

LABOUR FORCE DYNAMICS IN ESTONIA, LATVIA AND LITHUANIA¹

This paper studies the flows of individuals between the three possible labour force states – employed, unemployed and not in the labour force (also called inactivity) – and, for those employed, mobility between different sectors. Annual labour flows were estimated on the basis of LFS micro-data, focusing on individuals included in the samples during two consecutive years. This was possible from 1997 to 2000 in Estonia and Latvia, but in Lithuania only in 1999 and 2000.² In addition, the paper estimates long-term labour flows on the basis of data from the New Baltic Barometer³, covering the period 1990 to 2000.

A closer look at mobility between 1999 and 2000, covering moves between 2-digit economic sectors,⁴ shows that Lithuania experienced by far the most intensive labour reallocations. About 12% of the employed in Lithuania but only 8% in Latvia and 5% in Estonia changed sectors in the 12-month period under study (Table A2.4). This contrasts to previous observations (*e.g.* in the 2000 *Economic Survey of the Baltic States*) that Lithuania's economic restructuring had been somewhat slow in the early transition years. Apparently, Lithuania is well in the process of recovering the previous delays compared with the northern neighbours.

¹ A shorter version of this paper was published as *Annex 2* in *Labour Market and Social Policies in the Baltic Countries* (OECD, 2003). It reports the results of research conducted for the OECD by Mihails Hazans, Eurofaculty and University of Latvia, Raul Eamets, Eurofaculty and University of Tartu, and John Earle, Upjohn Institute for Employment Research, Kalamazoo.

² The relevant surveys in Estonia were conducted in January each year, in Latvia and Lithuania in May. Linkages were possible to the extent that the same individuals were sampled in two surveys, but only 12-month links were used.

³ See Rose, Richard, "New Baltic Barometer IV: A Survey Study," *Studies in Public Policy* 338, Glasgow: Center for the Study of Public Policy, University of Strathclyde, 2000.

⁴ At 2-digit level, NACE (*Nomenclature des Activités dans la Communauté Européenne*) includes 59 sectors of relevance in the Baltic States, of which 23 under manufacturing and 26 under services. Agriculture is a 2-digit sector, separate from forestry and fishing.

But a preoccupying result for all three countries – in recent years and over the past decade – is that many of those who left agriculture and industry became unemployed or left the labour force rather than taking up jobs elsewhere, for example in the growing service sector.

Flows between employment, unemployment and inactivity

A substantial proportion of the employed in any year – typically around 10% – were not employed one year later (Table A2.1). Flows *to* employment were smaller, except in 1997, resulting in declining employment rates especially from 1999 to 2000. (The table for each country and year shows the distribution of the adult population in the preceding year in the rightmost column, and for the current year in the bottom row.)

Approximately one-half of the flows out of employment usually went to unemployment, the other half going out of the labour force. But from 1999 to 2000, the flows out of employment in Latvia and Lithuania went predominantly to inactivity. Many job losers were probably discouraged and did not seek new jobs, although other reasons for non-activity are also likely to play a role, *e.g.* child rearing and retirement. The impression of a "discouraged worker" phenomenon in Latvia and Lithuania is strengthened by results concerning outflows from unemployment: rather than finding work, relatively high proportions of the long-term unemployed eventually stopped seeking jobs and left the labour force. From 1999 to 2000, about 40% of the total outflow from unemployment in Latvia and 33% in Lithuania went out of the labour force, compared with 20% in Estonia.

The flows in the other direction – from inactivity to unemployment – are also considerable. From 1999 to 2000, a over one-third of those who entered the labour force in Estonia and Lithuania began with a stint of unemployment; in Latvia this proportion was then less than 25% but it had been higher in previous years.

In general, unemployment is often persistent or recurrent for those it concerns. This appears to hold particularly in Estonia, where the proportion of the unemployed who were still unemployed a year later rose to nearly two-thirds in last period. The proportion was a little under 50% in Latvia and Lithuania, and declining in Latvia. The high persistence of unemployment in Estonia must also be considered against the background of the moderate incidence of long-term unemployment there (see Table 2.15 in the main report, and below). Taken together, these results suggest that Estonians often experience repeat spells of unemployment and that the rate of job finding has declined. In Latvia, on the other hand, a declining persistence of unemployment has been associated with increasing flows both to employment and to inactivity. Much of the observed employment problems in both Estonia and Latvia appear to affect a limited part of the labour force – a "stagnant pool" of hard-to-place workers who persistently face the greatest difficulties. Such tendencies can also be discerned in Lithuania, but to a lesser extent.

A recent decline in labour mobility can also be deduced from data about *job-changing* in Estonia (not available for Latvia and Lithuania). The proportion of employed workers there who changed employers fell from 12% in 1997-98 to 10% in 1998-99 and 9% in 1999-2000. These figures are not high by international standards, but they exceed the proportions of workers who left employment (although the difference was small in the last year under study). The decline in job-changing probably had several explanations, including both that workers wishing to change jobs have found it increasingly difficult to do so and that the restructuring of the Estonian economy has slowed down.

Low mobility between the main sectors

As seen in the main text (Table 2.11), the period since 1997 has seen steady declines in agricultural employment and constant growth in service-sector employment. In Lithuania, the reduction of agricultural employment was slow until 2000, but it accelerated remarkably in 2001 (not covered by the data used in this Annex). Industrial and construction employment changed little in the period, representing about 24% of total employment in Latvia, 27% in Lithuania and as much as 33% in Estonia.

Considering that agricultural employment will probably continue to decline, it is disturbing to observe that the recent gross labour flows out of farming went predominantly, and increasingly, to non-employment (A-U and A-O, *cf.* Table A2.2.) Only in the first year covered, from 1997 to 1998, did more than half of those who left agriculture in Estonia or Latvia take up jobs (A-I and A-S). Among the farmers who did find work, a majority in Estonia went to industry (including construction) while in Lithuania about as many went to service jobs as to industry. Only in Latvia did they predominantly enter the service sector.

Inflows to agriculture were generally small, but still significant in Lithuania. Of those who did take up farming, remarkably high proportions had previously been unemployed (U-A). Unemployed Lithuanians who found work between 1999 and 2000 did so more often in agriculture than in industry, and almost half as often in agriculture as in the service sector. The flow from *inactivity* to work even went more often to agriculture (O-A) than to service jobs (O-S). However, because relatively few of the unemployed in Lithuania had their last work experience in farming (*cf.* Annex 1), it is likely that many of the unemployed who took up farming in the late 1990s did so only as a last resort, *i.e.* because other jobs were not available.⁵

Outflows from industry lead mostly to non-employment, but there are also significant flows from industry to service jobs. Given the size and diversity of the service sector, it is not surprising that this sector itself has the lowest outflow rates at aggregate level. The recorded outflows from the service sector led essentially to non-employment.

Changes between 1990 and 2000

In the context of the New Baltic Barometer (NBB), retrospective survey questions were asked about labour market activity in 1990 as well as in 2000. The answers show that those employed in *agriculture* in 1990 were most likely to have changed their status by 2000 (Table A2.3). Both the proportions who became unemployed and those who left the labour force were highest for the former farmers, of whom only about 40% in Latvia and Lithuania and 60% in Estonia had any kind of work in 2000.

Moreover, among those employed in farming in 1990 who were still employed in 2000, only one-third to one-half in each country worked in agriculture. Surprisingly, the proportions still employed in agriculture were comparable in Estonia and Lithuania, despite the much stronger reduction of agricultural employment in the former country. With respect to Lithuania, these results would seem to support the above-noted impression of agriculture as a transient form of employment for some individuals who would like to work elsewhere.

⁵ The role of small-scale farming as a last resort is probably declining in Lithuania. In 2001, a strong reduction of agricultural employment coincided with a rise in unemployment, suggesting that many individuals by then had found their farming inadequate as occupation, even if the alternative was to be unemployed.

Among those who worked in industry or services in 1990, the proportion still employed in 2000 was generally a little higher than it was for former farmers. Moreover, in these cases, the majority of those still working stayed in the same main sectors. Least mobile were the public service employees

In sum, there has been substantial movement over the past decade. Employment declines in agriculture and industry have given rise to much unemployment, as job losers frequently found it difficult to compete for jobs with young labour market entrants. On average, persons who were in the service sector already in 1990 have experienced the best outcomes, while those who were then employed in agriculture have faced the greatest difficulties.

Individual background factors

The following results were obtained from data about mobility at 2-digit sectoral level between 1999 and 2000 (Table A2.4). They cover the mobility between main sectors considered already above as well as job changes between more detailed sectors, and also the above-discussed flows into unemployment and out of the labour force. As mentioned in the introduction to this Annex, job changes between 2-digit sectors were generally much more common in Lithuania than in the other two countries in the year under study. The apparent impact of various individual factors was partly different as well; for example, high age and low education had less negative impact on mobility in Lithuania than in Estonia or Latvia.

Age. The result that inter-sector mobility was high in Lithuania held for all age groups in the year observed. (Column EEm in Table 2A.4 shows moves between 2-digit sectors). In Latvia, such mobility was higher than average up to age 40 and lower than average above this age; in Estonia it was over twice as high as the (low) national average in age 20 to 24, but no higher than average over age 30. In each country, as expected, the probability of leaving the labour force was particularly great for youth and older workers.

Gender. Men were most likely to change sectors – especially in Lithuania, where the difference was as great as 5 percentage points.⁶ Employed men were more likely than employed women to become unemployed, while women more often withdrew from the labour force.

Ethnicity. Minority members in Lithuania experienced higher mobility both to other 2-digit sectors and to non-employment. But in Estonia and Latvia, ethnicity made little difference; minority members in Latvia actually had a little higher probability than Latvians to stay in their jobs. However, among persons who quit or lost jobs, minority members in all three countries were the ones most likely to become unemployed rather than to exit the labour force.

Educational attainment was positively associated with stable employment. Workers with only elementary education were the most likely to become unemployed and to leave the labour force, but not to move between sectors. In Lithuania the low-educated had about as high inter-sector mobility as other groups, but in Estonia and Latvia they were less likely to change sectors, suggesting a limited ability to adapt to restructuring. Workers with technical and vocational education moved relatively often between sectors in Latvia, but less so in the other countries.

As expected, workers in the *public sector* and those with *white-collar* jobs generally had more stable employment than average.

⁶ Nevertheless, data focusing on industrial workers (not displayed in the table) show that women are more prone than men to switch from industry to service jobs, rather than between 2-digit sectors within industry.

Table A2.1 **Annual flows between labour force states**

Estonia

Jan. 1997-Jan. 1998

	E	U	O	1997
E	0.932	0.032	0.037	0.611
U	0.332	0.599	0.069	0.067
O	0.079	0.028	0.893	0.322
1998	0.612	0.066	0.322	

Jan. 1998-Jan. 1999

	E	U	O	1998
E	0.906	0.050	0.044	0.612
U	0.320	0.604	0.076	0.066
O	0.059	0.025	0.916	0.322
1999	0.608	0.067	0.324	

Jan. 1999-Jan. 2000

	E	U	O	1999
E	0.905	0.054	0.041	0.608
U	0.279	0.652	0.069	0.067
O	0.061	0.032	0.908	0.324
2000	0.589	0.082	0.328	

Note: E=employment, U=unemployment, O=out of the labor force. The figures concern age 15-74. *Source:* Calculations based on LFS.

Latvia

May 1997-May 1998

	E	U	O	1997
E	0.904	0.058	0.039	0.507
U	0.272	0.586	0.142	0.096
O	0.050	0.038	0.913	0.398
1998	0.506	0.087	0.407	

May 1998-May 1999

	E	U	O	1998
E	0.911	0.055	0.034	0.506
U	0.265	0.544	0.191	0.087
O	0.044	0.029	0.927	0.407
1999	0.502	0.082	0.416	

May 1999-May 2000

	E	U	O	1999
E	0.901	0.039	0.061	0.502
U	0.304	0.483	0.213	0.082
O	0.061	0.017	0.922	0.416
2000	0.486	0.081	0.432	

Note: E=employment, U=unemployment, O=out of the labour force.

Lithuania

May 1999-May 2000

	E	U	O	1999
E	0.879	0.061	0.060	0.553
U	0.356	0.466	0.178	0.063
O	0.072	0.043	0.885	0.384
2000	0.521	0.090	0.389	

Note: E=employment, U=unemployment, O=out of the labour force.

Source: Calculations based on LFS. The figures for 1999 were taken from Eurostat (2001). (The transition matrices for Latvia and Lithuania were generated using sub-samples, producing insignificant errors in the nine transition cells of each table. The sums in the bottom rows and the rightmost columns show actual results.)

Table A2.2 Annual flows between sectors and labour market states

Estonia

Jan. 1997-Jan. 1998

	A	I	S	U	O	1997
A	0.886	0.037	0.023	0.028	0.028	0.056
I	0.006	0.877	0.034	0.047	0.036	0.195
S	0.002	0.021	0.913	0.024	0.041	0.334
U	0.020	0.128	0.183	0.599	0.069	0.063
O	0.004	0.022	0.043	0.025	0.907	0.352
1998	0.051	0.195	0.334	0.064	0.356	

Jan. 1998-Jan. 1999

	A	I	S	U	O	1998
A	0.866	0.021	0.023	0.046	0.044	0.051
I	0.006	0.842	0.033	0.072	0.047	0.195
S	0.002	0.019	0.897	0.038	0.044	0.334
U	0.030	0.107	0.183	0.604	0.077	0.064
O	0.002	0.014	0.035	0.021	0.928	0.356
1999	0.045	0.191	0.324	0.078	0.361	

Jan. 1999-Jan. 2000

	A	I	S	U	O	1999
A	0.870	0.026	0.018	0.034	0.054	0.045
I	0.002	0.843	0.036	0.067	0.052	0.191
S	0.001	0.009	0.906	0.048	0.036	0.324
U	0.019	0.100	0.161	0.652	0.069	0.078
O	0.004	0.011	0.037	0.027	0.920	0.361
2000	0.043	0.177	0.327	0.091	0.362	

Note: A=agriculture (incl. hunting, forestry and fishing); I=industry and construction; S=Services; U=unemployment; O=out of the labour force. The figures refer to age 15-74.

Source: Calculations based on LFS.

Latvia

May 1997-May 1998

	A	I	S	U	O	1997
A	0.726	0.053	0.097	0.105	0.019	0.110
I	0.005	0.868	0.040	0.056	0.030	0.128
S	0.002	0.020	0.878	0.056	0.044	0.270
U	0.004	0.078	0.190	0.586	0.142	0.096
O	0.001	0.007	0.041	0.038	0.913	0.398
1998	0.095	0.137	0.274	0.087	0.407	

May 1998-May 1999

	A	I	S	U	O	1998
A	0.668	0.029	0.099	0.092	0.112	0.095
I	0.006	0.802	0.056	0.096	0.040	0.137
S	0.005	0.013	0.919	0.036	0.028	0.274
U	0.016	0.074	0.175	0.544	0.191	0.087
O	0.005	0.010	0.028	0.029	0.927	0.407
1999	0.086	0.130	0.286	0.082	0.416	

May 1999-May 2000

	A	I	S	U	O	1999
A	0.734	0.043	0.067	0.047	0.110	0.086
I	0.009	0.866	0.036	0.045	0.045	0.130
S	0.007	0.015	0.893	0.033	0.051	0.286
U	0.047	0.105	0.152	0.483	0.213	0.082
O	0.012	0.016	0.033	0.017	0.922	0.416
2000	0.070	0.130	0.286	0.081	0.432	

Lithuania

May 1999-May 2000

	A	I	S	U	O	1999
A	0.769	0.027	0.027	0.044	0.132	0.117
I	0.010	0.794	0.065	0.085	0.046	0.147
S	0.007	0.028	0.872	0.057	0.035	0.289
U	0.093	0.059	0.203	0.466	0.178	0.063
O	0.029	0.015	0.028	0.043	0.885	0.384
2000	0.110	0.136	0.277	0.090	0.388	

Note: A=agriculture (incl. hunting, forestry and fishing); I=industry and construction; S=Services; U=unemployment; O=out of the labour force. Data for 1999 are consistent with Eurostat (2001). (The transition matrix was generated using sub-samples, producing insignificant errors in the nine transition cells of each table. The sums in the bottom rows and the fourth column show actual results.)

Table A2.3 **Ten-year flows between sectors and labour market states**

All Baltic Countries

Activity		In 2000						
		Agriculture	Industry	Private Services	Public Services	Unemployed	Out of the labor force	Total
In 1990	Agriculture	19.3	6.0	12.4	8.7	18.3	35.3	15.7
	Industry	1.4	34.4	17.1	5.6	14.3	27.3	23.2
	Private Services	2.2	7.1	40.4	7.7	12.0	30.6	16.5
	Public Services	1.7	3.4	9.5	51.5	8.6	25.2	17.0
	Too young	3.7	10.8	26.2	16.7	11.6	30.9	16.5
	Not employed	0.9	6.4	6.4	3.5	6.1	76.6	11.1
	Total	4.7	13.2	19.2	15.9	12.2	34.8	100.0

Estonia

Activity		In 2000						
		Agriculture	Industry	Private Services	Public Services	Unemployed	Out of the labor force	Total
In 1990	Agriculture	25.5	7.0	19.7	9.6	8.9	29.3	15.4
	Industry	2.4	41.3	20.9	4.7	8.3	22.4	25.0
	Private Services	3.6	9.8	47.2	8.3	8.3	22.8	19.0
	Public Services	2.5	4.4	13.1	55.6	5.6	18.8	15.7
	Too young	4.4	8.8	29.8	13.3	7.7	35.9	17.8
	Not employed	1.4	4.2	11.1	2.8	5.6	75.0	7.1
	Total	6.5	15.8	25.4	15.5	7.7	29.1	100.0

Latvia

Activity		In 2000						
		Agriculture	Industry	Private Services	Public Services	Unemployed	Out of the labor force	Total
In 1990	Agriculture	13.8	5.2	8.0	10.9	21.8	40.2	18.2
	Industry	0.5	21.1	15.7	5.9	20.5	36.2	19.4
	Private Services	1.2	4.8	40.0	6.1	11.5	36.4	17.3
	Public Services	1.2	1.8	12.1	43.0	11.5	30.3	17.3
	Too young	5.9	14.5	24.3	15.1	13.8	26.3	15.9
	Not employed	1.8	7.1	8.0	4.4	4.4	74.3	11.8
	Total	4.2	9.3	18.3	14.6	14.7	38.9	100.0

Lithuania

Activity		In 2000						
		Agriculture	Industry	Private Services	Public Services	Unemployed	Out of the labor force	Total
In 1990	Agriculture	19.2	6.0	9.9	5.3	23.8	35.8	13.6
	Industry	1.1	37.0	14.5	6.2	15.6	25.7	24.9
	Private Services	1.3	6.0	32.2	8.7	17.4	34.2	13.5
	Public Services	1.5	4.0	4.5	55.3	8.5	26.1	18.0
	Too young	1.1	9.7	24.0	21.7	13.7	29.7	15.8
	Not employed	-	7.0	3.2	3.2	7.6	79.0	14.2
	Total	3.5	14.1	14.4	17.3	14.3	36.5	100.0

Note: Agriculture includes hunting, forestry and fishing. Industry includes construction. Private services: transports and communications; commerce; financial and real estate and other services, work for households. Public services: public administration, education, science, culture, social and health care, defence and police.

Source: Calculations based on the New Baltic Barometer, using data collected in the Spring 2000.

Table A2.4 Flows from employment by worker and employer characteristics

Estonia, January 1999 – January 2000

	EEs	EEm	EU	EO
Male	0.849	0.053	0.063	0.035
Female	0.858	0.048	0.043	0.051
Tallinn	0.852	0.063	0.053	0.033
Urban	0.861	0.050	0.045	0.044
Rural	0.850	0.051	0.057	0.042
Minority	0.850	0.053	0.065	0.032
Estonian	0.855	0.049	0.048	0.048
Agriculture	0.852	0.061	0.034	0.053
Industry	0.819	0.062	0.067	0.052
Services	0.874	0.042	0.048	0.035
White collar	0.899	0.043	0.030	0.029
Blue collar	0.820	0.056	0.071	0.053
Higher education	0.901	0.055	0.020	0.024
Secondary education	0.845	0.055	0.057	0.043
Vocational education	0.871	0.046	0.051	0.032
Basic education or less	0.798	0.042	0.086	0.074
Age 15-24	0.688	0.120	0.111	0.081
Age 25-49	0.878	0.053	0.049	0.019
Age 50-74	0.861	0.014	0.040	0.085
Age 15-19	0.515	0.092	0.170	0.223
Age 20-24	0.711	0.124	0.103	0.063
Age 25-29	0.840	0.069	0.046	0.045
Age 30-34	0.870	0.050	0.056	0.024
Age 35-39	0.873	0.072	0.039	0.015
Age 40-44	0.908	0.030	0.056	0.006
Age 45-49	0.897	0.046	0.049	0.008
Age 50-54	0.907	0.016	0.052	0.026
Age 55-59	0.840	0.018	0.036	0.105
Age 60-64	0.814	0.004	0.045	0.137
Age 65-74	0.821	0.010	0.000	0.169
Public sector	0.908	0.018	0.036	0.038
Private sector	0.830	0.065	0.061	0.044
TOTAL	0.854	0.051	0.054	0.042

EEs = stayed in the same 2-digit sector

EEm = moved to another 2-digit sector

EU = moved from employment to unemployment

EO = moved from employment to non-participation

Latvia, May 1999 – May 2000

	EEs	EEm	EU	
Male	0.814	0.091	0.054	0.042
Female	0.833	0.064	0.021	0.082
Riga	0.854	0.060	0.041	0.045
Urban (excl. Riga)	0.848	0.064	0.037	0.051
Rural	0.771	0.113	0.034	0.082
Minority	0.831	0.081	0.042	0.046
Latvian	0.817	0.076	0.036	0.070
Agriculture	0.724	0.119	0.047	0.111
Industry	0.833	0.077	0.045	0.045
Services	0.850	0.066	0.033	0.051
White collar	0.877	0.059	0.019	0.045
Higher education	0.869	0.080	0.002	0.049
Secondary technical ed.	0.803	0.092	0.053	0.052
Secondary comprehensive	0.844	0.064	0.037	0.055
Vocational education	0.816	0.086	0.015	0.083
Basic education or less	0.779	0.055	0.061	0.106
Age 15-19	0.619	0.082	0.100	0.198
Age 20-24	0.768	0.090	0.083	0.060
Age 25-34	0.826	0.095	0.041	0.038
Age 35-44	0.842	0.093	0.035	0.030
Age 45-54	0.877	0.062	0.041	0.020
Age 55-64	0.789	0.051	0.005	0.155
Age 65	0.651	0.000	0.000	0.349
Public sector	0.867	0.057	0.030	0.046
Private sector	0.796	0.092	0.043	0.069
TOTAL	0.823	0.078	0.039	0.061

EEs = stayed in the same 2-digit sector

EEm = moved to another 2-digit sector

EU = moved from employment to unemployment

EO = moved from employment to non-participation

Lithuania, May 1999 – May 2000

	EEs	EEm	EU	EO
Male	0.744	0.143	0.064	0.048
Female	0.778	0.094	0.057	0.071
Vilnius	0.682	0.177	0.094	0.047
Urban (excl. Vilnius)	0.780	0.117	0.063	0.040
Rural	0.785	0.087	0.039	0.089
Minorities	0.688	0.151	0.111	0.050
Lithuanians	0.775	0.112	0.052	0.062
White collar	0.820	0.119	0.033	0.028
Blue collar	0.729	0.119	0.076	0.076
Higher education	0.824	0.131	0.026	0.019
Secondary special/technical education	0.763	0.106	0.074	0.057
Secondary comprehensive education	0.782	0.119	0.063	0.036
Vocational education	0.785	0.075	0.037	0.103
Basic education or less	0.681	0.130	0.084	0.105
age 15_19	0.553	0.158	0.053	0.237
age20_24	0.721	0.135	0.058	0.087
age25_34	0.776	0.125	0.078	0.022
age35_44	0.798	0.113	0.071	0.018
age45_64	0.791	0.121	0.057	0.032
age55_64	0.701	0.104	0.015	0.179
age65	0.476	0.000	0.000	0.524
TOTAL	0.761	0.118	0.060	0.060

EEs = stayed in the same 2-digit sector

EEm = moved to another 2-digit sector

EU = moved from employment to unemployment

EO = moved from employment to non-participation