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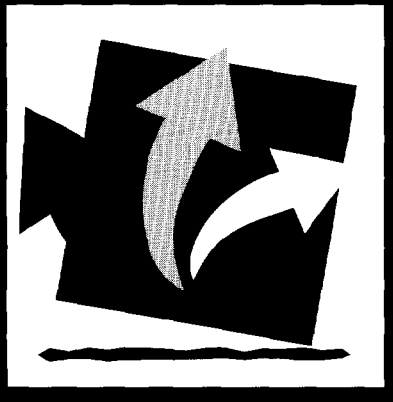

Worker Reallocation During Estonia's Transition to Market: How Efficient and How Equitable?

Milan Vodopivec

July 2000

Social Protection
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THE WORLD BANK

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Abstract

Based on consecutive labor force surveys, this study examines labor market dynamics during the first decade of the Estonian transition to market. The results show that, similar to other transition economies: (1) Estonia's employment and labor force was reduced; (2) patterns of mobility profoundly changed – labor market flows intensified and previously nonexistent transitions emerged; and (3) some groups of workers were disproportionally affected, chief among them the less educated and ethnic minorities. But Estonian liberal and radical transition reforms produced also labor market outcomes that differ significantly from those in other transition economies – above all, the intensity of worker and job flows in Estonia's transition have surpassed those in most other transition economies, thereby contributing to efficient reallocation of labor. This was achieved by deliberate policies aimed at stimulating job creation and employment, above all by low employment protection and other policies geared toward increasing employability and strengthening the incentives of workers. Moreover, under the dynamic Estonian labor market adjustment, marginal groups have fared better than those in more protective labor markets of other transition economies.

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WORKER REALLOCATION DURING ESTONIA'S TRANSITION TO MARKET: HOW EFFICIENT AND HOW EQUITABLE?*

Milan Vodopivec

I. INTRODUCTION

Estonia's transition reforms shattered job security, replaced rigid wage determination system with a liberal one, and strengthened financial discipline that squeezed subsidies for ailing enterprises. In the economy where imbalances accumulated for decades, this created a disequilibrium of enormous proportions. Based on consecutive Estonian labor force surveys, this study examines how the Estonian employers and workers reacted to this disequilibrium.

The paper focuses on two main issues. First, it examines the aggregate labor market adjustment during 1989-98 by analyzing trends in labor market stocks and flows across different labor market states. Particular attention is devoted to the question of how efficient was the underlying worker reallocation process. Second, it analyzes the determinants of labor market transitions, thereby identifying the groups of workers who have been particularly hard-hit by transition.

The main findings can be summarized as follows. Similar to other transition economies, Estonia's employment and labor force was reduced, and patterns of mobility profoundly changed – labor market flows intensified and previously nonexistent transitions emerged. But Estonian liberal and radical transition reforms also produced labor market outcomes that differ significantly from those in other transition economies. First, the intensity of worker and job flows in Estonia's transition have surpassed those in most other transition economies, thereby contributing to fast – and efficient – reallocation of labor to more productive uses.

*The author is grateful to the Statistical Office of Estonia for providing the data used in the study, to John Haltiwanger and Peter Orazem for numerous insights and comments, and to Debabrata Das and Ylle Petai for excellent research assistance. The paper is part of a project "Labor Market Adjustment in Estonia" financed by the World Bank's Research Support Budget (RPO 679-71).

This was achieved by deliberate policies aimed at stimulating job creation and employment, above all by low employment protection and other policies geared toward increasing employability and strengthening the incentives of workers. Second, as in other transition economies, some groups of workers have being disproportionally affected, chief among them the less educated and ethnic minorities. Under the dynamic Estonian labor market adjustment, however, marginal groups have fared better than those in more protective labor markets of other transition economies.

Estonia provides exceptionally fruitful grounds for the research of labor market adjustment in transition: it is a reform laboratory. It is not only implementing distinctive labor market policies (generally in the direction suggested by the World Bank), but is also clearly in the forefront of the implementation of reforms among the successor states of Soviet Union and has therefore undergone many changes that will ultimately be implemented in other economies as well. Although there are respects in which Estonia has been atypical (above all, being richer and, as other Baltic countries, traditionally more linked to the West), we believe that there are important lessons to be learned from the Estonian experience.

The organization of the paper is as follows. Section 2 describes the data sources. Section 3 focuses on aggregate labor market transitions, and also addresses efficiency of worker reallocation. Section 4 examines determinants of labor market transitions, identifying groups of population which benefited from and those which were adversely affected by transition. Section 5 concludes with reviewing the main findings and policy issues raised by them.

II. DATA SOURCES

The study's main data source is the Estonian 1995 Labor Force Survey (retrospectively covering the period of 1989-95); the subsequent 1997 and 1998 surveys are also used. The universe for the sampling was the 1989 census of the Estonian population, for the 1995 survey, and the population database of the Statistical Office, for the later two surveys. The sample size for the 1995 survey was just below one percent of the population (12,246

individuals), with 9,608 (77 percent) interviewed. The sample size for the later two surveys was about half of the 1995 survey, with somewhat higher response rate. Most of the nonresponse was attributable to failure to locate an address for the individual, and, in the 1995 survey, to emigration of Non-Estonians following Estonian secession from the former Soviet Union.

In the 1995 survey, respondents were asked about their labor market status as of January 1989 and all subsequent changes of the status. For each spell of employment, they also reported industry of employment, type of employment, and a number of employer attributes. The survey also elicited information on human capital attributes including education, work experience and job tenure, and demographic information on age, ethnicity and gender.

Beside standard questions about the current labor market activity, the 1995 survey also asked retrospective questions on wages and employment from the period before transition up to 1995, and the subsequent surveys covered the gaps between the two consecutive surveys. This required recollection of labor activities up to six years before the time of interview, which makes the collected data suspect to recall bias. To minimize this bias, enumerators were carefully trained to cross check answers for employment and unemployment spells to insure consistency. Moreover, research indicates that individuals recall traumatic events more readily, and changes in labor market status are likely to have been particularly memorable in an economy transiting from a system with many years of constant steady employment. Indeed, data validation checks show that the recall bias has been very limited. For example, the data on economic activity from the 1989 census corresponded quite well with the survey responses from the 1995 survey, and the majority of the discrepancies are attributable to changes in labor force definitions.[1] Similarly, the estimates of the number of registered unemployed obtained from the surveys quite closely match the data from the registers of Employment Offices (for example, for the second quarter of 1997 the survey

[1] In 5.4 percent of the cases, the recall data indicated labor force participation when the census indicated inactivity. The opposite disagreement occurred in 3.2 percent of the cases. The former cases were concentrated among women in their twenties, and such mismatches are attributable to a change in labor force definition (see Noorkoiv et al, 1998, for details).

estimate is 36,400 and the Employment Office number 35,700 – see Statistical Office of Estonia, 1998).

III. AGGREGATE WORKER FLOWS AND EFFICIENCY OF ADJUSTMENT

Former socialist economies face a huge task of reallocating labor according to market forces.[2] Below we explore how has this task was implemented in Estonia. We describe trends in aggregate employment, unemployment, and inactivity, and analyze workers flows and transition probabilities. Underlying this discussion is the question of efficiency of the reallocation, especially whether Estonia's radical and liberal labor market and other policies produced a more fluid labor market than is the one in other transition economies.[3]

3.1 Adjustment of Labor Market Stocks

Estonia's transition produced dramatic changes: employment was strongly reduced, and the number of unemployed and inactive individuals increased. Many of the employers reduced their workforces or closed down, which reduced employment from 835 thousand in 1989 to 640 thousand in 1998, the reduction of 23 percent (table 1). The worsening of labor market conditions produced a surge of unemployment. While there were only 6 thousand unemployed in 1989, the number increased to 79 thousand in 1997 and then dropped to 71 thousand in 1998. The unemployment rate in 1998 thus stood at 10 percent, rising from less than 1 percent in 1989. Transition reforms also increased the number of inactive individuals. While there was 255 thousand of inactive individuals of working age in 1989, their number increased to over 330 thousand in the latter half of the 1990s. As the result of transition reforms, the labor force shrunk from 841 thousand in 1989 to 711 thousand ten years later, or by 15 percent. That lead to a strong fall of labor force participation, from 69 percent in 1989 to 61 percent in 1998.

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[2] See the discussion of the macroeconomic performance and institutional background of Estonia during its early transition stage in Haltiwanger and Vodopivec (1999).

[3] The analysis complements the studies on job creation/destruction, and on evolution of wage structure and returns to skills presented elsewhere (based on same data sources, Haltiwanger and Vodopivec (1999) analyze Estonian job creation and destruction process, and Noorkoiv et al (1998) analyze changes in wage structure).

The above trends have been present throughout the period under review. Particularly large adjustments occurred in the early 1990s, especially during 1993, the year of the most intense restructuring. It seems that 1998 brought a reversal – for the first time since 1989, employment slightly increased, and number of unemployed and inactive individuals decreased.

Table 1
Labor Market Stocks, 1989-1998
(in thousands, as of the beginning of the year)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
A. Employment										
Total	836	828	815	791	716	684	652	644	632	640
Men	424	425	423	417	378	362	339	334	328	332
Women	412	404	392	374	338	321	313	309	304	308
B. Unemployment										
Total	6	4	7	17	44	57	71	71	79	71
Men	3	2	4	8	25	28	41	41	42	40
Women	3	2	3	9	19	29	30	30	37	31
C. Inactivity										
Total	255	269	282	294	320	329	339	339	336	333
Men	93	96	97	98	110	118	125	125	128	125
Women	162	173	185	195	210	212	214	214	209	208
D. Labor force										
Total	842	832	822	808	760	741	723	715	711	711
Men	427	427	427	425	403	390	380	375	370	372
Women	415	406	395	383	357	350	343	339	341	339
E. Memorandum items										
Unemployment rate (%)	0.7	0.5	0.9	2.1	5.8	7.6	9.8	9.9	11.1	10.0
Men	0.7	0.5	0.9	1.9	6.1	7.2	10.8	11.0	11.4	10.7
Women	0.6	0.6	0.8	2.3	5.3	8.2	8.8	8.8	10.9	9.2
Labor force participation rate (%)	76.7	75.6	74.5	73.3	70.3	69.2	68.1	67.8	67.9	68.1
Men	82.1	81.6	81.5	81.2	78.5	76.8	75.2	75.0	74.4	74.8
Women	71.9	70.1	68.1	66.3	63.0	62.3	61.7	61.3	62.0	62.0

Sources: for 1989-94, ELFS95; for 1995-96, ELFS97; and for 1997-98, ELFS98.

3.2 Worker Flows and Transition Probabilities

During the transition, flows across labor market states: employment, unemployment, and inactivity were strongly affected. Many flows considerably increased, particularly out of employment, and flows to and from unemployment emerged that did not exist before the transition. It is notable that in spite of obvious tightening of the conditions of the labor market, accessibility of employment as measured by the employment accession rate increased, and the chances to find a job if unemployed did not deteriorate very much. This is a telling evidence that the Estonian labor market has been a quite active one, with many workers being able to switch directly from one job to another or exit from unemployment relatively quickly.

Separations from and accessions to employment. In 1989, workers exiting from employment either changed a job (8 percent of the employment stock), left the labor force (5 percent), or, very few of them, became unemployed (0.3 percent) – see table 2, panel A. The accession side showed a mirror picture -- the number of individuals entering employment from inactivity was only slightly below the number who exited from employment to inactivity, and flows from unemployment to employment were small (table 3, panel A).

Transition reforms strongly changed this picture. Above all, unemployment has become an important destination of those exiting employment, and flows to inactivity strongly increased. Moreover, as one of the most significant developments and as a sign of a strong job creation capacity of the Estonian economy, direct job-to-job transitions strongly increased, more than doubling their pre-transition rate during the period of the most intensive restructuring of the economy (1992-1995). During 1996-98, these flows have gradually been reduced. The rate of direct job-to-job changes is still above the pre-transition one, however, and the yearly rate of exits to unemployment has stabilized at below 5 percent. Interestingly, during 1995-97, probability of exit to inactivity was even below its pre-transition value, suggesting the depletion-of-the-stock effect. As a significant new development, the pool of the unemployed has emerged as an important source of employment; after 1995, the share of

accessions accounted for by previously unemployed workers has stabilized at about 5 percent.

Table 2
Separation Probabilities
Employment, Unemployment, and Inactivity, 1989-1997
(percentages)*

	1989	1990	1991	1992	1993	1994	1995	1996	1997
A. Percent of individuals **employed** as of January of the year, who by next January:									
Stayed in the same employment	87.6	84.1	79.8	69.6	70.4	72.0	83.7	77.9	81.4
Changed a job	7.5	9.6	12.1	15.9	16.9	16.3	9.0	12.2	9.9
Become unemployed	0.3	0.7	1.7	4.8	5.3	5.2	4.2	4.9	4.7
Became inactive	4.6	5.6	6.4	9.7	7.4	6.6	3.0	5.0	4.0
B. Percent of individuals **unemployed** as of January of the year, who by next January:									
Stayed unemployed	35.8	45.9	47.1	44.1	43.4	39.4	59.8	53.5	56.4
Found a job	62.1	43.0	43.2	46.5	44.7	49.9	33.6	37.4	37.2
Became inactive	2.0	11.1	9.8	9.3	12.0	10.7	6.6	9.2	6.4
C. Percent of individuals **inactive** as of January of the year, who by next January:									
Stayed inactive	84.7	83.1	82.5	82.1	83.8	79.5	90.8	86.3	88.7
Found a job	14.5	15.4	15.5	14.3	12.8	15.6	6.2	8.5	7.4
Became unemployed	0.8	1.5	1.9	3.6	3.4	4.9	3.0	5.1	3.8

Notes: *Separations are defined on the basis of **the first transition** undertaken after January in the same calendar year. For example, the transition of a person who is employed in January, becomes unemployed in June, and reemploys in November and remains employed in December would be counted as "became unemployed," even though the person was employed both at the beginning and at the end of the year. Based on population aged 15-69.

Sources: for 1989-1994 -- ELFS95; for 1995-1996 -- ELFS97; and for 1997 -- ELFS98.

Separations from and accessions to unemployment. With unemployment steadily rising after 1989, the main source of unemployment remained the same: exits from employment. In fact, during 1992-94, more than half of the stock of the unemployed had lost their jobs within a year. With the increased level of unemployment, the probability of exits from unemployment to employment after 1995 somewhat decreased, perhaps due to a higher share of long-term unemployed, stabilizing at about 37 percent. Throughout the period, however, accessions dominated over the separations.

Table 3
Accession Probabilities
Employment, Unemployment, and Inactivity, 1989-1997
(percentages)*

	1989	1990	1991	1992	1993	1994	1995	1996	1997
A. Percent of individuals **employed** as of January of the next year, who during the year:									
Stayed in the same employment	87.6	84.1	79.8	69.6	70.4	72.0	83.7	77.9	81.4
Changed a job	7.5	9.6	12.1	15.9	16.9	16.3	9.0	12.2	9.9
Exited from unemployment	0.3	0.7	1.7	4.8	5.3	5.2	4.2	4.9	4.7
Exited from inactivity	4.6	5.6	6.4	9.7	7.4	6.6	3.0	5.0	4.0
B. Percent of individuals **unemployed** as of January of the next year, who during the year:									
Stayed unemployed	44.3	28.3	20.6	16.5	33.0	33.9	59.2	47.3	54.6
Exited from employment	33.1	40.0	56.0	62.4	51.5	46.0	31.9	38.0	31.5
Exited from inactivity	22.6	31.8	23.5	21.1	15.4	20.1	8.9	14.7	14.0
C. Percent of individuals **inactive** as of January of the next year, who during the year:									
Stayed inactive	83.8	82.4	81.4	76.4	82.4	82.9	91.8	88.3	90.9
Exited from employment	16.1	17.3	18.2	22.9	15.9	14.5	6.5	9.8	7.4
Exited from unemployment	0.0	0.3	0.4	0.7	1.7	2.6	1.7	2.0	1.7

Notes: *Accessions are defined on the basis of **the last transition** undertaken before the January of the next year. For example, the transition of a person who is employed in January, becomes unemployed in June, and reemploys by November and remains employed in December, would be counted as "Exited from unemployment", even though the person was employed both at the beginning and at the end of the year.
Sources: 1989-1994: data of the ELFS95, 1995-1996: data of the ELFS97, 1997: data of the ELFS98. Based on population aged 15-69.

Sources: for 1989-1994 -- ELFS95; for 1995-1996 -- ELFS97; and for 1997 -- ELFS98.

Separations from and accessions to inactivity. Tightening of the labor market after 1989 increased also the flows to inactivity; particularly during 1992-93, inflows to inactivity outnumbered outflows, but after 1993 the situation was reversed. As a significant new development, inflows from inactivity to unemployment, as well the reverse flows, have emerged.

3.3 How Efficient Was the Estonian Adjustment? Comparison of Worker Flows in Estonia and Slovenia

Because communism generated large production imbalances, worker – and job – reallocation is undoubtedly a *sine qua non* for the overall success of the transition reforms. What can we say about the scale of reallocation that took place in the Estonian economy? Was it large or

small? To address this question, we compare worker flows during Estonian transition with those in OECD and other transition countries, particularly with Slovenia.[4]

Slovenia was chosen because its labor market policies contrast sharply with the Estonian ones. Both countries faced similar initial conditions of transition: they both needed to correct the accumulated production imbalances, and to re-orient their trade to Western partners after their countries disintegrated in the early 1990s. But they differ significantly in the boldness of transition reforms. Estonia followed a liberal approach, with few barriers to labor market dislocations or new job creation, meager support of the unemployed, no effective wage floor, low taxation of labor, and privatization methods that strengthened corporate governance and thus encouraged labor shedding. In contrast, Slovenia adopted a much more cautious, interventionist approach, with significant barriers to job dislocation (including subsidies to prevent layoffs), generous support for unemployed workers and pensioners, rigid wage setting mechanism, and mostly insider privatization that hindered reductions in employment.[5] In particular, employment protection in Slovenia has been much stronger than in Estonia: Slovenian firms face much higher costs in terms of stronger procedural inconveniences, longer advance layoff notification period, much higher severance pay, and other significant obstacles when laying off workers (see table 4).

[4] Note that the scale of employment reduction and/or unemployment increase is not a good proxy for the scale of worker and job reallocation. For a given reduction in employment or increase of unemployment, a flexible labor market is likely to produce a high rate of worker and job reallocation, while a relatively inflexible labor market institutions may accommodate only modest rate of worker and job reallocation. Neither is the rate of unemployment a good predictor of fluidity of the labor market: the same rate of unemployment is consistent with very different labor market characteristics, and thus with a dynamic or a static labor market (see Blanchard and Portugal, 1998 for the comparison of the U.S. and Portugal).

[5] Haltiwanger and Vodopivec (1999) discuss policies that influenced worker and job flows in the two countries.

Table 4
International Comparison of the Strictness of Employment Protection Legislation

	Regular procedural inconveniences		Notice and severance pay for no-fault individual dismissals						Difficulty of dismissal	
	Procedures	Delay to start of notice	Notice period after 9m	4y	20y	Severance pay after 9m	4y	20y	Definition of unfair dismissal	Compensation at 20 years
	Scale 0 to 3	Days	Months						Scale 0 to 3	Months
Estonia	2	0	2*	2*	4*	2	2	4	0	6
Slovenia	2	30	6	6	6	0	2	10	2**	6
Developed economies (1980s)***	1.7	12.3	0.9	1.9	4.9	0.1	0.7	3.7	0.8	16.9

Notes: Provisions described here relate to individual dismissals. Explanations for the columns:

Procedures: procedures to be followed when issuing a regular dismissal notice: 1 for a statement in writing to the employee of reasons for dismissal, 2 for notification to a third party, and 3 when prior permission for dismissal must be obtained from the third party (the higher the number, the stricter the procedure).
Delay to start of notice: the delay between a decision to dismiss and the time that notice can become effective after following required procedures, in days.
Notice period, 9 m, 4 y, 20 y: the period between issuance of a dismissal notice and the effective cessation of employment, in months. The columns refer to workers who have been with the employer 9 months, 4 years, and 20 years respectively.
Severance pay, 9 m, 4 y, 20 y: a lump-sum payment to the dismissed employee at the time of cessation of employment. The columns refer to workers who have been with the employer 9 months, 4 years, and 20 years respectively.
Definition of unfair dismissal: scored 0 when worker capability or redundancy of the job are adequate grounds for dismissal, 1 when social considerations, age or job tenure must, where possible, influence the choice of which worker to dismiss, 2 when retraining to adapt the worker to different work must be attempted prior to dismissal, and 3 when worker capability can never be a basis for dismissal (the higher the number, the stricter the definition).
Compensation at 20 y: the compensation payable to a worker who has been unfairly dismissed after 20 years with employer.

*No notification if the employer declares bankruptcy.
** Redundant workers have the following options, to be sponsored by their employers: (a) reassignment within a firm (including to a job that requires fewer skills, with the worker's consent); (b) retraining or skill upgrading (to last for up to 6 months); or (c) purchase of pension credits, if within 5 years of retirement. If none of the above is mutually agreeable to the firm and the worker, the firm is liable for a compensation of at least the minimum wage payable for not more than 6 months, if the worker does not work after receiving advance notification.
***The following countries are included: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, UK, then-members of EC, and Austria, Finland, Norway, Sweden, and Switzerland, then-members of EFTA.

Sources: OECD (1994); Law on Labor Relations of the Republic of Slovenia (1991), proposal of the Law on Labor Relations, Ministry of Labor, Family and Social Affairs, June 1997; collective agreements, for the column on compensation for unfair dismissal for Slovenia.

Accession and separation rates in Estonia were only slightly below long-term rates in mature market economies, and even exceed those of Italy, France, Sweden and Japan (table 5). In contrast, Slovenia's separation and accession rates was lower then those of any of the

comparison OECD country and much lower than in Estonia (note that the Czech Republic is the only comparison country with lower rates). It has to be remembered that the reported rates of transition countries relate to the period when high intensity of labor turnover was highly desirable so as to correct past imbalances, and that the reported rates of the OECD countries cover complete business cycles.

Table 5
International Comparison of Accession and Separation Rates *

	Accession rate	Separation rate
Transition countries (average for selected years)		
Bulgaria (1991, state firms)	12.9	31.5
Czech Republic (1994-1998)	n.a.	9.0
Estonia (1989-91)	15.5	16.2
Estonia (1992-94)	27.3	29.3
Estonia (1995-97)	19.3	19.0
Hungary (1991, state firms)	20.6	30.5
Poland (1991)	13.0	28.0
Slovenia (1990-96)**	13.2	18.2
Slovenia (1989-1995)***	n.a.	13.0
OECD countries (average for selected years between 1971 and 1984)		
Unweighted average of the presented countries	25.5	26.1
Finland	37.0	35.5
France	18.6	18.3
Germany	28	28.9
Italy	16.7	17.5
Japan	15.7	15.6
Sweden	18.4	18.3
United Kingdom	22.1	25.6
United States	47.8	49.4

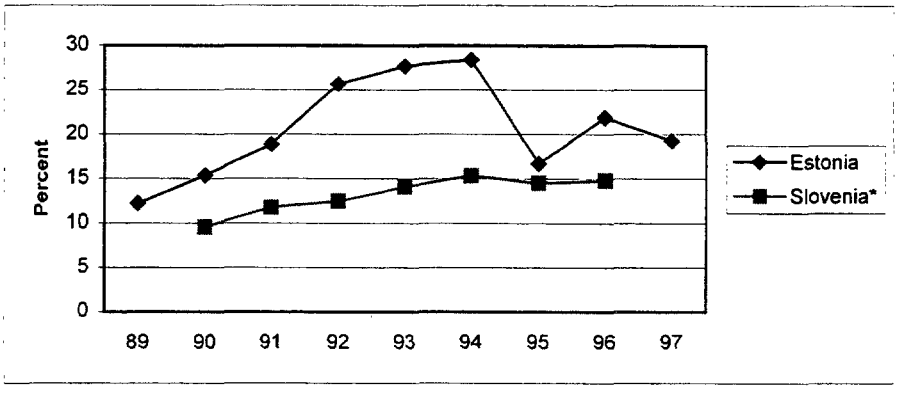
Notes: *Accession rate is defined as annual number of accessions per 100 employees in a calendar year; separation rate is defined as annual number of separations per 100 employees in a calendar year. **Obtained from group data reported by enterprises. ***Obtained from data on individual labor turnover.

Sources: For Bulgaria, Hungary and Poland: Boeri (1998); for Czech Republic, Sorm and Terrell (1999); for PolanFor Slovenia: Abraham and Vodopivec (1993), internal material of Statistical Office of Slovenia based on Labor Force Survey and monthly employers' reports on accessions and separations; for Estonia, own computations based on 1995 Estonian Labor Force Survey; for OECD countries, OECD (1994).

Although they were similar in the pre-transition period, Estonian employment accession and separation rates well exceeded Slovenian ones during the period when reforms were fully in place (figures 1 and 2). Moreover, there is a striking difference in the evolution of job-to-job transitions between the two countries: in Slovenia, the intensity of job-to-job transitions decreased; in contrast, in Estonia the intensity strongly increased (figure 3). Moreover, the transition probabilities from unemployment were also more favorable in Estonia: the

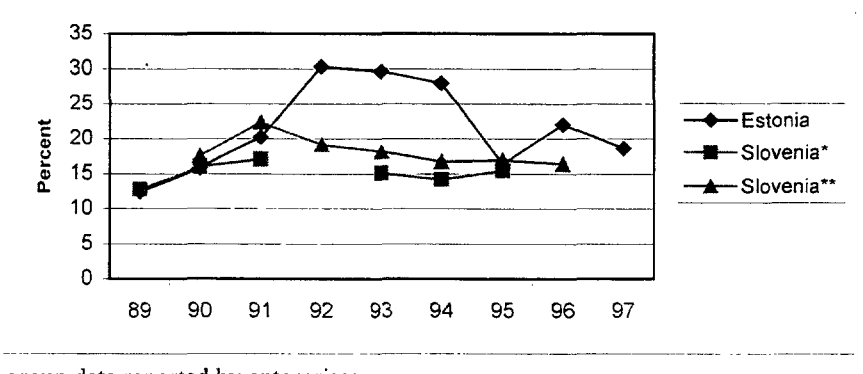
probability of exit to employment was higher and to inactivity much lower than in Slovenia (figures 4 and figure 5).[6]

Figure 1
Accession Rates to Employment
Estonia and Slovenia



*Obtained from group data reported by enterprises.
Source: for Estonia, table 3; for Slovenia, Abraham and Vodopivec (1993) and Statistical Office of Slovenia (internal material).

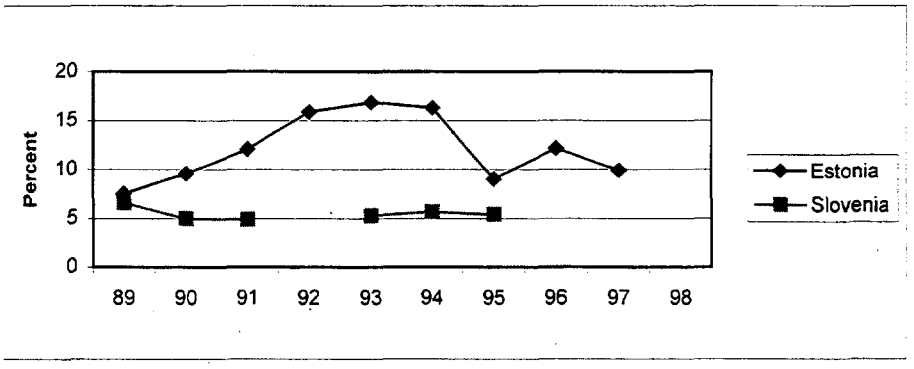
Figure 2
Separation Rates from Employment
Estonia and Slovenia



*Obtained from group data reported by enterprises.
**Obtained from data on individual labor turnover.
Source: for Estonia, table 2; for Slovenia, Abraham and Vodopivec (1993) and Statistical Office of Slovenia (internal material).

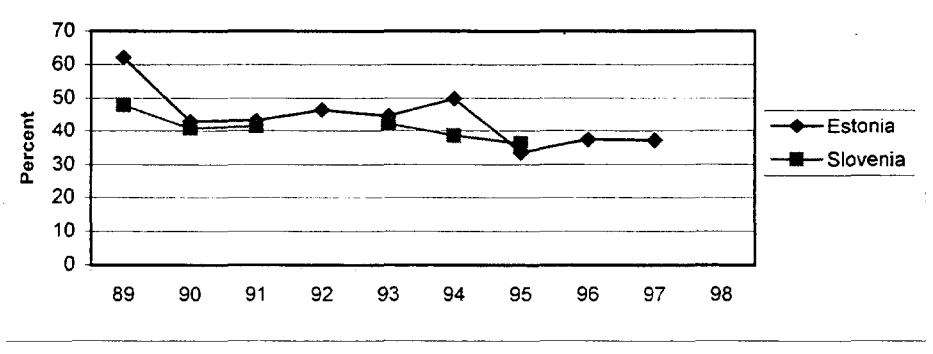
[6] Comparisons with other transition economies also suggest that Estonian labor market flows have been very intense. In the Czech Republic, for example, probabilities of exit from employment have been much lower than in Estonia, including job-to-job transition (see Sorm and Terrell, 1999). Moreover, unlike the usual procyclical behavior of quits in early Polish transition discussed by Blanchard (1997), quits in Estonia exhibit counter-cyclical behavior, increasing during the output contraction (their share in separations, however, is procyclical). This point to a strong job creation capacity of the Estonian economy, allowing workers to quit even in worsening labor market conditions (job creation capacity is underscored also by the fact that as many as 45 percent of job-to-job transitions was employer initiated, that is, involved job destructions).

Figure 3
Job to Job Probabilities
Estonia and Slovenia



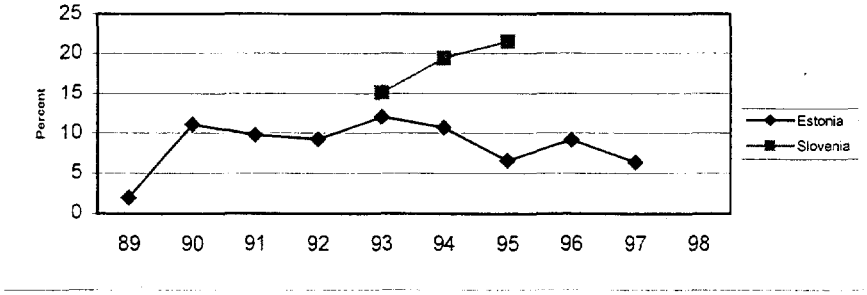
Source: Same as for figure 2.

Figure 4
Unemployment to Employment Probabilities
Estonia and Slovenia



Source: Same as for figure 1.

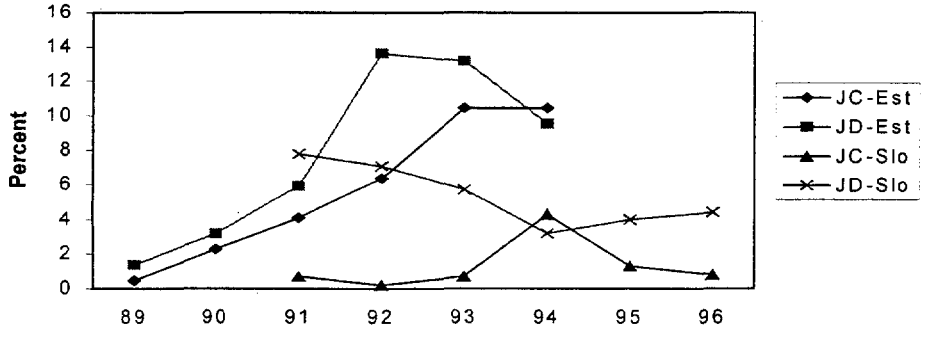
Figure 5
Unemployment to Inactivity Probabilities
Estonia and Slovenia



Source: Same as for figure 2.

Differences between Slovenia and Estonia extend also to the area of job creation and job destruction. In Estonia both job destruction and, with a lag, job creation rates increased tremendously (see Haltiwanger and Vodopivec, 1999). In contrast, Slovenian economy witnessed a much lower intensity of both job destruction and job creation (see figure 6). The most stunning difference is on the job creation side, where the rates of Slovenia never even approach the order of magnitude of the Estonian rates. Except for 1994, job creation rates were at or below 1 percent per year, much lower than in Estonia. The only similarity between the countries was the declining job destruction rate as the transition progressed. But even at the height of restructuring, Slovenian job destruction rate remained below 60 percent of the maximum Estonian job destruction rate.[7]

Figure 6
Job Creation and Destruction
Estonia and Slovenia



Source: Estonia, Haltiwanger and Vodopivec (1999); for Slovenia, Bojnec and Konings (1998).

How can the above differences in worker and job flows between Estonia and Slovenia be explained? One explanation is offered by the theoretical model of Blanchard (1998), which points to employment protection policies as a source of "sclerosis" of the labor market, that is, of the low intensity of the labor market flows. In particular, his model shows that higher employment protection leads to (a) reduction of labor turnover as well as lower job destruction and job creation intensity of the economy, and (b) longer unemployment duration or, equivalently, lower probabilities of exit from unemployment. The first prediction is

[7] It is interesting to note that job flows rates for Estonia are also much higher than those reported for some other non-radical reformers: Bulgaria, Hungary, and Romania (see Bilsen and Konings, 1998).

intuitively appealing. The second follows from the fact that employers, facing higher costs due to higher employment protection, offer lower wages; in equilibrium, workers are willing to accept such a wage only if probability of exit from unemployment is lower. Interestingly, the prediction of the model about the effects of employment legislation on unemployment rate is ambiguous – because of the lower job destruction rate, the inflow to unemployment is lower, but the model also predicts lower outflow from unemployment. Another important prediction of the model relates to marginal workers: higher employment protection costs lead to higher unemployment of marginal groups of workers, because of their impaired access to jobs (productivity of these workers before hiring is not easily revealed and therefore their probability of being hired in presence of large firing costs is lower).

As described above, the two countries differed sharply in employment protection polices, so the above model can be fruitfully applied to them. Indeed, differences in both worker and job flows between Estonia and Slovenia are fully consistent with the model predictions: as describe above, Estonia has witnessed a much more intense labor turnover, larger job destruction and job creation rates, and higher probabilities of exit from unemployment. (Evidence that a less "sclerotic" labor market disfavors marginal groups is presented below.)

Fluidity of the Estonian labor market and its large job creation capacity is underscored by the **countercyclical** behavior of both quits and job-to-job transitions. There was a surge of both quits and job-to-job transitions during the period of most intense output reduction in 1992-93. Even during years when output was falling, the percentage of quitters who exited directly to another job remained quite stable. This deviates sharply from the evidence from the West as well as other transition economies, where quits are procyclical (on evidence on Western economies, see OECD, 1994, p.64; on evidence on Poland, see Blanchard, 1997). As for job-to-job flows, evidence from Slovenia and Czech Republic (Sorm and Terrell, 1999) shows that these flows were reduced when output declined. The performance of the Estonian labor market is even more remarkable when one considers that throughout the transition, about half

of the workers who lost jobs through layoffs or bankruptcies transferred to a new job without an intervening period of unemployment.[8]

The above discussion highlighted large differences in labor market adjustment between Estonia and Slovenia. Can we say which adjustment path is more desirable, that is, more efficient and fair? I believe the answer is yes. As for the efficiency argument (see below on the implications regarding fairness), productive destruction requires that newest technologies and improved management are created and outdated units closed down; because of the vast accumulated initial imbalances, in socialist economies this task was even of much larger proportions. High job creation and destruction of the Estonian economy allowed the country to successfully address "technological sclerosis" that permitted many low-productivity units to survive in other transition economies. That the resulting restructuring was indeed efficient can be attested by the dynamics of Estonian job flows: a surge of job destruction was accompanied by strong job creation, and eventually the rate of job creation even surpassed the rate of job destruction (see the discussion on the cumulative effect on restructuring of a recessionary shock in Caballero and Hammour, 2000). Indeed, many laid off workers found new jobs without experiencing unemployment, the result underscored by a large job-to-job transition probabilities. The fact that the intensity job and worker flows in Estonia after the early transition resembles the intensity in mature market economies adds credibility to this argument. Second, the recovery of economic growth in Estonia has been more vigorous than the one in Slovenia. During a four-year period of resumed growth, for example, Estonian output recovered by 26 percent, in contrast to 16 percent recovery of Slovenia.

[8] Blanchard (1997, p. 91) argues that a high proportion of job-to-job transitions in overall labor turnover in transition economies is due to worker matching and is thus induced by workers. Under socialism, a large proportion of firms and workers were randomly and thus poorly matched, and so more workers than in capitalism have the incentive to change their employers so as to improve the match. The predominance of worker matching explanation may not hold for Estonia, however, where large increase of job-to-job transitions occurred during the period of most intense output reduction, and as much as 45 percent of job-to-job moves was employer induced. It thus seems that job turnover induced by employers played a larger role in Estonia.

IV. DETERMINANTS OF TRANSITIONS: WINNERS AND LOSERS IN ESTONIAN LABOR MARKET

The costs of transition to a market economy are unlikely to be borne equally by all members of the society. Some groups of workers (for example, older and less educated workers) may face lower chances of (re)employment; other groups (for example, women and minorities) may be particularly vulnerable to job loss. This section examines these questions by identifying the determinants of labor market transitions, and examining how their influence has changed during the transition. It also compares labor market outcomes of marginal groups with those in Slovenia and thus sheds more light on the effects of protective employment legislation.

4.1 Transition Probabilities for Different Demographic and Skill Groups

To determine how individual's demographic and skill characteristics influence his/her probability of exit from different labor market states, we estimated multinomial logit models for exits from employment, unemployment, and inactivity. To learn how the effects associated with individual's characteristics have changed during the transition, we separately estimated multinomial logit models for the pre-transition and for transition period, and compare the results. Pre-transition results refer to1989, arguably the last year in which typical conditions of communism prevailed, and transition results to 1994, the year when transition was already in a mature phase. The exception is the analysis of unemployment, for which only the results for transition period are provided, because the number of pre-transition unemployed included in the survey was too low.

Before turning to the analysis of the outcomes of particular groups of interest, let us note that the multinomial results confirm the conclusions from aggregate analysis above. The evolution of probability of the selected "baseline" person confirms that during transition, labor market flows strongly increased and previously non-existent destinations emerged.[9] For the baseline person, the probability of staying employed and even inactive markedly decreased (see table 6). Not surprisingly, the probability of exit to unemployment and to inactivity increased the most. Interestingly, the job-to-job probability also increased, showing, among other, strong capacity of Estonia to generate jobs. Moreover, the probability of exit from inactivity to unemployment increased, and so did the probability of exit to employment, again underscoring emerging employment opportunities generated by the liberal Estonian economy (table 7).

[9] Baseline probability applies for individuals with the following characteristics: Estonian males, age 20 to 25, with primary education (with up to 4 schooling years), with 3 to 5 years of work experience, not married, and with no children. In addition, for the analysis of transitions from employment, baseline probabilities are associated also with 3 to 5 years of tenure, low wages (with wages in the lower third of wage distribution), and regular, full-time employment in domestically owned, large manufacturing firm in the state sector capital area.

Table 6
Probability of Exit from Employment, Pre-transition and Transition
(in percent)*

	Probability of staying in the same job		Probability of exit to another job		Probability of exit to unemployment		Probability of exit to inactivity	
	Pre-transition	Transition	Pre-transition	Transition	Pre-transition	Transition	Pre-transition	Transition
Baseline probability**	74.3	51.3	20.0	25.2	2.0	15.3	3.7	8.1
Difference in probability associated with:								
A. Demographic, skill and job characteristics								
Gender								
Female	3.7	4.6	-8.0	**-6.4**	0.0	**-4.0**	**4.2**	**5.8**
Ethnicity and ability to speak Estonian								
Non-Estonian	0.2	-5.8	0.0	**-8.7**	0.6	**13.3**	-0.9	1.2
Ability to speak Estonian, if Non-Estonian	-2.8	2.7	0.9	3.7	0.7	-3.8	1.2	**-2.6**
Age (age 20 to 25 excluded)								
Under 20	-6.1	-7.2	1.9	2.4	0.3	-0.9	3.8	**5.7**
25 to 30	3.8	5.9	-1.5	1.8	-1.2	-3.8	-1.2	**-3.9**
30 to 35	4.3	7.2	0.0	0.0	-1.8	-2.9	-2.4	**-4.3**
35 to 40	6.4	9.7	-2.0	1.2	-1.7	-4.9	-2.7	**-5.9**
40 to 45	12.1	13.0	-7.4	0.1	-1.7	-5.8	-3.0	**-7.3**
45 to 50	11.9	15.1	-7.8	0.9	-1.6	**-8.6**	-2.5	**-7.3**
50 to 55	12.9	18.2	-10.5	**-4.1**	-1.4	-7.8	-0.9	**-6.3**
55 to 60	11.3	22.9	-10.0	**-11.4**	-1.6	-8.2	0.2	-3.4
60 to 65	12.2	35.6	-9.9	**-21.8**	-1.5	**-12.8**	-0.8	-1.0
Over 65	20.3	16.1	-20.0	-6.3	-2.0	-9.7	1.7	-0.1
Education (primary education excluded)								
Elementary	-7.2	5.4	6.3	2.2	1.3	**-6.9**	-0.4	-0.7
Secondary	-3.1	1.4	5.3	8.6	-0.9	**-8.1**	-1.3	-2.0
Special secondary	-1.1	0.3	3.9	9.8	-1.1	**-7.8**	-1.7	-2.3
University	-7.2	0.3	9.1	15.3	-0.5	**-12.5**	-1.4	-3.2
Work Experience (3 to 5 years of experience excluded)								
Less than 3 years	-0.2	7.1	2.4	**-7.5**	-0.4	1.8	-1.8	-1.4
5 to 10 years	-4.8	8.3	3.3	-1.9	2.7	-4.4	-1.1	-1.9
10 to 20 years	-2.6	6.6	-1.5	**-9.1**	5.2	3.0	-1.0	-0.5
20 to 30 years	-8.3	-0.8	6.1	**-11.8**	3.5	5.7	-1.3	6.9
30 to 40 years	-9.1	-4.3	6.1	**-14.4**	3.5	5.7	-0.5	**13.0**
Over 40 years	-9.4	1.3	7.2	-9.3	1.1	-6.9	1.2	**14.8**
Difference in probability associated with:								
Work Tenure (3 to 5 years of tenure excluded)								
Less than 1 year	-7.2	-11.8	7.1	**-0.4**	-0.4	**11.0**	0.6	**1.2**
1 to 2 years	-5.1	-6.0	2.4	2.4	1.8	**5.8**	0.9	-2.2
5 to 10 years	8.3	-0.4	-6.6	-1.7	-1.2	1.4	-0.5	0.8
10 to 20 years	7.6	4.8	-5.8	**-5.7**	-1.1	-1.5	-0.7	2.4
Over 20 years	14.9	5.8	-13.4	-2.0	-1.2	-4.7	-0.4	0.9
Marital status and children								
Married	-1.0	3.2	-2.2	-0.4	1.4	**-4.6**	**1.8**	1.9
Having children	0.8	-1.8	**0.6**	0.9	-0.5	**2.0**	**-0.9**	-1.0

	Probability of staying in the same job		Probability of exit to another job		Probability of exit to unemployment		Probability of exit to inactivity	
	Pre-transition	Transition	Pre-transition	Transition	Pre-transition	Transition	Pre-transition	Transition
Wage								
Wage in upper two thirds of the wage distribution	3.6	9.4	-1.5	**-2.0**	**-1.2**	**-5.4**	**-0.9**	**-2.0**
Appointment type								
Non-regular (fixed-term)	3.7	-9.2	-4.9	0.6	0.9	**6.6**	0.3	**2.1**
Part-time	-1.8	3.6	1.3	-1.0	1.1	-0.2	-0.7	**-2.3**
B. Firm characteristics								
Type of ownership								
Cooperative	-0.7	-6.4	-0.4	**7.8**	-0.9	0.6	1.9	-1.9
Private	0.3	0.5	-6.6	3.5	2.8	-2.4	3.4	-1.5
Domestic vs. foreign ownership								
Partial of full foreign ownership	-7.1	-1.5	7.1	-5.7	1.5	1.9	-1.6	**5.3**
Size of the firm								
Small	-2.2	2.4	2.4	1.9	-0.3	-4.3	0.1	0.1
Medium	3.2	4.0	-3.7	-0.1	0.3	**-4.0**	0.2	0.1
Region								
Northeast	2.8	10.2	-4.2	**-7.9**	0.5	**-3.6**	0.9	1.3
Agricultural	2.3	0.5	-5.2	**-4.7**	1.8	2.3	1.0	1.9
Missing	-3.6	-7.0	-12.9	-10.5	17.0	8.3	-0.5	9.1
Difference in probability associated with: Industry								
Manufacturing	-1.6	-7.4	-2.0	**5.5**	0.0	4.6	3.6	-2.7
Utilities	4.6	-0.4	-6.8	-1.1	-2.0	3.3	4.2	-1.7
Construction	-5.3	-8.7	4.5	0.5	0.0	**10.4**	0.8	-2.3
Trade	1.6	-9.9	-3.2	**2.1**	-0.1	**7.5**	1.7	0.3
Hotels and restaurants	-5.7	-14.7	2.9	1.6	-0.8	**15.4**	3.6	-2.3
Transport and communications	7.0	-1.4	-6.1	-2.1	0.1	5.7	-1.0	-2.1
F.I.R.E.	-12.7	-6.3	12.5	-5.5	-2.0	13.7	2.2	-1.9
Business services	-5.6	-14.3	2.6	**9.7**	0.0	**7.3**	3.0	-2.7
Government	-6.4	-3.3	6.9	-2.9	-0.9	7.4	0.4	-1.2
Education	0.2	10.7	0.2	**-8.3**	-0.8	-2.8	0.4	0.5
Health	0.4	12.2	0.5	**-8.2**	-2.0	-1.8	1.0	**-2.2**
Other services	-6.9	-7.5	6.0	-0.9	-0.2	**11.1**	1.1	-2.7

Number of observations for 1990: 6110, Log Likelihood = -2727.7
Number of observations for 1994: 5510, Log Likelihood = -4029.3

Notes: * Pre-transition refers to the year 1990, and transition to the year 1994. Exit is defined as the first transition occurring after January of the year, but not later than December of the same year. Probabilities associated with coefficients which are significant at 10 percent level are reported in bold (probabilities of staying in the same employment are derived from other transitions, so significance levels are not reported).
** Baseline probability applies for individuals with the following characteristics: Estonian males, age 20 to 25, with primary education (with up to 4 schooling years), with 3 to 5 years of work experience, 3 to 5 years of tenure, not married (single, divorced, or widow/widower), with no children, with low wages (with wages in the lower third of wage distribution), working in regular, full-time employment in state sector, domestically owned, large manufacturing firm in the capital area.

Table 7
Probability of Exit from Unemployment, 1994
(in percent)*

	Probability of staying in unemployment	Probability of exit to employment	Probability of exit to inactivity
Baseline probability**	52.5	36.5	11.0
Difference in probability associated with:			
Gender			
Female	-3.8	-0.3	4.0
Ethnicity			
Non-Estonian	3.8	-6.2	2.4
Ability to speak Estonian, if Non-Estonian	-7.7	7.3	0.4
Age			
Under 20	-17.8	8.5	9.3
25 to 30	19.5	**-15.5**	-4.1
30 to 35	1.8	-1.4	-0.4
35 to 40	-5.3	-8.4	13.7
40 to 45	6.3	-12.6	6.2
45 to 50	7.1	-17.0	9.9
50 to 55	5.2	-23.4	18.2
55 to 60	20.6	-24.0	3.4
60 to 65	43.3	**-32.3**	-
Education			
Elementary ed.	2.7	2.7	-5.4
Secondary ed.	0.4	5.7	-6.1
Special secondary	-6.1	12.2	-6.0
University ed.	-27.7	**34.7**	-7.0
Work Experience			
Less than 3 years	-13.1	13.0	0.1
5 to 10 years	-15.3	17.6	-2.3
10 to 20 years	9.2	-1.1	-8.2
20 to 30 years	-9.9	17.4	-7.5
30 to 40 years	-7.6	11.5	-3.9
Over 40 years	-21.3	23.0	-1.7
Marital status and children			
Married	-4.0	2.9	1.1
Having children	-2.8	1.2	1.6

Number of observations: 534, Log Likelihood = -475.7

Notes: * Pre-transition refers to the year 1990, and transition to the year 1994. Exit is defined as the first transition occurring after January of the year, but not later than December of the same year. Probabilities associated with coefficients which are significant at 10 percent level are reported in bold (probabilities of staying in unemployment are derived from other transitions, so significance levels are not reported).
** Baseline probability applies for individuals with the following characteristics: Estonian males, age 20 to 25, with primary education (with up to 4 schooling years), with 3 to 5 years of work experience, not married (single, divorced, or widow/widower), and with no children.

How do the transition probabilities for different demographic and skill groups differ from the ones for the selected baseline individual? Below we present evidence on the effects on women, ethnic minorities, and groups that differ by age, education, and work experience.

Gender. For women, the transition brought mixed and overall worrisome results. On the one hand, during the transition they were less likely then men – other things equal – to lose a job and become unemployed. But this result seems to be driven by the fact that employed women have been more likely to leave workforce (from both employment and unemployment) than men (tables 6 and 7). Moreover, in contrast to pretransition, women have been also less likely than men to enter workforce – particularly the probability to leave inactivity for work has been much lower than the one for men (14 percent for women and 22 percent for man – see table 8).

Ethnic minorities. There are signs that the position of ethnic minorities has worsened during the transition: they are more likely than Estonians to become unemployed, and their access to jobs has decreased. In contrast to pre-transition, the ability of Non-Estonians to switch directly to another job during the transition has been significantly below the one of Estonians, and their likelihood of losing a job and become unemployed much greater (see table 6). Moreover, in comparison to pretransition, the chances of Non-Estonians of exit from inactivity to jobs have been reduced. Note that the command over the Estonian language significantly improves chances of exit from inactivity to work, but does not increase the chances to switch directly to another job or lessen the chances to lose a job. These results, combined with strong reduction of relative wages of Non-Estonians (see Noorkoiv et al, 1998), suggest a strong reduction of demand for Non-Estonian workers. It is conceivable that pressures to reduce employment have been more intense in the predominantly Russian populated North-Eastern region of Estonia, but the above results do not exclude the possibility discrimination of ethnic minorities.

Age groups. Transition brought some disadvantages, but also some advantages for young workers. The results show that young workers are more susceptible to losing a job and

become unemployed than older workers (table 6). On the other hand, young workers have an advantage over the old ones in accessing jobs if unemployed. Interestingly, in comparison to pre-transition, workers younger than 20 years faced increased probability of leaving employment and become inactive, perhaps returning to school, as well as lowered probability to leave inactivity for work.[10] Older workers also share a mixed fortune: in comparison to pre-transition, their ability to switch jobs has been curtailed, but they have been less likely to exit from employment to unemployment – and also to inactivity, except at the end of their work career (see below on the effects of work experience on transitions). It is also notable that the share of younger than 20 in the workforce even increased in the early years of transition and later decreased. The share of older than 60 fell from 8.3 percent in 1989 to 5.7 in 1997, but the share of 50 to 60 year olds stayed remarkably constant.

Education. Perhaps the most consistent and persuasive result of the transition probability analysis is the advantage the reforms brought to the more educated. Before the transition, investment in education not only did not pay high returns, but it also did not bring advantage in terms of easier access to jobs (the exception was a higher probability of more educated to exit from inactivity to work, see table 8). During the transition, returns to education greatly increased, and education also brought additional benefits in terms of higher ability to switch from one job to another; to prevent unemployment; and to exit from both unemployment and inactivity to employment. These results nicely complement the results on the increase of returns to education during Estonian transition (see Noorkoiv et al, 1998, and Smith, 1998).

[10] Estonia is one of rare transition economies where enrolment in secondary education increased during the transition (see UNICEF, 1998).

Table 8
Probability of Exit from Inactivity, Pre-transition and Transition
(in percent)*

	Probability of staying in inactivity		Probability of exit to employment		Probability of exit to unemployment	
	Pre-transition	Transition	Pre-transition	Transition	Pre-transition	Transition
Baseline probability**	84.9	72.7	14.7	22.4	0.5	4.9
Difference in probability associated with:						
Gender						
Female	-9.1	8.9	5.5	**-8.0**	3.6	**-0.9**
Ethnicity and ability to speak Estonian						
Non-Estonian	-19.0	2.3	**13.1**	-3.7	5.9	1.5
Ability to speak Estonian, if Non-Estonian	-9.4	-10.9	4.4	**11.2**	5.0	-0.3
Age (age 20 to 25 excluded)						
Under 20	-6.7	6.6	4.3	**-5.6**	2.4	-1.0
25 to 30	-10.4	4.3	4.0	-5.3	6.4	1.0
30 to 35	-3.5	-0.9	4.0	1.0	-0.5	0.0
35 to 40	-31.1	9.7	-8.9	-8.4	40.0	-1.3
40 to 45	-40.7	19.5	-5.7	**-17.1**	46.4	-2.5
45 to 50	-22.9	25.6	**-10.5**	**-22.2**	33.4	-3.4
50 to 55	9.5	27.0	**-9.0**	**-22.1**	-0.5	**-4.9**
55 to 60	8.3	27.2	**-12.2**	**-22.3**	3.8	**-4.9**
Over 60	12.4	27.3	**-11.9**	**-22.4**	-0.5	**-4.9**
Education (primary education excluded)						
Elementary ed.	-10.7	-6.7	7.0	3.5	3.7	3.2
Secondary ed.	-49.9	-36.2	**27.3**	**34.4**	22.6	**1.9**
Special secondary	-44.4	-45.7	**23.6**	**44.5**	20.8	**1.2**
University ed.	-37.5	-53.3	**26.3**	**56.5**	11.1	-3.1
Work Experience (3 to 5 years of experience excluded)						
Less than 3 years	-20.3	-3.3	5.7	0.3	14.7	3.0
5 to 10 years	-8.8	-4.3	2.7	-1.9	6.1	6.2
10 to 20 years	2.0	-1.8	-2.7	-2.4	0.7	4.2
20 to 30 years	-15.9	-26.5	15.7	14.6	0.2	**11.8**
30 to 40 years	-5.8	-61.4	3.9	**59.4**	1.9	**2.1**
Over 40 years	--	-64.5	--	**65.8**	--	-1.3
Marital status and children						
Married	-13.2	-0.9	8.2	0.3	5.0	0.6
Having children	-9.1	2.5	8.0	-1.2	**1.1**	-1.2

Number of observations for 1990: 2091, Log Likelihood = -775.7
Number of observations for 1994: 2554, Log Likelihood = -1274.4

Notes: * Pre-transition refers to the year 1990, and transition to the year 1994. Exit is defined as the first transition occurring after January of the year, but not later than December of the same year. Probabilities associated with coefficients which are significant at 10 percent level are reported in bold (probabilities of staying in unemployment are derived from other transitions, so significance levels are not reported).
** Baseline probability applies for individuals with the following characteristics: Estonian males, age 20 to 25, with primary education (with up to 4 schooling years), with 3 to 5 years of work experience, not married (single, divorced, or widow/widower), and with no children

Experience and tenure. The above results on education show that transition reforms put a higher premium on skills acquired through education. Do such results carry over also to the value of skills acquired by experience, and job-specific skills acquired by staying on the same jobs? The empirical analysis does not confirm this conclusion. More experienced workers – other things equal -- have faced reduced probability to switch a job, increased probability of exit from inactivity to unemployment, and have been in no more favorable position regarding the exit from job to unemployment. Moreover, the fact that during the transition workers with more than 30 years of experience face much higher probabilities of leaving from inactivity to work should also be interpreted as showing the hardship older workers are experiencing, many of them being forced to return to a workforce (perhaps just doing some farming) to earn additional resources which helped them to cope with the decreased purchasing power of cash benefits, primarily pensions. [11]

In contrast to the value of experience, the value of tenure and of thus job-specific skills did increase during the transition. Workers with a higher tenure have been less likely to exit from work to both unemployment and inactivity, as well as to switch a job (table 6). These results suggest that workers with a larger tenure have been spared by their current employers from pressures to leave a job. Similarly, firms seem to reward more valuable workers -- as proxied by those with wages in the upper two thirds of the distribution -- by "tying" them to the job (one can assume that these workers possess higher unmeasured human capital, since observable personal characteristics are already accounted for in the model). For these workers, the probability of exit to all three destination (another job, unemployment, and inactivity) was lower than the one for other workers.

[11] Smith (1998) and Noorkoiv et al (1998) find the experience-earnings profile for Estonia quite flat. In comparison with pretransition, the later study finds that returns to experience have increased, particularly for the youngest (with less than 10 years of experience).

Type of appointment. Workers with fixed-term appointments are more prone to exit from employment to unemployment, as well as to inactivity (table 6). This indicates that employers make use of fixed-term appointments to screen the applicants. Moreover, those employed part time show no higher probability of exiting from employment to another job or to unemployment. Interestingly, their propensity to exit to inactivity is lower than for those under full-time appointments, suggesting that their workforce attachment is strong.

Firm characteristics. Besides personal and job characteristics, exit from employment is influenced also by the characteristics of employer. Not surprisingly, the results confirm that exits from employment to unemployment are more likely to happen – other things equal – in large firms than in small or medium size ones (table 6). Interestingly, private ownership is associated with lower probabilities of exit from employment to unemployment and inactivity, and with a larger probability of exit to another job; these differences, however, are not statistically significant. Other results suggest that the likelihood to switch jobs outside the Tallinn area was smaller, and that some industries – in particular, construction, hotels and restaurants, and business services – were more responsible than other industries for exits from employment to unemployment. The above changes brought about quite a profound changes in the industry structure, with agriculture and manufacturing reducing their respective share of employment and services (particularly trade and finance) expanding.

4.2 International Comparison of Determinants of Transitions

How do the above results on determinants of labor market transition compare with the evidence from other economies? Because of demanding data requirements, such evidence less documented that the one, for example, on determinants of the wage structure – nonetheless, studies on Czech Republic (Sorm and Terrell, 1998), and Slovenia (Abraham and Vodopivec, 1993) allow the comparison.

In many aspects, the Estonian evidence confirms the results from other studies. For example, both the Czech and the Slovenian study find that more educated workers have a strong advantage as far as avoiding exits from employment to both unemployment and inactivity,

and in accessing jobs if a person is inactive or unemployed. Similarly, both of the above mentioned studies find that he chances of young workers to find a job if unemployed are better than those of older workers (the Czech study finds that young are also more likely to move directly from one job to another, and that they face higher probability to exit from employment to unemployment, the findings which are not shared by the Slovenian study). Both studies find that women were less mobile than men – they are less likely to switch jobs, less likely to exit from employment to unemployment (in contrast to Estonia, the other studies do not find that women face higher probability of exit from employment to inactivity). The Slovenian study also finds that ethnic minorities witnessed lower chances to find a job if unemployed, and higher chances to exit from employment to unemployment.

The comparison of labor market outcomes of different population groups in Estonia and Slovenia also allows one to examine the prediction of the above-described Blanchard model about the labor market outcomes for marginal groups. For some groups of workers – notably, more educated, ethnic minorities, and older workers – the labor market outcomes results in the two economies are quite similar, suggesting that common factors were dominant. But outcomes for two marginal groups, young workers and workers under fixed-term contracts, are quite different and thus support the predictions of the Blanchard's (1998) model.

Young workers have fared better in Estonia than in Slovenia: the share of those under 20 years in employment increased from 3.1 in 1989 to 3.5 in 1993, while in Slovenia it fell from 4.2 percent in 1988 to 1.5 percent in 1992.[12] Although the share of the young in Estonia declined after 1993, the overall reduction of the share was much smaller than in Slovenia. Consistent with the above, the share of young workers among the unemployed was smaller in Estonia than in Slovenia.

[12] This is consistent with the OECD (1999) finding on a strong link between stricter employment protection legislation and lower employment rates for young workers.

It also seems that a richer bundle of workers rights in Slovenia stimulated the emergence of a "dual" labor market: regular contracts are offered to more valuable workers, and fixed-term contracts to less productive, marginal groups of workers. Indeed, in Slovenia the share of workers employed under fixed-term contracts dramatically increased in the 1990s, covering one fifth of employment by 1998. In Estonia, in contrast, the share of fixed-term appointments culminated at 5.1 percent in 1995 (table 9). Duality of the labor market is underscored also by the fact that workers with fixed-term contract face a much larger probability of exit from employment to unemployment in Slovenia than in Estonia. In comparison to a selected baseline individual, Slovenian fixed-term workers are more than twice as likely to exit to unemployment, and in Estonia, only 43 percent more likely.

Table 9
Fixed-term Employment in Estonia and Slovenia, 1989-1998

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Estonia	1.7	2.0	2.5	2.9	4.0	5.1	2.3	2.5	2.8	1.8
Slovenia	n.a.	4.8	6.5	7.5	10.2	13.6	15.2	16.6	17.5	19.7

Sources: Estonia: for 1989-94, ELFS95; for 1995-96, ELFS97; and for 1997-98, ELFS98;
Slovenia: Statistical office of Slovenia, internal material.

V. CONCLUSIONS AND POLICY ISSUES

Estonia's radical, liberal reforms profoundly affected the working of the labor market. The above analysis showed that during Estonia's transition:

- Employment was strongly reduced, and the number of unemployed and inactive individuals increased. The unemployment rate increased from less than 1 percent in 1989 to 10 percent in 1998, and labor force participation was reduced from 69 percent in 1989 to 61 percent in 1998.
- Many worker flows considerably increased, particularly out of employment, and flows to and from unemployment emerged that did not exist before the transition. In spite of worsening of the conditions of the labor market, accessibility of employment as measured by the employment accession rate increased.

- Direct job-to-job transitions strongly increased, more than doubling their pre-transition rate during the period of the most intensive restructuring of the economy. Underscoring a strong job creation capacity of the Estonian economy, throughout the transition about half of the workers who lost jobs have been able to transfer to a new job without an intervening period of unemployment.
- More educated emerged as the winners of transition reforms, increasing their advantage over less educated in accessing jobs and in relative pay, and the Non-Estonians as the group which was most adversely affected by the transition. The relative fate of women and young as well as old workers was uneven – they improved some of their labor market outcomes and worsened others.
- The intensity of labor turnover during Estonian transition has been only slightly below a long-term intensity in mature market economies, and during its most intense period of restructuring employment accession rates exceeded those in other transition economies.
- In comparison with a more "sclerotic" Slovenian labor market, a more fluid Estonian one produced a much more intense labor turnover, larger job destruction and job creation rates, and higher probabilities of exit from unemployment. These differences can be traced, among other, to much more liberal employment protection legislation in Estonia. For the same reasons, the Estonian labor market produced also less segmentation along the permanent vs. fixed-term appointment divide, as well as enabled better access to jobs for young workers, thus allowing the burden of adjustment to be shared more equally by different groups.

The above results suggest that Estonia's radical and liberal policies in labor and product markets – above all, low layoff costs, relatively low payroll taxation, low minimum wage, and strong encouragement of foreign trade and investment – produced a fluid and dynamic labor market which efficiently reallocated labor to more productive uses. In contrast to many transition economies, Estonian reforms generated large worker flows that have facilitated intense labor reallocation across sectors as well as the creation of many productive jobs while simultaneously allowing the destruction of unproductive jobs. These results thus speak in favor of the radical as opposed to gradualist approach.

Not only have Estonian reforms generated efficient worker reallocation, a more fluid Estonian labor market contributed also to more favorable outcomes on the count of distributive efficiency. It produced less segmentation than a more "sclerotic" Slovenian labor market and thus enabled better labor market outcomes for marginal groups (young workers and those employed under the fixed-term appointment).

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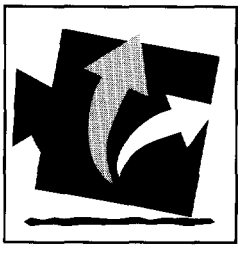

Summary Findings

Based on consecutive labor force surveys, this study examines labor market dynamics during the first decade of the Estonian transition to market. The results show that, similar to other transition economies: (1) Estonia's employment and labor force was reduced; (2) patterns of mobility profoundly changed—labor market flows intensified and previously nonexistent transitions emerged; and (3) some groups of workers were disproportionally affected, chief among them the less educated and ethnic minorities. But Estonian liberal and radical transition reforms produced also labor market outcomes that differ significantly from those in other transition economies—above all, the intensity of worker and job flows in Estonia's transition have surpassed those in most other transition economies, thereby contributing to efficient reallocation of labor. This was achieved by deliberate policies aimed at stimulating job creation and employment, above all by low employment protection and other policies geared toward increasing employability and strengthening the incentives of workers. Moreover, under the dynamic Estonian labor market adjustment, marginal groups have fared better than those in more protective labor markets of other transition economies.

HUMAN DEVELOPMENT NETWORK