.093)	−0.089 (0.010)*	−0.055 (0.023)*	−0.180 (0.014)*	0.007 (0.026)	0.016 (0.037)
Manufact.	−0.047 (0.022)*	−0.045 (0.008)*	−0.022 (0.025)	−0.036 (0.014)	0.014 (0.024)	0.023 (0.032)
Construction	−0.013 (0.016)	−0.046 (0.009)*	0.049 (0.034)	−0.055 (0.020)*	0.036 (0.033)	0.045 (0.043)
Energy	−0.059 (0.029)*	−0.066 (0.014)*	0.063 (0.035)	−0.042 (0.028)	0.022 (0.029)	0.013 (0.042)
Transport	−0.026 (0.011)*	−0.014 (0.010)	−0.009 (0.029)	−0.033 (0.017)	−0.008 (0.025)	0.037 (0.043)
Retail	0.065 (0.027)*	−0.011 (0.008)	0.098 (0.035)*	−0.015 (0.015)	0.053 (0.037)	0.124 (0.040)*
Finance	−0.006 (0.013)	−0.027 (0.008)	0.001 (0.053)	−0.007 (0.021)	−0.022 (0.047)	0.212 (0.075)*
Health/Educ.	0.023 (0.006)*	0.012 (0.010)	−0.023 (0.023)	−0.025 (0.031)	−0.004 (0.021)	−0.012 (0.041)
Mean D.V.	0.115	0.203	0.089	0.184	0.147	0.208
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	0.089	0.083	0.159	0.094	0.076	0.104
N	14275	45358	11972	15025	4483	3000

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

* Indicates 5% significance level.

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 that 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. Although the likelihood ratio tests accept the state–private sample split in all three countries, the marginal effects imply little difference in the age share of new hires between state and private sectors, if the

respective sample means are taken into account. 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 six 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 and in Britain.

Table 9 presents ordinary least-squares (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 and the likely pull effect that this may exert on workers.[20] The default tenure category is one to two 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.[21] For Poland, there is little difference between state and private sector wages in new jobs. The average new job pays around 5% less than the default category in both sectors. It may be that restructuring 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 relatively flat and indeed turn down after 10 years. This may give support to the idea that long-tenure jobs in the privatized sector are valued only slightly 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 average. Russian private sector jobs pay around 13% more than jobs in the state sector, net of wage arrears.[22] This premium in itself may help explain the higher Russian turnover rates that we observe in the previous section.

6. CONCLUSIONS

We set out to investigate the link between job tenure and worker turnover in a transition economy. As in the West, there is an inverse tenure-turnover profile in the two transition countries examined here, but at all but the lowest tenures there is more turnover in Russia than in Poland. Turnover is higher at all tenures in the private sector than in state sector firms in both transition countries. However, it is highest in Russia, and this explains why the aggregate turnover profile in Russia lies above those 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

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[20] This excludes most agricultural workers in Poland, but not elsewhere.

[21] Of course, these results may be influenced by any heterogeneity in the quality of the job match that could also generate an upward-sloping wage–tenure profile. See Altonji and Shakotko (1987) and Topel (1991) for ways of dealing with this issue, which cannot be implemented given the limited longitudinal information in our data sets.

[22] Removal of industry dummies makes little difference to the state-level and interaction terms in any country.

TABLE 9

OLS Estimates of Log Weekly Earnings—Poland and Russia

Variable	Poland			Russia		
	Total	Private	State	Total	Private	State
Constant	4.548 (0.019)*	4.497 (0.035)*	4.513 (0.028)*	11.803 (0.108)*	12.139 (0.158)*	11.332 (0.140)*
Tenure 1–2 years	−0.122 (0.026)*	−0.053 (0.014)*	−0.050 (0.016)*			
Tenure <12 mos.				−0.013 (0.061)	−0.064 (0.075)	−0.222 (0.065)*
Tenure 2–5 years	0.032 (0.011)*	0.021 (0.014)*	0.052 (0.015)*	−0.083 (0.046)	−0.123 (0.073)	−0.045 (0.059)
Tenure 5–10 years	0.073 (0.011)*	0.066 (0.017)*	0.096 (0.015)*	−0.101 (0.049)*	−0.052 (0.083)	−0.101 (0.063)
Tenure 10–20 years	0.097 (0.011)*	0.056 (0.019)*	0.126 (0.014)*	−0.028 (0.048)	−0.084 (0.082)	0.024 (0.061)
Tenure 20+ years	0.115 (0.012)*	0.035 (0.022)*	0.149 (0.015)*	0.053 (0.053)	−0.032 (0.088)	0.099 (0.066)
State*Ten. <12 mos.	0.044 (0.015)*	—	—	−0.254 (0.067)*	—	—
State	−0.069 (0.008)*	—	—	−0.126 (0.031)*	—	—
N	16294	5529	10765	4145	1708	2437
F Test (n1, n2)-state/private split			8.37 (37, 16220)*			3.34 (38, 4890)*
Adj. R^2	0.397	0.353	0.432	0.297	0.283	0.307

Note. Heteroskedastic adjusted standard errors are in brackets. Regressions also contain 4 age, 5 education, 8 regional dummies, 8 industry dummies, and a year and a gender dummy, and for Russia, a control for the presence of wage arrears.

* Indicates 5% level of significance.

firms in Russia are shedding labor faster than state firms. The same can not be said for high-tenure workers in privatized firms in Poland. 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 a private sector job lasting two years is only half that of a new state sector job. Although 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 is the case in Poland.

We find little difference in the characteristics of those hired in the state and private sectors during transition. The demands of firms that are restructuring and those involved in the reallocation of labor appear to be similar. However, we do find evidence in Russia that job tenure does little to explain wage levels and so perhaps turnover, whereas the earnings differential between new and existing jobs in Poland is of a similar magnitude to that observed in the West. These results are not consistent with a simple story of accelerated depreciation of firm-specific capital acquired before transition. Hence, insider forces may be helping to shape worker turnover in Poland more than in Russia. The labor market transition process in Poland has been less volatile and smoother than in Russia, where uncertainty dominates. As such, these patterns of turnover are likely to continue over the next few years.

APPENDIX

TABLE A1

Share of Moves across Ownership Types by Tenure, 1994/1996

| | | | | Of which (%) | | | | | | | |
| | Total | | | Job-to-state | | Job-to-private | | Unemployment | | Inactivity | |
Job length	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 1994/1996

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 m	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 <12 m	3.4	1.8	3.2	1.6	2.6	2.1
Inactive >12 m	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

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