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POTENTIAL EMIGRATION OF LATVIAN LABOUR FORCE AFTER JOINING THE EU AND ITS IMPACT ON LATVIAN LABOUR MARKET

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Potential emigration of Latvian labour force after joining the EU and its impact on Latvian labour market

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Abstract

This paper uses empirical evidence from several sources to shed light on patterns of mobility of Latvian labour force during the transition period as well as in the years to come. Updated inter-regional migration rates show that Latvian population is relatively mobile compared to some other European nations. Other things equal, during the transition period people were more likely to leave districts with low wage levels and to enter the ones where earnings are higher, despite many countervailing factors; outflow rates tended to be larger from high unemployment regions. Analysis of individual migration decisions made in 1989-1999 and migration plans for 1999-2002 confirms significance of economic incentives for geographical mobility of Latvian population and reveals behaviour consistent with the human capital model: young and more educated individuals were more likely to move. On-line survey conducted in 2003 shows that a very high proportion of Internet users in Latvia consider possibility to work in one of the EU countries when these countries open their labour markets. According to the most conservative estimate, number of potential movers among Internet users is about 80 thousand, and only half of them are going to return to Latvia. Determinants of the intention to emigrate permanently are different from the factors affecting general propensity to “go west.” Other things equal, potential emigrants are significantly less likely to return if they prefer Russian (rather than Latvian) language website, have higher education, are young, and live in the capital. We also identify occupations which are likely to experience the largest labour outflows in the short run and in the long run.

Keywords: Migration, Regional Disparities, Human Capital, EU enlargement

JEL Categories: F22, J61, J31, J15, P52, R23, C81

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Introduction

Expected EU enlargement has increased researchers' interest in mobility of population and especially labour force of the accession countries (see Bauer and Zimmerman (1999), Borjas (1999b), Boeri and Brucker (2000), Fidrmuc (2002), Fidrmuc and Huber (2002), Drinkwater (2002), Kallai (2003), Hazans (2003), Huber (2003)). Particular questions addressed in the literature include:

- (i) How mobile are people in these countries and to what extent their geographic mobility has been driven by economic incentives?
- (ii) Which groups of population have been most mobile in the past?
- (iii) How big might be post-accession East -West migration flows, both from particular countries and in general? How these flows will look like in terms of skill composition?
- (iv) What effect will post-accession migration have on labour markets in old and new EU member countries? Are old EU members in danger of growing unemployment? Are the accession countries in danger of "brain drain" and/or general labour shortage?

More than a decade ago, Layard et al (1992) predicted that at least 3 percent of the population of Central and Eastern Europe will emigrate in 15 years following EU enlargement. Bauer and Zimmerman (1999) expect long run emigration rates between 2 and 3 percent of population of the sending country. Boeri and Brucker (2000) provide East-West migration projections based on German immigration data. They expect an initial outflow from accession countries (after removing legal barriers) about 335 000 persons per year, declining to 150 000 until 2010. This should lead to increase in the number of residents from CEECs in the "old" EU member states from 850 000 in 1998 to 2.9 million by 2010, 3.7 million by 2020, and 3.9 million around 30 years after introduction of free movement of labour. This projection means that in the long run 3 percent of the current population of CEECs will emigrate.

Even these projections, which are usually referred to as "modest" and suggest, according to Boeri and Brucker (2000), very little impact on employment and wages in the old EU members, imply that emigration might have a significant impact on labour markets in sending countries. This is even more so if some of the accession countries will experience higher than average emigration (as we show in this paper, it is a likely scenario for Latvia; another argument in favour of this is that small countries tend to have higher emigration rates, see Commander et al. (2003)). The impact will be greater if most of the emigrants will be young and well educated, which is also likely to be the case.

The migration literature is built around several general theories (see Ghatak and Levine (1998), Bauer and Zimmerman (1998), Borjas (1999a) for surveys).

According to Harris – Todaro (1970), migration is driven by differences in expected real earnings, i.e. product of employment rate and real wages. The human capital model of migration (Sjaastadt, 1962) sees migrations as an investment which pays off if present value of expected income (or, more generally, utility) gains exceed total costs of migration. This model predicts that young and better educated people are more likely to migrate, other things equal. Notice that both human capital model and Harris – Todaro model predict migration flows to be directed from accession countries (including Latvia) to the old EU member states, because earnings in the Central European countries are much lower and unemployment rates higher than in most of the EU countries. Burda (1995) has incorporated the option value of waiting into human capital model; he has shown that if uncertainty about gains is high enough, it might be in individual's interest to postpone migration. Other authors have developed dynamic models which emphasize importance of networks of migrants from given country (or of certain ethnic group) in the host countries (see Bauer and Zimmerman (1998), Bauer *et al* (2000), Docquier and Rapoport (2003)). Fertig and Schmidt (2001) emphasize importance of demographics for migration studies; they predict, in particular, only modest outflow from accession countries because of relatively low proportions of youth in population therein.

Closely related to the post-enlargement migration issue are studies of post-unification East-West migration in Germany (see e.g. Burda (1993), Hunt (2000), Burda and Hunt (2001), Brucker and Trubswetter (2003)), and studies devoted to the impact of brain drain on the economic growth in the source countries (Beine *et al* (2003), Commander *et al* (2003), Docquier and Rapoport (2003)). While disadvantages of emigration of skilled labour for the country of origin are obvious, it has been argued that „beneficial brain drain” is possible through increased incentives to acquire human capital, money transfers from emigrants to the home country (so-called „remittances”), FDI-enhancing networking, and return migration. Commander *et al* (2003), however, after analysing available theoretical and empirical evidence, come to the conclusion that „there are reasons – some of them of recent origin - to be suspicious” of the „beneficial brain drain” hypothesis. Beine *et al.* (2003) analyse empirical evidence from 50 developing countries and conclude countries with small stock of human capital and low emigration rates of skilled labour have benefited from the brain drain, while countries with relatively high stock of human capital and high emigration rates of skilled labour have been losers. While parallels between the third world

countries and Latvia have to be of course taken with great care, findings of both above mentioned papers indicate that Latvia is more likely to lose from emigration of the highly educated workforce, at least in the short to medium run.

While most of the empirical studies confirm main predictions of the theory about of the impact of economic forces on migration (see surveys by Borjas (1999a), Chiswick and Hatton (2002)), migration is a complex phenomenon, and observed patterns not always are consistent with theoretical models. To give some examples, Fidrmuc (2002), Fidrmuc and Huber (2002)) find that inter-regional migration in Czech R., Slovakia and Poland is not related to wage differentials in a way predicted by theory. Brucker and Trubswetter (2003) do not find a positive relationship between education and propensity to move from Eastern to Western Germany. Hunt (2000) for Germany and Hazans (2003b) for Estonia find that such relationship is due exclusively to recent graduates.

Forecasts based only on theoretical models or on data from third countries often prove wrong, e.g. emigration from Greece and Portugal after they became EU members was much less than expected (see Boeri and Bruecker (2000)).

A genuine economic assessment of potential emigration should be country-specific and have relevant empirical micro-foundation. Schmidt (2002) notes that “for the case of Europe we are still in need of generating more empirical evidence on some of the most important questions of migration research” and stresses importance of access to “additional individual-based data material”. Borjas (1999b) also points out that it is important to establish which type of individuals are most likely to move from the candidate countries to the current EU member states.

This paper uses empirical evidence from several sources to shed light on patterns of mobility of Latvian labour force during the transition period, as well as in the years to come. Section 1 and Appendix 1 are devoted to analysis of inter-regional migration in Latvia in 1990-2001. First, we use gross migration rates to compare intensity and trends of internal migration in Latvia and other countries. Next, we use information provided by the Central Statistical Bureau of Latvia to update previously published internal immigration and emigration rates by 7 main cities and 26 districts according to the results of the Population Census 2000. These data allow for econometric analysis of the factors affecting inter-regional migration; in particular we are interested to what extent inter-regional migration of Latvian residents during the first decade of transition was driven by disparities in earnings and unemployment.

In Section 2 we use NORBALT II¹ Living Conditions Survey data of 1999 to analyse impact of personal characteristics on internal geographical mobility of Latvian population in 1989-1999, as well as on preparedness to migrate in the next three years (i. e. in 1999-2002).

Our findings in Sections 1, 2 suggest that Latvian population is relatively mobile compared to other European nations and that economic factors did have a significant (and mostly consistent with theoretical predictions) impact on inter-regional migration flows, as well as on individual migration decisions and plans.

Section 3 contains our key findings about potential migration of Latvian labour force to the “old” EU countries when they open their labour markets. These findings are based on a specially designed on-line survey which was posted on Latvia’s most popular website, DELFI, in February 2003. Previous studies which model willingness to move on stated migration intentions include, among others, Gordon and Mollo (1995), Faini *et al.* (1997), Burda *et al.* (1998) for internal migration; Schmidt (2002) for migration within EU, and Drinkwater (2002) for East – West migration. Current paper is, to our knowledge, the first one which uses in this context on-line methodology (advantages and disadvantages of such approach are discussed in section 3).

The questionnaire was answered by more than 2500 people (three quarters of them between 20 and 34 years of age); besides, hundreds of comments were submitted. This unusually high response for a non-administrated survey is in itself clear evidence that a very high proportion of Internet users are seriously considering temporary or permanent emigration to the West. The most conservative estimate based on the results of the survey suggests that number of potential movers among Internet users is 80 000, while the least conservative estimate is 340 000. Slightly less than a half of them are likely not to come back.

Such a massive outflow, if materialises, can have very significant consequences on Latvian labour market and economy as a whole.

Interestingly, the pool of Internet users is very homogeneous with respect to general migration plans. Current earnings level is one of the few factors which have a significant impact on plans “to go west” if no distinction is made between temporary and permanent emigration; we have also identified several groups of occupations most inclined to move.

¹ NORBALT II Living Conditions Survey was carried out in 1999 in Estonia, Latvia, and Lithuania by Norwegian Fafo Institute for Applied Social Science in cooperation with national statistical offices of the three Baltic countries.

On the other hand, there are many factors affecting whether potential movers plan to return, including language of the preferred website (Latvian vs. Russian), age, education, labour market status, planned destination country. Again, representatives of some occupations are significantly more likely to emigrate permanently than most of the other occupations; surprisingly, these are not the same occupations which are most likely to move in general.

Detailed results of statistical and econometric analysis of the on-line survey are presented in Appendices 2 and 3.

Earnings differentials between Western Europe and Latvia are going to be the main driving force of emigration of Latvian labour force. Appendix 4 compares net earnings in different sectors of Latvian economy and for different occupations with earnings in the “old” EU countries. The comparison takes into account tax legislation in particular EU countries and is done under several alternative assumptions:

- (i) Average earnings in Latvia and 67% of average earnings for given occupation/sector in the host country;
- (ii) High earnings (LVL 300 after tax) in Latvia and 67% of average earnings in the host country;
- (iii)/(iv) Average/high earnings in Latvia and average earnings for given occupation/sector in the host country.

The same Appendix provides information on minimum wages in selected EU countries. Comparisons in Appendix 4 are not adjusted for price levels in different countries, but they provide background information for a more detailed analysis. Notice that recent comparisons of Latvian per capita GDP with that of the EU in PPP terms (OECD, 2003) implies price ratio about 2.5, while net earning ratios in Table A4.2 are much higher for most (although not all) occupations and scenarios. On the other hand, a fairly good assessment of absolute differences in earnings can be made just by subtracting difference in housing costs between the host country and Latvia.

Section 4 summarizes main findings of the previous sections.

1. Internal migration in Latvia, 1990-2001: intensity and driving forces

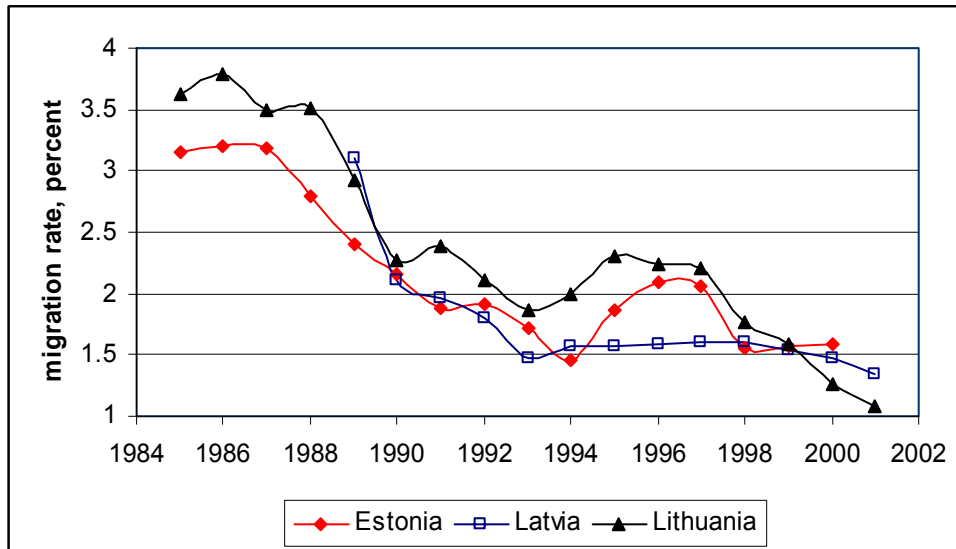
1.1. Internal migration rates: international comparisons

Figure 1.1 presents internal migration rates in the Baltic Countries. These data are based on migration records that account for permanent change of residence of the following types:

- (i) between cities (even within the same administrative unit, or district); (ii) from urban to

rural municipalities or vice versa (again both within and between districts); (iii) between rural municipalities in different administrative units.

**Figure 1.1 Internal migration rates (percent),
Estonia (1985-2000), Latvia (1990-2001), Lithuania (1985-2001)**



Notes. All rates are based on registration data. Population numbers in 1990-2001 have been updated using results of latest Population Census (2000 in Latvia and Estonia, 2001 in Lithuania). However, migration data as such have been recalculated (correcting to some extent under-registration errors) only in Latvia. *Sources:* Official publications of national Statistical Offices and own calculations.

A dramatic decline in registered migration rates observed in the late 1980s was not followed by any significant recovery after development of regional disparities in wages and unemployment during the early transition. This suggests that quality of registration declined even more dramatically, and actual migration rates in 1990s were, maybe, twice as high as the registered ones². Second consideration which has to be taken into account before drawing conclusions from Figure 1.1, is size of the districts. Since moves between rural municipalities within administrative units are not accounted for, migration rates tend to be smaller when based on larger regions. Latvian data are based on 33 NUTS-4 regions (7 main cities and 26 districts), with average population of 71 thousand in 2001 and average area about 2 thousand sq. km. Estonian data are based on 15 counties which are somewhat larger (average population 91 thousand, area 2.7 thousand sq. km), while Lithuanian data refer to 60 municipalities which are, on average, slightly smaller than Latvian: population 58 thousand and area 1.1 thousand sq. km. In other words, to make the data perfectly comparable, Estonian rates should be somewhat increased, while the

² Statistical Office of Estonia has even stopped publication of internal migration data because of their inaccuracy.

Lithuanian ones somewhat decreased. Keeping this in mind, one can conclude that geographic mobility of population in the three Baltic Countries has been on average of comparable magnitude both in Soviet times and in 1990s; however, in recent years in Estonia it was somewhat higher than in Latvia, while in Lithuania it has become lower. Notice that inter-regional disparities in Latvia are more pronounced than in the other two countries, especially in terms of unemployment (see Hazans, 2003b, Figure 3), so one should expect somewhat higher internal migration rates in Latvia.

Starting from 1992, about 1.5 percent of Latvian population per year have reported change of residence to another municipality. This is considerably higher than, e.g. 0.98 percent in Czech R. (1998) and 0.61 percent in Slovakia (1996), where data are based on regions of comparable size (see Fidrmuc (2002); notice, however, that the difference might be in part due to the fact that data for these countries have not been revised after Census). Excluding migration within districts, gross migration rate in Latvia, 2001, was 0.75 or 1.13 percent, depending on whether or not 6 main cities are merged with nearby districts (Hazans, 2003b, Table1). This again is significantly higher than rates reported by Huber (2003) for comparable regions in Czech R. (0.44 percent) and Slovenia (0.30 percent). Internal migration rates in Poland (just above 1 percent), Italy, Spain, and Portugal (all below 0.6 percent) reported in Fidrmuc (2002) are also lower than in Latvia, but the comparison in these cases is not straightforward because regions in these countries are much larger.

Internal migration rates higher than in Latvia are found, according to Huber (2003), e. g., in Denmark (3.4 percent in 1999) and Netherlands (1.7 percent in 1995). However, taking into account that these figures do not exceed Latvian pre-transition rates, one cannot exclude that the difference is due to better registration in Denmark and Netherlands.

Alternative source of information on migration is the NORBALT II (1999) Living Conditions Survey. Analysis of results of this survey gives somewhat lower than registration data but still consistent estimate of population mobility in Latvia: 9.5 percent of population (immigrants from abroad excluded) have moved between municipalities in 1989-1999. Ethnic Latvians have been more mobiles than others.

Overall conclusion from the above analysis is that Latvian population has to be considered as relatively mobile compared to many other European countries.

Table 1.1 Estimated proportion of Latvian population which moved between municipalities during the period of 1989-99.

	<i>Percent</i>
Total	9.5
By ethnicity	
Latvians	13.4
Russians	4.6
Others	3.9
By education (in 1999)	
Basic or less	7.5
Secondary	10.6
Higher	10.5

Notes: Number of respondents: 2811 (aged 18 and older), one per household. Proportions based on post-stratifying weights.

Source: NORBALT 2 survey data (1999) and own calculations.

1.2. Was inter-regional migration of Latvian residents during the last decade driven by disparities in earnings and unemployment?

Regional disparities. Latvia features considerable and persistent regional disparities in earning levels and unemployment rates (see Figure 1.2, Tables A1.1, A1.2).

Correlation between current and previous year's registered unemployment rates across districts has been above 0.92 during last 8 years of observation, and correlation with unemployment rates of 1993 is about 0.70. Throughout the years, only in Riga region and city of Ventspils wages are above the national average. On the other hand, as in many other countries³, high unemployment districts tend to have low wages. Moreover, *depressed regions* with persistent high unemployment and low wages are easily identified: four districts, all in Latgale region, have had lowest wages and registered unemployment rates above 20% for 9 years in a row, and another two districts have had unemployment rates between 18 and 20% and modest wages for the last 5 years. Overall level of wage disparities, measured by population-weighted coefficient of variation, has been stable since 1995⁴. Similar measure of disparities in unemployment was falling between 1993 and 1999 but rising again since 1999.

Reasons for migration. Economic theory predicts that migration of labour force will be, on average, directed from regions with low wages to high income regions, and from high unemployment regions to the ones with low unemployment. One can conclude that both

³ See Traistaru and Iara (2003) for discussion and survey of the literature.

⁴ Non-weighted measure reveals, however, some improvement or relative standing of small depressed districts.

pull and push factors for inter-regional migration have been in place in Latvia during the transition period.

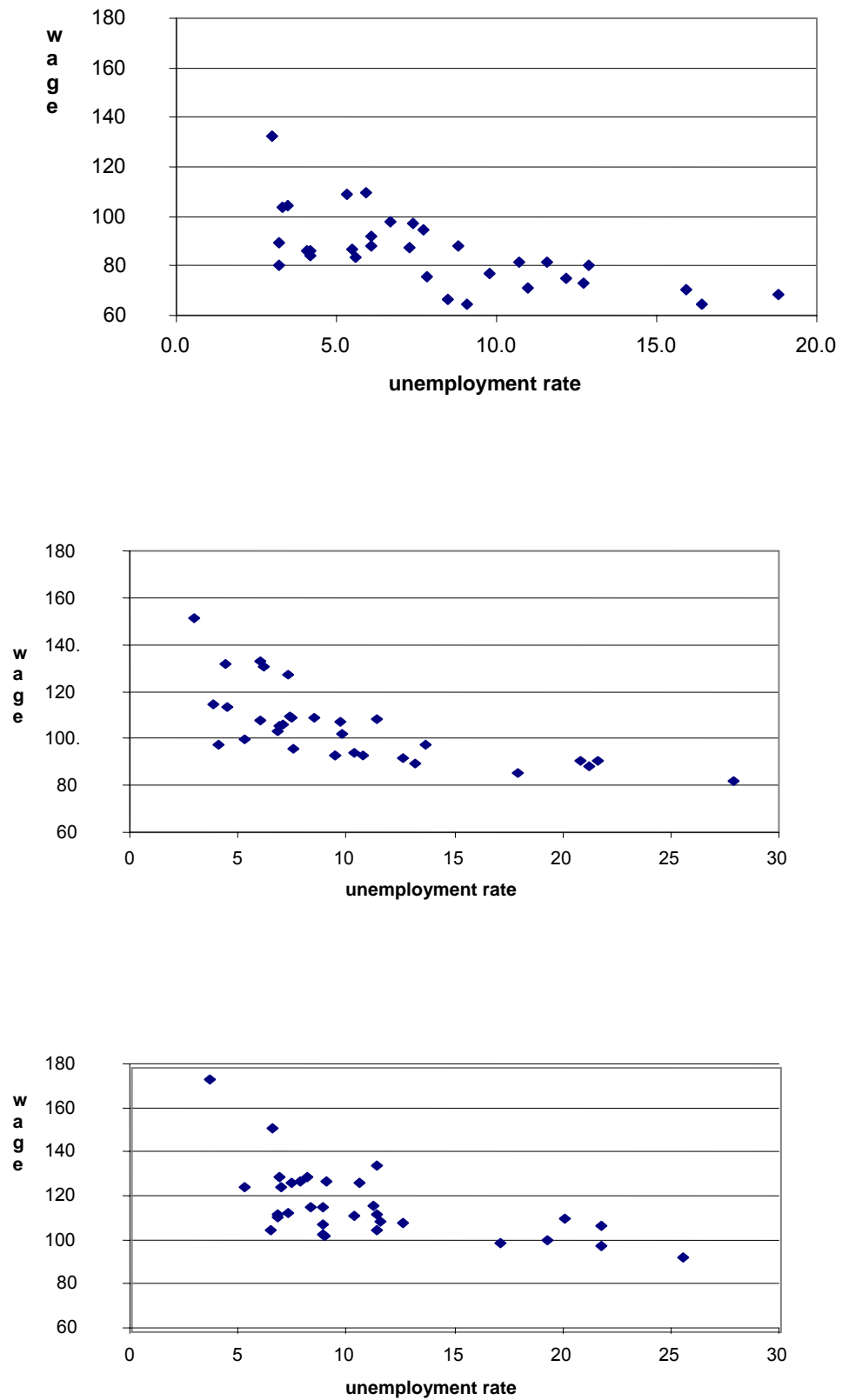
On the other hand, liquidity constraints, underdeveloped (especially in the early transition) housing market and higher housing prices in ‘good places’ (first of all, in Riga) are obvious obstacles to moving out from depressed regions. Segmentation of Latvian housing market (rent in the private sector has been regulated for ‘old’ residents, but not for newcomers) also makes moving from poor to rich region less attractive; even more so because in many cases such a move means leaving behind free accommodation in a family house somewhere in the countryside or in a small town.

On the other hand, substantial flows from cities to the countryside were generated by the restitution process (returning land properties to descendants of the former owners); these flows were not driven by and most likely were directed against spatial welfare gradients. Apart from this, ongoing depopulation of rural areas (caused by out-migration and negative natural increase) together with low money income levels in the countryside resulted in rather low prices of land and housing in the countryside (especially in depressed regions). Many of those who lost their jobs during the restructuring process could therefore opt for subsistence farming (and some have later turned it into profitable farming); average cost of doing so was further reduced due to small country size and traditionally strong family links sustained between relatives living in different parts of the country. Such links make the typical ‘travel-to-find-a-spouse-area’ larger than one would otherwise expect, also contributing to inter-regional migration not necessarily related to wage and unemployment differentials in expected way.

Table A1.3 reveals that almost 50 percent of internal migrants in Latvia (1989-1999) mentioned family reasons as main purpose of moving, while job-related and housing related reasons account for 22 and 15 percent respectively. Job related-reasons were more frequent for movers into capital city, giving some hope to our econometric investigation. Notice, however, that one cannot exclude economic reasons behind family ones.

Table A1.4 shows that in 2001 at least 40 percent of moves in year 2001 in Latvia were still reported as associated with family reasons; importance of job related reasons seems to decrease, while more than a quarter of migrant households have indicated housing related reasons. Conclusions from comparison of the two tables have to be taken with caution because the first one is based on survey data (3044 households, of which 268 have moved during the 10 year period), while the second one is based on residence registration data and therefore is likely to under-report job-related moves.

Figure 1.2. Average wages vs. registered unemployment rates in Latvian main cities⁵ and districts: upper panel - 1993, middle panel -1997, lower panel – 2000.



⁵ Ventspils excluded. Wages in *lats* are reported in constant prices of 2000.

Finally, as was pointed by Fidrmuc (2002), small (compared to Western Europe) size of the regions in question implies that our data contain considerable share of moves not associated with job changing. To give an example, many of the high-income earners prefer to move from sleeping districts in big cities to own houses in adjacent rural municipalities.

Methodology. To test whether migration of Latvian population was to some extent driven by regional welfare disparities, we use data on immigration, emigration and net migration (excluding international migration) by main cities and districts.

Taking into account that international migration to and from Latvia in 1991-2000 (which dominated internal migration flows in the first half of the period), was not related to regional economic conditions, we use internal migration data.

Despite all above-mentioned problems, which have the potential to leave econometric analysis of migration flows with no decisive answer, our results for Latvia strongly support the hypothesis that wage and unemployment differentials have been instrumental in shaping the migration flows.

Choice of the estimating method for the panel data was decided by the following considerations. First, as migration data are cell means, and the cell sizes (population of regions at hand) vary very strongly in our case, we feel necessary to use analytical weights and to allow for heteroskedasticity across panels.

Second, as we are in fact interested in the effect of between-groups rather than within-groups variation of wages and unemployment, the fixed effects method (which has the advantage of removing effects of region-specific factors not included in the models) should not be overemphasized. Instead we control for population density (so that special role of big cities is accounted for). However, similar results were obtained when fixed effects for main cities were included. The choice of method is limited by the fact that our panels are short (number of time periods less than number of regions). Based on these considerations, we have chosen linear regression (OLS and Prais – Winsten) with panel-corrected standard errors allowing for heteroskedasticity across panels but not allowing, due to small number of time periods, for (spatial) correlation across panels.

Wage was measured in constant prices and expressed in logs rather than ratio to national average. Unemployment, (log) wages and other explanatory variables were lagged one year with respect to migration rates. To avoid endogeneity problems caused by interconnections between main explanatory variables - population density, unemployment and wages, as well as additional variables, like marriage rate, divorce rate and mortality, we have used unemployment unexplained by density, log wages unexplained by density

and unemployment, and marriage, divorce and mortality rates unexplained by density, unemployment, and log wages.

Results reported in Table A1.5 show that high unemployment significantly encourages outflows. Both size and significance of the effect increases if only the late transition (1997-2001) is considered. High wages, other things equal, discourage out-migration. Numerical value of the coefficient also somewhat increases in the late transition.

Other things equal, people are less likely to move both from and to high density (more urbanised) regions. The size of these effects seems to be quite persistent over time: coefficients for 1993-2001 and 1997-2001 are nearly equal.

High wages significantly encourage immigration, and the size of this effect (as well as wage effect on net migration) has more than doubled in the late transition compared to the whole period.

Positive wage effect on net migration is stronger than in case of inflows and outflows, in contrast with what was found for Czech R., Slovakia and Poland by Fidrmuc (2002) and for Romania by Kallai (2003).

Unemployment has “wrong” positive sign both in gross and net inflow models. This could be attributed to non-labour related reasons for migration discussed above, particularly land ownership restitution and low housing prices in depressed regions. In the case of net migration, however, unemployment coefficient becomes negative (although not significant) when autocorrelation within regions is allowed; estimated rho is 0.445.

Other things equal, outflows tend to be larger from the districts where mortality and divorce rates exceed the level predicted by density, unemployment, and wages. Mortality here proxies for quality of life, while interpretation of the coefficient of divorce rate is straightforward: two extra divorces force 3 people to leave the region.

Excessively high marriage rates, as one could expect, and mortality rates (surprisingly) enhance immigration. The explanation for the role of mortality is that when old people die, their apartments or houses become free. In the late transition this effect disappears, while effect of excessive mortality on net inflows becomes significantly negative. People have started to care more about quality of life, and this effect overweighs the ‘grandma’s house is free!’ positive impact of mortality on inflows. Excessive marriage rate encourages net inflows, and influence of this factor has increased over time.

Overall effect of population density on net inflows is negative; its size has hardly changed in the late transition compared to the early one.

1.3. Conclusions.

We have shown that Latvian population is relatively mobile compared to some other European nations. During the transition period, impact of regional wage levels and, to some extent, also unemployment rates on internal migration flows has been consistent with the predictions of economic theory, despite many factors which worked in the opposite direction. Other things equal, people were more likely to leave districts with low wage levels and to enter the ones where earnings are higher. Outflows per 1000 population tended to be larger from regions with high unemployment rates.

Such behavior makes it very likely that emigration from Latvia to Western and Northern Europe is going to be very substantial when “old” EU members will open their labour markets. Indeed, wage differentials between EU countries and Latvia are so big (even if adjusted for price levels) that in the short run one cannot expect them to be reduced significantly; Latvian unemployment rate (12% according to Labour Force Survey 2002) also compares unfavourably with that in EU-15 (8%).

2. Determinants of internal migration and migration plans: Evidence from the Living Conditions Survey, 1999.

2.1 Which groups of Latvian labour force have been most geographically mobile?

Table 2.1 presents results of logit analysis⁶ of NORBALT II Living Conditions Survey microdata. Dependent variable takes the value of 1 if respondent has changed municipality of residence in 1989-1999, and 0 otherwise. dP/dx , estimated marginal effect of the variable x , is average difference in predicted migration probability caused by a unit change in x , other things equal

Table 2.1. Determinants of internal migration.

	Latvia, 1989-99, estimated logit models					
	Total		Urban to rural		Rural to urban	
	dP/dx	z-value	dP/dx	z-value	dP/dx	z-value
Higher education	0.037	2.01**	0.006	0.59	0.048	0.85
Secondary educ.	0.016	1.02	0.015	0.76	0.056	1.12
Age	-0.003	-7.53***	-0.002	-2.61***	-0.006	-4.37***
Russian	-0.056	-4.57***	-0.085	-4.56***	-0.015	-0.25
Other minority	-0.065	-4.80***	-0.081	-3.37***	-0.035	-0.65
Rural	0.091	5.41***				
Small city	0.064	4.11***	0.173	4.36***		
Male	-0.011	-0.99	0.062	2.23**	-0.030	-0.86
Single	-0.026	-2.31**	-0.044	-2.22**	-0.021	-0.51
Constant		-2.73***		-4.6***		-0.74
Number obs.		3016		2004		1012
Prob(migration)		0.095		0.099		0.152
Pseudo R2		0.101		0.146		0.084
Log L		-859.67		-264.05		-253.15

Notes: Dependent variable $y=1$ if the respondent has changed municipality of residence in 1989-1999, 0 otherwise. dP/dx , estimated marginal effect of the variable x , is average difference in predicted migration probability caused by a unit change in x , other things equal. Omitted categories: less than secondary education; ethnic Latvians; residence in city with more than 100 000 population; female; married or cohabited.

Education and marital status are measured in 1999.

Residence (if changed) is measured before moving.

*, **, *** - variables significant at 10%, 5%, 1% level.

Source: NORBALT II Living Conditions Survey microdata (provided by Central Statistical Bureau of Latvia) and own calculations.

More educated (or education oriented) people have been more mobile. Young people were significantly more likely to migrate. These findings confirm that mobility patterns of Latvian population are consistent with the human capital model of migration (see Sjaastad, 1962). The fact that residents of countryside and small cities were more likely to move is also evidence in favour of economic incentives for migration, because wage levels are higher in big cities (notice that we are not able to control for pre-migration income or wage

⁶ See section 3.4.1 below for a description of methodology and references.

level directly). Ethnic Latvians have been more mobile than minorities. Gender effect is significant only for urban sub-sample: men were more likely to move to the countryside.

2.2. General migration plans for 1999-2002

Table 2.2, also based on NORBALT II survey data, shows that in 1999 10.6 percent of respondents who were either economically active or likely to enter the labour force in near future (students) had migration plans. This proportion was approximately the same for Latvians and non-Latvians. It was highest among unemployed (27 percent) and students (17 percent), followed by white-collar employees (9.5 percent).

The survey has also a question on planned destination of migration. 71 percent of potential migrants planned to move within Latvia. For the purpose of this study of interest is planned migration to EU, and not more than 11 percent of those who planned to move (i. e. just above 1 percent of all respondents) mentioned European countries (except for former Soviet Union). This low proportion is in sharp contrast with New Baltic Barometer results obtained in another study just one year later (see Table 3.3 below), and also with results of our on-line survey conducted in 2003 (Table 3.2 below). One of the reasons is of course that in 1999 expected probability of legal employment in one of the EU countries in the next three years was rather low.

Further in this section we investigate impact of different individual factors on preparedness to migrate in general (answers “certainly” and “possibly”), not distinguishing between destinations. Results are presented in Table 2.4.

Most of the effects are similar to the ones found when modelling actual migration (Table 2.1). Other things equal, likelihood of migration plans decreases with age and increases with education, as predicted by the human capital model. Propensity to move is lower in regions where average wage is relatively high, thus once again confirming importance of economic incentives for migration. Another confirmation of this fact is that unemployed individuals were significantly more likely to plan moving than otherwise similar employed ones. Rural residents and ethnic Latvians were more inclined to migrate than their urban and non-Latvian counterparts. Only for marital status the effect on planned migration has not the same direction as on actual migration in the past: Single persons were significantly more likely to plan migration than otherwise similar married or cohabited respondents.

**Table 2.2 Planned migrations (both within Latvia and abroad)
in the next three years (1999 survey data).
Sample: economically active population and students.**

A. By ethnicity

Intend to move in the next 3 years?	Ethnicity			
	Latvian	Russian	Other	Total
Certainly	2.4%	2.1%	1.4%	2.2%
Possibly	8.5%	6.2%	12.1%	8.4%
Not	86.9%	88.0%	84.1%	86.7%
Do not know	2.3%	3.7%	2.4%	2.7%
Total	100.0%	100.0%	100.0%	100.0%
Number obs	1088	517	289	1894

B. By employment status

Intend to move in the next 3 years?	Employment status				
	Employer or self-employed	Employee - white collar	Employee blue collar	Unemployed	Student
Certainly	1.7%	1.4%	1.5%	5.2%	6.4%
Possibly	5.0%	8.1%	6.5%	11.8%	21.3%
Not	91.7%	87.6%	90.2%	79.7%	67.0%
Do not know	1.7%	2.9%	1.8%	3.3%	5.3%
Total	100.0%	100.0%	100.0%	100.0%	100.0%
Number obs	181	865	541	212	94

Source: NORBALT II Living Conditions Survey microdata (provided by Central Statistical Bureau of Latvia) and own calculations.

Table 2.4 Determinants of planned migration in the next 3 years (1999 data):**Estimated logit model**

	Coef.	z-value	dP/dx
Higher education	0.318	1.39	0.034
Basic or less education	-0.096	-0.49	-0.009
Age	-0.039	-5.07***	-0.004
Male	0.126	0.78	0.013
Russian	-0.617	-2.87***	-0.046
Other non-Latvian	-0.660	-2.66***	-0.048
Single	0.434	2.47**	0.049
Student, not working	0.385	1.24	0.042
Unemployed	0.614	2.81***	0.073
Employed in agriculture	-0.843	-2.75***	-0.057
Employed in services	-0.186	-1.00	-0.016
Log average wage at residence	-1.420	-3.22***	-0.078
Rural	0.868	4.46***	0.114
Constant	6.049	2.79***	0.034
Number of observations		1893	
Of which plan migration		200 (Prob = 0.106)	

Notes: Dependent variable $y=1$ if the respondent has answered “Certainly” or “Possibly” to the question “Do you intend to move to another municipality or country within next 3 years?”

dP/dx , estimated marginal effect of the variable x , is average difference in predicted migration probability caused by a unit change in x , other things equal.

Omitted categories: secondary education; female; ethnic Latvian; married or cohabited; employed in manufacturing, energy sector or construction; residence in city.

Only economically active respondents and non-working students included.

*, **, *** - variables significant at 10%, 5%, 1% level.

Source: NORBALT II Living Conditions Survey microdata (provided by Central Statistical Bureau of Latvia) and own calculations.

2.3. Conclusions

Analysis of individual migration decisions made in 1989-1999 and migration plans for 1999-2002 has shown significance of economic incentives for geographical mobility of Latvian population. As predicted by the human capital model, young and more educated individuals were more likely to move.

3. Readiness to look for a job in one of the EU countries: Evidence from a survey conducted in 2003.

3.1 Survey design and representativity.

A special survey was designed in order to investigate attitudes of the active part of the population to possibility to work in one of the EU countries. The questionnaires in Latvian and Russian (see Appendix 1) were posted on the most popular Internet site in Latvia, www.delfi.lv, in February 2003 and generated 2563 responses (for most of the analysis we have used 2387 questionnaires without missing information). According to information available at that time, Denmark, Sweden, Netherlands, UK and Ireland were going to open their labour markets for Latvian citizens in 2004, and this option was mentioned in the survey. Since then all these countries (like other EU members) except Ireland have postponed this decision for at least two years; however, the results of the survey give important information about potential mobility of Latvian labour force when the delay period is over. Of course if significant positive changes occur in local labour market, propensity to migrate will decline.

99% of respondents were between 15 and 54 years of age. It is reasonable to assume that vast majority of all potential labour migrants (not only Internet users) falls within this range. Therefore we use this age group as a reference group in the analysis of representativity of the survey.

Number of observations in the survey is more than sufficient to ensure statistical significance of the results. Taking into account that Internet is one of the most efficient means of acquiring information about employment opportunities abroad, the pool of Internet users as such is a very interesting group to look at from a migration perspective.

The questionnaire was available on-line for a month period. According to *e-Track & e-Ratings* survey conducted by Baltic Media Facts (see BMF/TNS, 2003), number of Internet users in Latvia in winter 2003 was 392 000, or 22% of population aged 15-74⁷. This is roughly equal to average number of DELFI users per month, 388 000 (277 000 in Latvian language site and 111 000 in Russian language site). We take the latter figure as a benchmark for our estimates. Taking into account that almost all respondents filled the questionnaire between February 10 and February 17, a more conservative approach would be to take number of DELFI users per week, 192 000 (Latvian site - 132 000, Russian site – 60 000), in other words to restrict the universe to most active Internet users. This would

⁷ Assuming that most of the users are aged 15-54, this constitutes about 40% of economically active population of this age. Internet users are therefore a very significant part of economically active population.

reduce estimated number of potential movers by half. We report both estimates in Table 3.2 below.

There are two issues, however, which have to be taken into account when interpreting the results. First, it is plausible that individuals more inclined to migrate (potential movers) were more likely to fill in the questionnaire than potential stayers. This *self-selection bias* (known also as *disproportional sampling*) may lead to overestimation of average willingness to move amongst the Internet users. Nevertheless our findings about factors positively and negatively affecting willingness to move are qualitatively correct because disproportional sampling distorts only the constant in the logit model, leaving other coefficients unaffected (Maddala, 1997, p. 330-331).

However, we account for possible self-selection bias by presenting some of the key results (see. e.g. Table 3.2 below) under two extreme alternative assumptions:

(A1) Assuming no self-selection bias, i. e. uncorrected survey results;

(A2) Assuming that response rate, i.e. proportion of DELFI users, who answered the questionnaire, among potential movers was 10 times larger than among stayers⁸.

The second issue is to what extent our results may apply to the whole population. Given that 71 percent of the respondents live in Riga, 26 percent in other cities and only 3 percent in the countryside, it make sense to consider only urban population aged 15-54. As Table 3.1 shows, three groups which are strongly over-represented among our respondents (compared with the whole urban population aged 15-54) are: people aged 20 to 34, residents of Riga, and individuals with higher education. According to the human capital model of migration, as well as to our empirical results (section 2) concerning internal migration in Latvia, young and better educated people are more mobile. Moreover, for Internet users search costs associated with migration are lower and potential earnings gains higher than for non-users. It is therefore plausible that propensity to migrate among non-users of the Internet will be lower than among users. Therefore straightforward extrapolation of the results outside the pool of the Internet users is not possible.

⁸ To be consistent with the survey results and above mentioned estimate of total number of DELFI users as 388 thousand, this implies that 1.3% of potential movers and 0.13% of stayers have answered the on-line questionnaire.

Table 3.1. Per cent distribution of respondents of the on-line survey and of urban population aged 15-54 by age, gender, residence, and education

	Respondents of the on-line survey	Urban population age 15-54	
		economically active	total
Age			
15-19	2.3	2.8	13.4
20-24	31.8	11.0	12.1
25-34	43.7	27.9	24.3
35-44	15.5	30.5	26.0
45-54	5.9	27.8	24.2
55-70	0.8	-	-
Gender			
Males	47.1	49.7	47.7
Females	52.9	50.3	53.3
Place of residence			
Riga	71.4	48.9	47.2
Other cities	25.4	51.1	52.8
Countryside	3.2	-	-
Education			
Higher	67.1	22.5	18.7
Secondary	31.6	67.4	61.9
Less than secondary	1.3	10.1	19.4

Source: Calculation based on the survey data and on Latvian Labour Force Survey 2002.

Gender composition of the respondents (47% men and 53% women) is balanced. As far as language is concerned, only 18.3% of all respondents (468 individuals) have filled the questionnaire in Russian, while users of Russian DELFI constitute about 30% of all DELFI users. However, the proportion of ethnic non-Latvians among respondents is definitely higher than 18.3%, because many non-Latvians use Latvian rather than Russian version of DELFI.

3.2. Preparedness to migrate.

Table 3.2 (left panel) shows that just 12% of the respondents, independently of the language they have used, are not willing to move to one of the EU countries temporarily or permanently. However, the proportion of those who considers permanent emigration is higher among those who have used Russian language (64% compared to 38% among users of Latvian version). Overall about 43% of the total number of the respondents would consider permanent emigration to one of the EU countries.

Table 3.2. Internet users' willingness to look for a job in one of the EU countries, by language of the on-line questionnaire, percent

Language of the website →	Assumptions about movers' and stayers' probabilities to answer on-line questionnaire					
	Equal probabilities			Potential movers were 10 times more likely to answer		
	Latvian	Russian	Total	Latvian	Russian	Total
Preparedness to migrate						
Wish to move and stay	9.6	18.8	11.3	4.2	8.4	5.0
Wish to move and maybe stay	28.4	45.5	31.6	12.5	20.3	13.9
Wish to work for some years	50.2	22.4	45.1	22.0	10.0	19.8
Rather no	6.5	7.7	6.7	33.8	35.5	34.3
No	3.3	2.8	3.2	17.2	12.9	16.4
Have not thought about it	2.0	2.8	2.1	10.3	12.9	10.6
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of respondents	2095	468	2563	2095	468	2563
Estimated number of Internet users considering permanent or temporary migration^a	169 000 to 341 000			81 000 to 163 000		
Estimated number of Internet users considering permanent migration^a	82 000 to 166 000			36 000 to 73 000		

Notes: ^a Lower estimates are based on the number of DELFI users per week (192 000), while the upper estimates – on the number of DELFI users per month or total number of Internet users (388 000 or 392 000).

Source: Calculation based on the survey data and *e-Track & e-Ratings* (BMF/TNS, 2003).

These results apply to all Internet users (or at least 388 thousand DELFI users) under the assumption that potential movers and stayers were equally likely to answer the questionnaire. Under the alternative assumption that among potential movers response rate was 10 times higher, 39% of Internet users are prepared to look for a job in one of the “old” EU countries, and half of them do not exclude permanent emigration.

It is interesting to compare these results with the ones obtained in 2000 from a representative (although smaller in size) sample of *New Baltic Barometer IV* (see Table 3.3). The *NBB IV* predicted that 35% of economically active Latvians and 51% of non-Latvians might consider possibility to work abroad at least for some years; proportion of those who considered permanent emigration was 15% among Latvians and 27% among non-Latvians. These figures are similar to (and slightly higher than) our corrected results in the right panel of Table 3.2. On the other hand, as argued above, propensity to migrate among Internet users is likely to be higher than average; moreover, employment perspectives abroad after joining the EU are much more realistic compared to year 2000.

Table 3.3. Results of the New Baltic Barometer IV (2000), percent

	Work abroad for some years?				Emigrate and live permanently in another country?			
	all respondents		economically active		all respondents		economically active	
	Latvians	Non-Latvians	Latvians	Non-Latvians	Latvians	Non-Latvians	Latvians	Non-Latvians
Yes, definitely	8	21	8	25	3	8	4	9
Maybe	27	23	27	26	9	15	11	18
Probably not	31	17	33	20	21	18	20	20
No	35	39	32	29	66	59	65	53

Source: Richard Rose, NEW BALTIC BAROMETER IV: A survey study. Centre for the Study of Public Policy, Univ. of Strathclyde, Glasgow G1 1XH Scotland, 2000, pp. 34-35.

This leads us to believe that assumption (A2) provides an upper bound to the ratio of response rates among potential movers and stayers; consequently, results in the right panel of Table 3.2 give lower bound for propensity of Internet users to “move west”. However, the important message of both surveys is that number of potential temporary and permanent emigrants is fairly big, both among Latvians and non-Latvians.

Appendix 2 presents detailed results of our survey. We report only uncorrected results; as one can see from Table 3.2, correction due to assumption (A2) decreases frequencies of the first 3 (positive) answers of to the question about readiness to move roughly 2.2 times, while frequencies of the last three (negative) answers becomes about 5 times higher. Table A2.1 is similar to Table 3.2 above, but refers only to 2387 respondents which have answered all questions; the results are not significantly different. Table A2.2 shows that roughly half of those Internet users who consider working in EU do not exclude staying forever; this proportion varies very little depending on destination country. Most of the potential permanent migrants are going to UK or to unspecified destination (except UK, Ireland, Netherlands, Sweden, and Denmark).

Descriptive statistics does not reveal substantial differences in readiness to move between males and females (Table A2.3) and between respondents with different levels of education, except, maybe, the ones with doctoral degree (Table A2.4). Interestingly, proportion of Internet users, who definitely want to migrate permanently, is virtually identical (just above 10%) in all age groups, while percentage of those going to move and maybe stay decreases with age; finally, proportion of respondents wishing to move for limited period of time features U-shaped age profile (Table A2.5). Rural residents are slightly less prepared for permanent migration (Table A2.6). Self-employed and non-

employed individuals on average show higher propensity to stay in potential host country than employees (Table A2.7). Internet users whose net wage is below 100 LVL are, on average, more likely to migrate permanently than those with higher wages (Table A2.8). Table A2.9 presents preparedness to migrate for each of the 24 groups of occupations mentioned in the questionnaire.

3.3 Prerequisites and expectations.

Of those who are willing to go for a work to one of the EU countries, slightly less than a half are going to accept only a job which matches their qualification and profession (Table A2.10). Only 13% would accept lower qualification. However, about 39% would consider changing profession. Possibly such a high percentage can be explained by the fact that respondents expect to find a better job match for their education, while they cannot do it in Latvia.

Table A2.11 shows that 11% of potential migrants require net monthly wage differential (compared to their earnings in Latvia) less than 300 LVL, 27% expect differential between 300 and 600 LVL, 22% - between 600 and 800 LVL, and 40% insists on at least 800 LVL differential. People, whose earnings in Latvia are higher, tend to require larger differentials for moving abroad: 57% of employees with net earnings above 300 LVL expect differential of at least 800 LVL.

How realistic are these expectations? Table A4.2 (Appendix 4) provides calculations of difference between net wages for different occupations in Sweden and in Latvia, assuming that gross wages of potential emigrants equal to 67% of average wages for respective occupation in Sweden. For men who earn average wage in given occupation in Latvia, the differential exceeds 800 LVL in the following occupations: computer professionals, architects, engineers, health, legal and business professionals, and artists, as well as ship or aircraft controllers and technicians; for most of other occupations it is between 500 and 800 LVL, and in just one occupation (client information clerks) the difference is less than 500 (actually, 462) LVL. Net earnings in Germany and Netherlands are not too different from Sweden, while in UK and Ireland they are even higher (see Table A4.3). So, for an average Latvian earner migration to one of these countries while keeping one's occupation is likely to result in wage gains close to the expected, even being paid well below average in the host country⁹. However, 36% of respondents, who consider migration, earn after tax more than 300 LVL per month, well above average. Assuming net monthly earnings in

⁹ In Denmark net earnings are, on average about 130 LVL lower than in Sweden.

Latvia 300 LVL and maintaining the same assumption as before for post-migration wages in Sweden, expected net wage differential is above 500 LVL for top 20 occupations, and between 315 and 500 LVL for the rest (Table A4.2, columns 5). Of course these differentials have a potential for improving as migrant's wages become closer to average (Table A4.2, right panel). What about those who are ready to accept a low skilled job? Table A4.4 shows that even minimum wages in "old" EU members (except Portugal, Spain, and Greece) will result in net earnings higher than 500 LVL and thus provide sufficient incentive for moving, at least for some potential migrants.

Vast majority of potential movers are prepared to go only if the job is secured; many of them, however, are ready to look for the residence themselves (Table A2.12). About 70 percent of movers prefer a direct contract with EU employer to other arrangements (Table A2.13).

3.4. Factors affecting potential mobility.

3.4.1. Methodology. The purpose of this section is to find factors which significantly affect general preparedness to migrate, temporarily or permanently, amongst the Internet users, as well as to estimate direction and magnitude of the effect of each factor. This is achieved by estimating a binary logistic model¹⁰, which predicts probability that respondent i with characteristics X_{i1}, \dots, X_{im} considers "moving west" as

$$P(Y_i = 1 | X_{i1}, \dots, X_{im}) = F(\beta_0 + \beta_1 X_{i1} + \dots + \beta_m X_{im}), \text{ where } F(z) = 1 / (1 + \exp(-z)).$$

Here $F(z)$ is logistic cumulative probability distribution function, $\beta_0, \dots, \beta_1, \dots, \beta_m$ are parameters to be estimated, and dependent binary variable Y is based on respondent's answer to the question "When it becomes possible for Latvian residents to work in the EU member countries¹¹ without receiving a special working permit, would you be willing to move to one of these countries and work there?": $Y_i = 1$, if respondent i has chosen one of the following answers: (1) Yes, I would like to move permanently to one of the EU countries;

- (2) Yes, I would like to go for some time and also consider possibility to stay permanently;
- (3) Yes, but only for limited time period and then return to Latvia.

Respectively, $Y_i = 0$ if respondent has chosen one of the answers:

- (4) Rather no; (5) Definitely no; (6) I have not thought about it.

¹⁰ See Maddala (1992, section 8.9), and Greene (2000, Chapter 19), for details on logistic (or logit) model.

¹¹ The introductory sentence also mentioned possibility that Sweden, Denmark, UK, Ireland, and Netherlands will open their labour markets earlier than other EU members.

Distribution of the answers is given in Table 3.2 above for all respondents and in Table A2.1 for 2387 respondents with completely answered questionnaires used for model estimation. Explanatory variables include respondent's age, gender, education, occupation, employment status, wage, place of residence, as well as language of the website (Latvian or Russian). Full list of explanatory variables is available from Table A3.1, which presents estimation results. Most of the variables are dummies. Since wage and occupation might be considered as endogenous, we have also estimated several alternative models: (i) a model without wage variables; (ii) a model without occupation dummies; (iii) a model with occupation dummies but without education levels. Compared to the baseline model, exclusion of these variables has not changed the effects of remaining variables in a significant way, so these results (available on request) are not reported.

The impact of explanatory variable X on probability that $Y_i = 1$ is described by *marginal effect*. If X is a dummy (e. g. $X=0$ for women and $X=1$ for men), marginal effect is the difference in predicted probability to migrate between a man and a woman, having all other characteristics fixed at the same values (sample means). For a continuous variable (e. g. age) marginal effect is equal to change in predicted probability in due to unit change in X , while other explanatory variables are kept constant at their mean values.¹² We report marginal effects without and with correcting for disproportional sampling, i.e. under alternative assumptions (A1), (A2). As mentioned before, signs and significance of estimated coefficients are not affected by the correction; marginal effects, however, do change. In our case correction moves average predicted probability from a very high value of 0.88, around which the logistic curve is almost flat, to 0.42, where the curve's slope is more than twice as big; consequently, marginal effects are larger for corrected version both in absolute values and especially relative to average probability. It was argued above that response rate of potential migrants most likely has not exceeded that of stayers more than 10 times, therefore true marginal effects are bracketed by the two versions we report.

3.4.2. Results are presented in Table A3.1. Main conclusion from the analysis is that the pool of Internet users is relatively homogeneous with respect to propensity to "move west." Although age and gender variables have expected signs, confirming standard finding that, other things equal, mobility decreases with age, and men are more mobile than women, these variables are not statistically significant, and their marginal effects are small. Even

¹² See Bockarjova and Hazans (2000) for details on calculation of the marginal effects.

after correcting for disproportional sampling under assumption (A2)¹³, predicted propensity to migrate for a man is just 0.044 larger than for otherwise similar woman, while difference between a 24 years old person and 54 years old one, both with average other characteristics, is 0.051. These differences are small when considered against average propensity of 0.421. Effect of language of the questionnaire, which encompasses ethnic effect and state language skills, is even smaller and less significant than that of gender.

Estimated effect of living in the countryside is larger (0.125) but also not significant. Among the respondents there were 180 individuals temporarily working abroad while still having permanent residence in Latvia. These people have shown much higher propensity to move west in future: marginal effect extremely big (0.304) and very significant¹⁴. These people are better informed about prospects abroad; on the other hand they might be in general more mobile than others. It is important to notice that excluding these respondents from the sample does not significantly change the effects of other variables.

Other things equal, respondents with general secondary or basic education were slightly less inclined to “move west” than respondents with higher education, while respondents with postsecondary vocational¹⁵ education showed somewhat larger willingness to move. However, neither of these effects was significant, and only for basic education marginal effect is not negligible in size. By contrast, vocational basic or vocational secondary education substantially increases propensity to migrate compared to higher education (corrected marginal effect is 0.204 and almost significant: p-value is 0.115). While these findings are at odds with the standard prediction of human capital model of migration that more educated individuals are more mobile, we can offer several explanations for it. First, computer skills and Internet access make difference in education level less important in terms of searching costs. Second, expected earnings gains of migration for an average manual worker may exceed those for a well paid professional, even disregarding possibility that the latter may accept a less skilled occupation in the host country¹⁶. Put another way, low in absolute terms minimum wage in Latvia, combined with unusually low returns to secondary vs. basic education and high returns to university vs. secondary education (see OECD (2003, Annex 3)), make western migration relatively more attractive

¹³ Hereafter we refer to corrected marginal effects; uncorrected ones are much smaller (see Table A3.1). True effects are between these two bounds, most likely closer to corrected effects.

¹⁴ Drinkwater (2002) using cross-country data collected in 1995 also finds a very significant positive effect of living some years abroad on willingness to move.

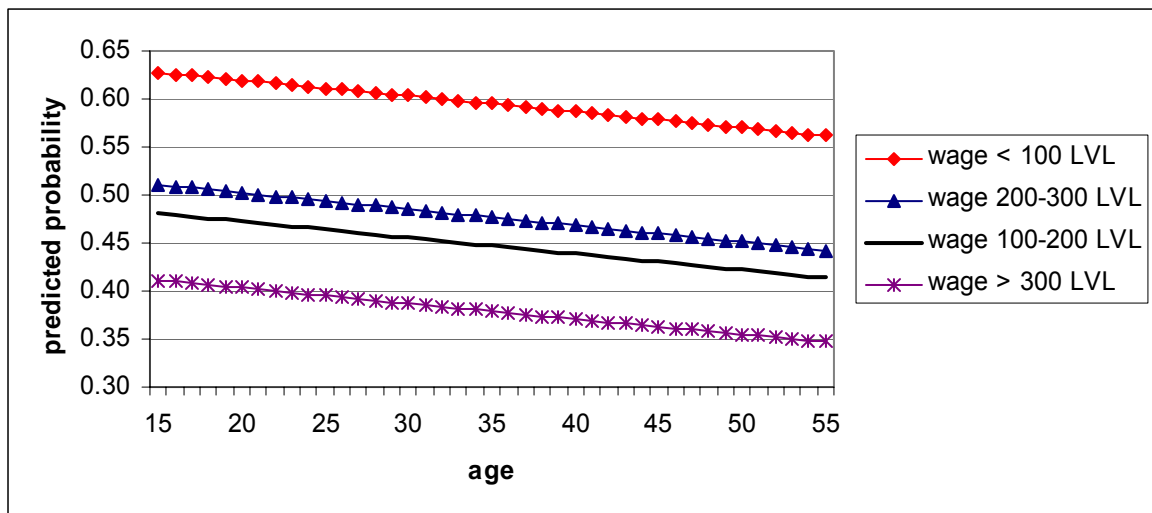
¹⁵ Often called „secondary special” in Latvia

¹⁶ This argument has some merit despite current wage is controlled for in the model, because wage is given in relatively wide intervals, and also because perceived wage growth perspectives are not controlled.

to people with basic and especially secondary education. Third, expected improvement in working conditions is larger for manual workers than for non-manual ones. All these arguments do not explain, however, why individuals with vocational training are more likely to move than those with general secondary or basic education. Probably vocational training gives more confidence that finding a job in the west is possible.

Other things equal, respondents with net monthly earnings less than 100 LVL have the largest propensity to move west, while those with earnings above 300 LVL are least likely to move. The difference between these two groups is statistically significant at 5% level, and the marginal effect (0.216 under assumption (A2)) is fairly large. Respondents with earnings between 200 and 300 LVL are also significantly more likely to move than the high income group. Marginal effects of earnings and age on predicted propensity to look for a job in one of the EU countries are shown in Figure 3.1.

Figure 3.1 Predicted probabilities that an Internet user considers temporary or permanent migration to one of the EU countries, by age and net monthly earnings (other characteristics are fixed at their mean values)



Notes: Probabilities are calculated under the assumption (A2) that response rate, i.e. proportion of DELFI users, who answered the questionnaire, among potential movers was 10 times larger than among stayers. Under the assumption of equal response rates probabilities are larger, while distances between the curves smaller.

Perhaps the most interesting question related to migration plans is which occupations are going to lose most workers? The on-line technology of conducting the survey and restrictions imposed by the administration of the website did not allow for a very detailed list of occupations. The following groups, which are listed in order of ascending propensity to migrate (other things equal) were obtained by aggregating occupations with similar coefficients in auxiliary logit model (not reported) which includes dummies for all these

groups (except *Other occupations*) but has less detailed education classification than the model presented in Table A3.1.

Group 1: Agricultural specialists.

Group 2: Skilled manual workers; Police and security;

Engineers (except IT, communications, and construction); Teachers; Civil servants.

Group 3: Elementary occupations; Lawyers; Creative and artistic professionals and associated professionals; Health professionals and nurses; Other occupations not mentioned in the list.

Group 4: Managers; Communications engineers; Sales persons; Economists, accountants, finance specialists; Scientists.

Group 5: IT engineers, computing professionals and associated professionals.

Group 6: Marketing specialists; Secretaries and administrators; Translators; Architects and construction engineers; Personal service specialists (hairdressers and alike); Construction workers.

Representatives of Group 6 are significantly more inclined to consider migration than any of the groups 1-3. Other things equal, difference in predicted probabilities between Group 6 and Group 2 is 0.205, while between Group 6 and Group 1 it is 0.363. Notice that persons with occupations from group 6 are either very likely to have good knowledge of foreign languages and some experience in international environment (Marketing specialists; Secretaries; Translators), or do not need much retraining in order to work in the same occupation abroad (Architects and construction engineers; Hairdressers and other personal service workers; Coaches; Construction workers). IT and computing professionals do not need retraining as well, but they have a strong position in labour market at home, and also can easily work for a foreign employer without leaving home country.

Unemployed jobseekers and non-working students are more inclined to look for a job abroad than employed individuals; the difference in predicted probabilities is rather big (0.278), although marginally insignificant, perhaps due to small number of respondents belonging to this group.

Finally, married respondents have shown significantly lower willingness to “move west” than single or divorced individuals; the marginal effect is -0.081 under assumption (A2) but just -0.033 under assumption (A1).

3.5. Who is not likely to come back?

In this section we focus on the respondents who have expressed willingness to look for a job abroad. A logit model is used once again, this time to explore the determinants of propensity to emigrate permanently (as opposed to a firm intention to return to Latvia). Dependent variable Y takes the value of 1 if the respondent would like “to move permanently to one of the EU countries” or “to go for some time and also consider possibility to stay permanently”; $Y = 0$ for those, who would like to go “only for limited time period and then return to Latvia.” The sample consists of 2098 respondents.

It turns out that potential migrants (recall that we are dealing only with Internet users) are quite heterogeneous with respect to staying prospects. To check the robustness of the results, four estimated models are presented in Table A3.2. Specification (1) includes all potential movers and only basic exogenous explanatory variables: age, gender, education, residence, employment status, marital status, and the language of the website. Specification (2) controls also for occupations. Specification (3) adds some explanatory variables endogenous with respect to migration decision: destination country and willingness to accept a job not matching one’s qualification. Finally, specification (4) is identical to (3) but excludes respondents currently working abroad. It appears that coefficients and their significance almost do not change across specifications, so we discuss the richest specification (3) below; details, including marginal effects, are reported in Table A3.3.

On average, 48% of potential movers are inclined not to return. Among the factors affecting individual’s propensity to emigrate permanently rather than temporarily, the most significant and largest in size effect is the one of the language of the website: other things equal, for users of the Russian website estimated probability to stay in the host country forever is by 0.32 larger than for users of the same website in Latvian (see Figure 3.2 (a)).

Age effect is also significant at 1% level and strong: keeping other characteristics at their mean values, predicted probability of permanent migration is 0.40 for a 24 years old employee and just 0.27 for a 54 years old one. Compared to otherwise similar employees, self-employed and unemployed Internet users are significantly more likely to consider permanent emigration: estimated differences in probabilities are, respectively, 0.12 and 0.16. Figure 3.2 (b) illustrates marginal effects of age and employment status.

There is virtually no difference between men and women in terms of intention to return. Other things equal, residents of countryside and cities other than Riga are significantly less

likely to emigrate permanently than residents of Riga; difference in probabilities are 0.14 and 0.07 respectively.

Internet users currently working abroad constitute 8% of respondents; they are, on average, by 0.16 more likely to consider permanent emigration than otherwise similar respondents working in Latvia (effect is significant at 1% level). This suggests that, by and large, they are satisfied with their experience.

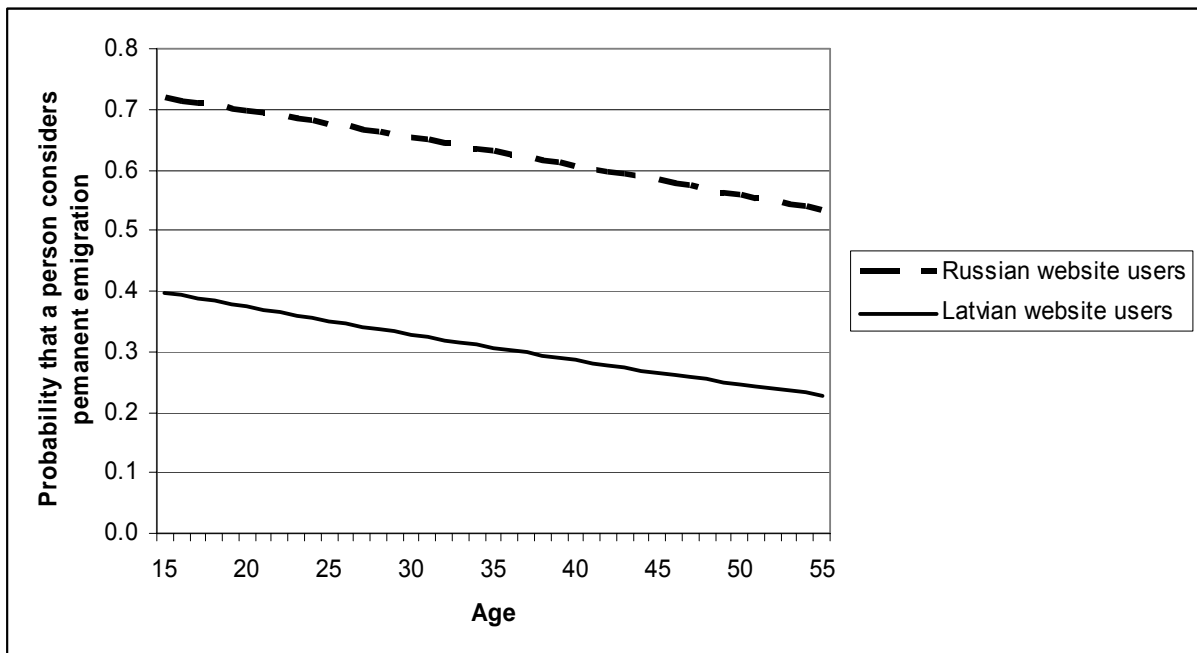
Respondents with general secondary education are significantly less likely to stay in the West forever compared to otherwise similar persons with higher or postsecondary vocational education,; marginal effect is -0.10; effect of vocational secondary or vocational basic education has same direction but is smaller and not significant (see Figure 3.3)¹⁷.

Interestingly, occupations which are, according to results of the previous section, most likely to “move west” in general, are not necessarily inclined to stay there forever. To give an example, architects and construction engineers are among the most willing to move and the least willing to emigrate permanently. Consequently, aggregation of occupations in groups in Tables A3.2-A3.3 differs from aggregation in Table A3.1. The results show very little difference in willingness to stay in the west forever between representatives of a broad range of occupations: managers, marketing specialists, secretaries, economists, accountants, finance specialists, IT professionals and associated professionals, engineers (except communications and construction), security, agricultural specialists, elementary occupations, construction workers, artists, scientists, and others. Personal service workers, architects, teachers, civil servants, sales persons and skilled manual workers are less likely to emigrate permanently, but only for the first two groups the difference is significant. Finally, communication engineers, lawyers, medical doctors, and translators have shown highest propensity to move permanently to one of the EU countries.

¹⁷ The largest probability of permanent emigration is associated with general basic education (notice, however, that this conclusion is based on just 14 respondents; corresponding curve is not shown in Figure 3.3).

Figure 3.2 Predicted probabilities that an Internet user who plans to work in one of the EU countries, considers permanent migration

(a) By age and language of the website, keeping other characteristics at their means



(b) By age and current employment status, keeping other characteristics at their means

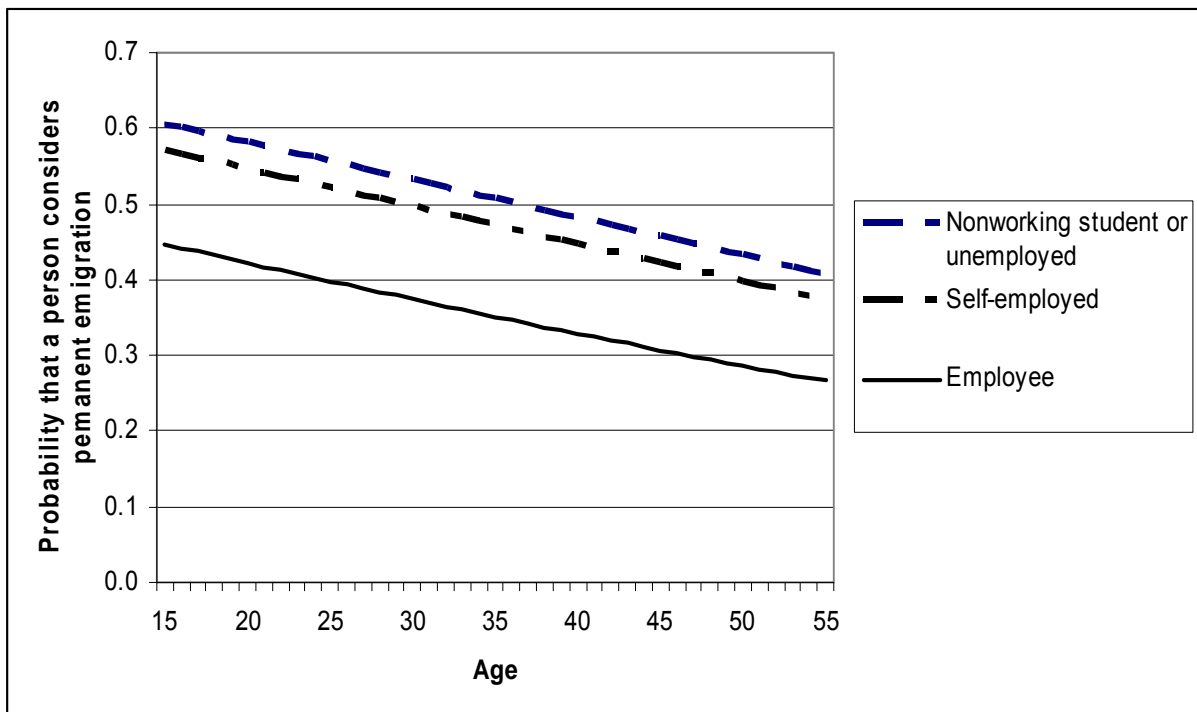
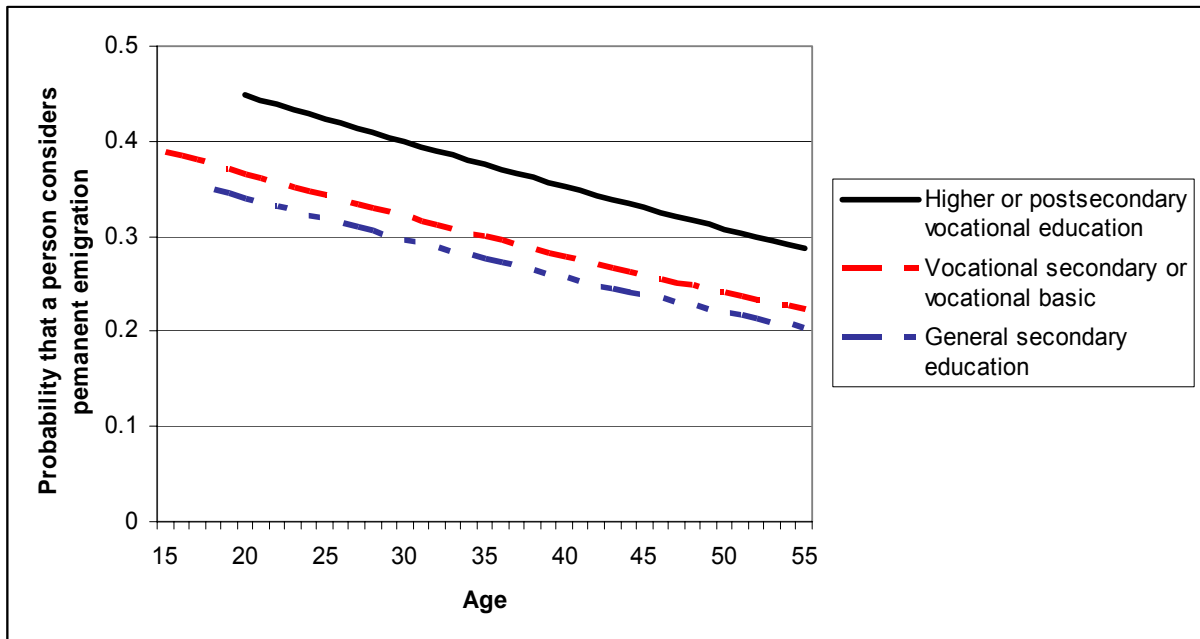


Figure 3.3 Predicted probabilities that an Internet user who plans to work in one of the EU countries, considers permanent migration, by age and education, keeping other characteristics at their means



Respondents, who are ready to accept a job which does not match their education or qualification, are significantly more likely to emigrate permanently than otherwise similar persons not willing to take up less qualified job or to change occupation.

Other things equal, Internet users, who prefer to look for a job in Sweden, Denmark, UK, and especially Ireland, are less likely to stay there permanently, than those going to other EU countries.

Respondent's current wage turned out to be not significant for the intention to emigrate permanently rather than temporarily and was not included in the final model.

3.6 Conclusions.

The results of the on-line survey show that from 39 to 88 percent of Internet users in Latvia consider possibility to work in one of the EU countries when these countries open their labour markets. Depending on underlying assumptions, estimated number of potential movers is between 80 and 340 thousand; only a half of them have a firm intention to return to Latvia. Other things equal, the following factors make returning of potential emigrants significantly less likely: higher education, young age, residence in Riga, and preference towards using Russian (rather than Latvian) language on the Internet.

Vast majority of potential movers are prepared to go only if the job is secured, although about 50 percent are ready to accept a job which does not match their qualification; about 70 percent prefer a direct contract with EU employer to other arrangements.

As any forecasts which rely on what people say they are going to do, this must be taken with caution; it is safe to assume, however, that emigration flow can be substantial.

The pool of Internet users is relatively homogeneous with respect to propensity to “move west” if no distinction is made between temporary or permanent migration. Age, gender, place of residence (rural vs. urban), and language of the website used (Latvian vs. Russian) have not shown a significant impact; neither is there a significant difference between respondents with higher, postsecondary vocational (college) and general secondary education (these three groups account for 96 percent of the sample). What matters is occupation and current income level. Other things equal, representatives of the following occupations among Internet users are most inclined to “move west” temporarily or permanently: marketing specialists; secretaries; translators; architects and construction engineers; personal service specialists; construction workers. They are followed by IT engineers, computing professionals and associated professionals. Communication engineers, lawyers, doctors, and translators have shown highest propensity to emigrate permanently among those who plan to move.

Respondents with net monthly earnings below 100 LVL and (to a smaller extent) between 200 and 300 LVL are significantly more likely to “move west” than Internet users whose earnings exceed 300 LVL; this is true both on average and when other factors are controlled for. However, wage level is not a significant determinant of propensity to emigrate permanently among those who plan to move. Unemployed jobseekers and non-working students are more likely to move and less inclined to return than employed Internet users.

4. Summary

This paper uses empirical evidence from several sources to shed light on patterns of mobility of Latvian labour force during the transition period as well as in the years to come. Updated inter-regional migration rates show that Latvian population is relatively mobile compared to some other European nations, including Czech Republic, Slovakia, Slovenia, and Poland (in the latter case comparison is less conclusive though). One can therefore expect that rate of labour emigration from Latvia to the old EU members after the

liberalisation of the labour markets will be higher than average East-West migration rate¹⁸. Network effect is another factor which can facilitate emigration from Latvia, given sizeable Diasporas, both ethnic Latvian and Russian-speaking of Latvian origin, in Sweden, Germany, and UK.

Analysis of inter-regional migration flows in 1993-2001, as well as individual migration decisions made in 1989-1999 and migration plans for 1999-2002 confirms significance of economic incentives for geographical mobility of Latvian population and reveals behaviour consistent with the human capital model: young and more educated individuals were more likely to move. On-line survey conducted in 2003 shows that a very high proportion of Internet users in Latvia (from 39 to 88 percent under different assumptions about representativity of the survey) consider possibility to work in one of the EU countries when these countries open their labour markets; only half of the potential emigrants are going to return to Latvia. This is consistent with the results of New Baltic Barometer IV (2000) for the whole population¹⁹ (see Table 3.3 and Rose (2000)). According to our most conservative estimate, number of potential movers among Internet users is about 80 thousand, or more than 7 percent of total labour force.

One have to bear in mind, however, that actual migration flows can differ from the estimates based on revealed intention to migrate – both because real behavior might be different from the intentions, and because labour market conditions in Latvia might improve due to economic convergence with the ‘old’ EU members.

Internet users’ willingness to move west is not significantly correlated with preferred language, education, or gender. Determinants of the intention to emigrate permanently are different from the factors affecting general propensity to “go west.” Other things equal, potential emigrants are significantly less likely to return if they prefer Russian (rather than Latvian) language website, have higher education, are young, and live in the capital. We also identify occupations which are likely to experience the largest labour outflows in the short run and in the long run.

Overall conclusion is that Latvia is likely to experience a very significant outflow of skilled labour force when current EU member states open their labour markets, unless the convergence in income levels will occur much faster than expected. Although the “best”

¹⁸ On the other hand, cost of moving from Latvia might be somewhat higher than, say, from Poland to Germany or from Estonia to Finland due to larger physical distance and cultural differences.

¹⁹ Drinkwater (2002), by contrast, finds that proportion of Latvian population willing to move west is very low and that Latvian residents are less likely to move than their otherwise similar counterparts from other countries. These results are based on data collected in 1995 and seems therefore not relevant for projections.

(very well paid) workers are less likely to emigrate, the youngest and most educated of the emigrants are least likely to return, so emigration still might be of the “brain drain” type, at least in the medium and long run.

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Appendix 1. Determinants of inter-regional migration in Latvia, 1992-2001.

**Table A1.1 Disparities in gross average wages in Latvia, 1992-2000
(7 main cities and 26 districts, per cent of national average)**

Year	Standard deviation/average				
	weighted	non-weighted	Poorest district	Ventspils	Riga
1992	21.9	22.3	60.4	182.7	118.5
1993	33.7	29.5	57.4	254.8	117.4
1994	25.6	23.5	59.5	208.7	114.8
1995	22.0	20.0	61.3	185.5	113.3
1996	22.3	21.1	61.6	189.8	114.1
1997	21.2	21.0	61.9	179.7	114.7
1998	18.6	20.3	60.0	162.0	115.5
1999	16.8	20.2	59.9	153.3	116.0
2000	16.4	20.1	61.3	148.3	115.8

**Table A1.2 Disparities in registered unemployment rates in Latvia,
1992-2002 (7 main cities and 26 districts)**

Year	Standard deviation				Unemployment rates by main cities and districts	
	(per cent of national average unemployment rate)		percentage points		min	max
	weighted	non-weighted	weighted	non-weighted		
1992	44.6	57.4	0.9	1.2	0.7	6.5
1993	63.4	72.2	3.7	4.2	3.0	18.8
1994	89.9	101.7	5.8	6.6	2.1	25.3
1995	81.8	100.2	5.3	6.5	2.0	26.0
1996	75.0	90.2	5.3	6.4	2.9	27.8
1997	74.6	86.8	5.1	6.0	3.0	27.9
1998	56.2	60.8	5.2	5.6	4.8	28.2
1999	55.5	60.0	5.1	5.5	4.8	27.2
2000	62.4	68.8	4.9	5.4	3.7	25.6
2001	63.0	69.4	4.8	5.3	3.6	26.5
2002	61.8	67.8	4.7	5.1	3.7	26.2

Notes: Average wages by districts in 2001-2002 are available only for public sector.

Source: Central Statistical Bureau of Latvia and own calculation.

Table A1.3. Internal migrants by purpose of migration. Latvia, 1989-1999
Percent

Purpose	Location of new residence				
	Whole country	Riga	Big city	Small city	Rural
Purchase or change of apartment	15.4	2.5	30.0	17.1	16.0
Change or find job	22.1	30.0	10.0	23.2	20.8
Studies	6.4	15.0	20.0	6.1	1.6
Family reasons	47.9	42.5	35.0	47.6	52
Other	8.2	10.0	5.0	6.1	9.6
Total	100	100	100	100	100

Source: NORBALT II Living Conditions Survey microdata provided by Central Statistical Bureau of Latvia and own calculations.

Table A1.4. Migrants by purpose of migration. Latvia, 2001. Percent

Purpose of migration	Location of new residence				
	Whole country ^a	Whole country ^b	Cities and towns ^b	Rural area ^b	Riga ^b
Children moving to live with parents	31.4	31.1	28.7	35.3	21.2
Restitution of house ownership or acquisition of own house or flat	15.2	14.8	15.6	13.5	17.7
Studies	11.1	10.9	14.8	4.0	25.9
Intention to live together with spouse	7.2	7.9	7.6	8.5	6.3
Sub-tenants	7.7	7.8	8.3	6.7	11.9
Parents moving to live with children	3.6	3.8	4.1	3.4	4.9
Change of job	3.3	3.4	3.2	3.6	2.0
Acquisition of municipal flat	2.1	2.0	2.3	1.5	2.1
Exchange of dwellings	1.5	1.5	1.2	1.9	0.9
Graduates taking up jobs	0.04	0.04	0.02	0.07	0.0
Other	16.9	16.8	14.1	21.6	7.0
Total	100.0	100.0	100.0	100.0	100.0

Notes: ^a Internal migration. ^b Total immigration, including immigration from abroad.

Source: Demographic Yearbook of Latvia, 2002, and own calculation.

Table A1.5 Determinants of inter-regional migration in Latvia, 1993-2001

Linear regressions with panel-corrected standard errors

	outflows				inflows				net inflows			
	coef.	z	coef.	z	coef.	z	coef.	z	coef.	z	coef.	z
unempl. rate ^a	0.111	2.71***	0.200	3.9***	0.098	1.59	0.265	3.61***	-0.014	-0.33	0.076	1.54
wage (log) ^b	-3.122	-2.87***	-3.953	-2.24**	3.102	2.07**	6.907	2.66***	5.912	4.72***	11.425	5.16***
density (log)	-1.605	-25.2***	-1.622	-20.0***	-2.190	-24.17***	-2.097	-17.70***	-0.597	-9.80***	-0.478	-5.75***
mortality ^c	0.313	2.98***	0.276	1.69*	0.325	2.15**	-0.311	-1.07	0.067	0.61	-0.608	-2.60**
marriage rate ^c					4.165	7.53***	5.586	6.35***	2.785	6.77***	4.175	6.44***
divorce rate ^c	1.563	4.28***	1.057	1.60								
year93	3.180	5.37***			1.671	1.89*			-1.509	-2.46***		
year94	4.010	6.73***			2.546	2.86***			-1.466	-2.37***		
year95	3.675	6.14***			2.514	2.81***			-1.163	-1.88***		
year96	3.759	6.25***			2.686	2.99***			-1.071	-1.72***		
year97	3.768	6.25***	3.767	6.76***	2.737	3.04***	2.738	3.08***	-1.028	-1.65***	-1.026	-1.59
year98	3.685	6.09***	3.684	6.59***	2.665	2.95***	2.666	2.99***	-1.019	-1.63***	-1.017	-1.57
year99	2.944	4.85***	2.944	5.25***	2.048	2.26**	2.049	2.29***	-0.899	-1.43***	-0.897	-1.38
_cons	21.897	39.98***	21.987	36.35***	24.940	30.68***	24.441	27.01***	3.108	5.56***	2.472	3.95***
Periods	1993-99,2001		1997-99,2001		1993-99,2001		1997-99,2001		1993-99,2001		1997-99,2001	
R-squared	0.573		0.614		0.532		0.523		0.253		0.323	
k	13		9		13		9		13		9	
Wald chi2(k-1)	1302.7	(0.0000)	821.1	(0.0000)	998.5	(0.0000)	510.4	(0.0000)	240.3	0.0000	167.5	(0.0000)
Number obs.	264		132		264		132		264		132	

Notes: Dependent variables: outflow, inflow and net inflow (inflow less outflow) per 1000 population. Number of regions: 33.

^a unexplained by density. ^b unexplained by density and unemployment. ^c unexplained by density, wage and unemployment

All regressors except year dummies are lagged one year and considered as predetermined variables. We use registered unemployment and gross monthly wages. Heteroskedasticity across panels is allowed. Observations weighted by population.

*, **, *** - significant at 10%, 5%, 1% level respectively.

Appendix 2. Results of the on-line survey²⁰ “Are you prepared to work abroad?”

Table A2. 1 Readiness to move by language^a

Language	Readiness to move						Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	
Latvian	183 9%	557 28%	989 50%	126	67	39	1961 100%
Russian	80 19%	194 46%	95 22%	32	13	12	426 100%
Total	263 11%	751 31%	1084 45%	158	80	51	2387 100%

^a Language of the website used.

Table A2. 2 Country for moving to/staying in.

Country	Readiness to move						Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	
Not moving				158	80	51	289 12%
Sweden	36 ↓ 14% → 13%	93 ↓ 12% → 35%	139 ↓ 13% → 52%				268 11% 100%
Denmark	13 ↓ 5% → 11%	37 ↓ 5% → 32%	66 ↓ 6% → 57%				116 5% 100%
Netherlands	33 ↓ 13% → 17%	66 ↓ 9% → 34%	94 ↓ 9% → 49%				193 8% 100%
UK	76 ↓ 29% → 12%	215 ↓ 29% → 34%	334 ↓ 31% → 54%				625 26% 100%
Ireland	14 ↓ 5% → 9%	47 ↓ 6% → 29%	100 ↓ 9% → 62%				161 7% 100%
Other EU country	91 ↓ 35% → 12%	293 ↓ 39% → 40%	351 ↓ 32% → 48%				735 31% 100%
Total	263	751	1084	158	80	51	2387

²⁰ The questionnaire was available in Latvian and Russian in February – March 2003 on Latvia’s most popular Internet portal DELFI (388 thousand users per month). Results reported in Tables A2.1-A2.9 apply to all Internet users (or at least DELFI users) under the assumption that potential movers and stayers were equally likely to answer the questionnaire. Under the alternative assumption that among potential movers response rate was 10 times higher, frequencies of the first 3 (positive) answers of to the question about readiness to move decrease roughly 2.2 times, while frequencies of the last three (negative) answers becomes about 5 times higher (see Table 3.2 in the text). Tables A2.10-A2.13 do not need to be corrected.

Table A2. 3 Readiness to move by gender

	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	Total
Male	140 12%	342 30%	488 43%	86 8%	49 4%	20 2%	1125 100%
Female	123 10%	409 32%	596 47%	72 6%	31 2.5%	31 2.5%	1262 100%
Total	263 11%	751 31%	1084 45%	158 7%	80 3%	51 2%	2387 100%

Table A2. 4. Readiness to move by education

Education	Wish to move						Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	
Basic or less	3 19%	8 50%	3 19%	0 0%	2 13%	0 0%	16 100%
Vocational after basic	1 7%	5 33%	9 60%	0 0%	0 0%	0 0%	15 100%
Vocational secondary	11 18%	11 18%	34 57%	1 2%	2 3%	1 2%	60 100%
General secondary	33 10%	94 27%	178 52%	21 6%	10 3%	7 2%	343 100%
Postsecondary vocational	34 10%	121 34%	158 45%	17 5%	9 3%	13 4%	352 100%
Total secondary or basic education	82 10%	239 30%	382 49%	39 5%	23 3%	21 3%	786 100%
Higher education diploma	71 13%	157 28%	250 45%	43 8%	21 4%	9 2%	551 100%
Bachelor	76 11%	229 34%	292 43%	50 7%	19 3%	11 2%	677 100%
Master	39 11%	123 33%	169 45%	20 5%	13 4%	9 2%	373 100%
Doctor	9 24%	10 26%	15 39%	1 3%	3 8%	0 0%	38 100%
Total higher education^a	181 11%	512 32%	702 44%	119 7%	57 4%	30 2%	1601 100%
Total	263 11%	751 31%	1084 45%	158 7%	80 3%	51 2%	2387 100%

Notes ^a Including 39 individuals with higher education who have not specified their degree.

Table A2. 5. Readiness to move by age

Age	Readiness to move						Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	
15-19	6 11%	20 36%	28 51%	1 2%	0 0%	0 0%	55 100%
20-24	82 11%	262 35%	336 44%	44 6%	21 3%	14 2%	759 100%
25-34	115 11%	345 33%	450 43%	74 7%	35 3%	23 2%	1042 100%
35-44	40 11%	92 25%	182 49%	30 8%	16 4%	9 2%	369 100%
45-54	18 13%	28 20%	77 55%	8 6%	6 4%	4 3%	141 100%
55-70	2 10%	4 19%	11 52%	1 5%	2 10%	1 5%	21 100%
Total	263 11%	751 31%	1084 45%	158 7%	80 3%	51 2%	2387 100%

Table A2. 6 Readiness to move by current place of residence

Place of residence	Readiness to move						Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	
Riga	186 11%	580 34%	727 43%	117 7%	60 4%	35 2%	1705 100%
Other city	67 11%	159 26%	310 51%	40 7%	16 3%	14 2%	606 100%
Countryside	10 13%	12 16%	47 62%	1 1%	4 5%	2 3%	76 100%
Total	263 11%	751 31%	1084 45%	158 7%	80 3%	51 2%	2387 100%

Table A2.7. Readiness to move by current employment status

	Readiness to move						Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	
Working student (Employee or selfemployed)	94	304	447	52	27	22	946
	10%	32%	47%	6%	3%	2%	100%
Employee (not student)	133	391	569	94	45	26	1258
	11%	31%	45%	7%	4%	2%	100%
Selfemployed (not student)	23	33	39	10	8	2	115
	20%	29%	34%	9%	7%	2%	100%
Unemployed (actively searching)	6	11	10	0	0	1	28
	21%	39%	36%	0%	0%	4%	100%
Nonworking student (not searching a job)	4	9	12	1	0	0	26
	15%	35%	46%	4%	0%	0%	100%
Other non-employed	3	3	7	1	0	0	14
	21%	21%	50%	7%	0%	0%	100%
Total	263	751	1084	158	80	51	2387
	11%	32%	45%	7%	3%	2%	100%

Table A2.8 Readiness to move by current net monthly wage

Wage	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	Total
< 100 LVL	32	58	88	6	0	6	190
	17%	31%	46%	3%	0%	3%	100%
100 to 200 LVL	75	211	356	39	25	25	731
	10%	29%	49%	5%	3%	3%	100%
200 to 300 LVL	59	192	279	42	14	9	595
	10%	32%	47%	7%	2%	2%	100%
> 300 LVL	97	290	361	71	41	11	871
	11%	33%	41%	8%	5%	1%	100%
Total	263	751	1084	158	80	51	2387
	11%	31%	45%	7%	3%	2%	100%

Table A2. 9. Readiness to move by current occupation

Occupation	Wish to move and stay	Wish to move and consider staying	Wish to move for a limited period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	Total
Manager	40 10%	124 31%	178 45%	28 7%	20 5%	8 2%	398 100%
Civil servant	16 7%	60 26%	118 52%	19 8%	7 3%	7 3%	227 100%
Secretary, office manager, administrator	23 11%	72 34%	104 49%	8 4%	3 1%	4 2%	214 100%
Finance professional, economist, accountant	27 11%	80 34%	100 42%	20 8%	4 2%	5 2%	236 100%
Marketing or advertising specialist	6 7%	33 37%	42 47%	6 7%	1 1%	1 1%	89 100%
Lawyer	13 15%	27 31%	34 40%	2 2%	8 9%	2 2%	86 100%
IT engineer, programmer	29 13%	83 37%	88 39%	20 9%	5 2%	2 1%	227 100%
Communication engineer	9 14%	25 40%	19 30%	7 11%	3 5%	0%	63 100%
Architect, construction engineer	7 13%	10 19%	33 61%	1 2%	1 2%	2 4%	54 100%
Other engineer	8 12%	22 32%	27 40%	3 4%	5 7%	3 4%	68 100%
Trade worker	6 8%	20 25%	45 56%	3 4%	2 3%	4 5%	80 100%
Health professional	3 10%	12 39%	12 39%	4 13%	0%	0%	31 100%
Scientist	8 21%	11 29%	16 42%	1 3%	2 5%	0%	38 100%
Teacher, professor	5 8%	11 18%	38 61%	2 3%	5 8%	1 2%	62 100%
Coach	0%	1 50%	1 50%	0%	0%	0%	2 100%
Interpreter	7 15%	20 43%	17 36%	2 4%	0%	1 2%	47 100%
Artist, journalist, musician	5 11%	18 39%	17 37%	5 11%	1 2%	0%	46 100%
Hairdresser, make-up specialist, and alike	0%	1 13%	7 88%	0%	0%	0%	8 100%
Police, security, military	7 16%	10 23%	20 45%	4 9%	1 2%	2 5%	44 100%
Agricultural specialist	3 30%	1 10%	4 40%	0%	0%	2 20%	10 100%
Construction worker	1 10%	5 50%	4 40%	0%	0%	0%	10 100%
Skilled manual	2 6%	9 29%	15 48%	3 10%	2 6%	0%	31 100%
Unskilled manual	7 18%	13 34%	15 39%	2 5%	0%	1 3%	38 100%
Other occupation	31 11%	83 30%	130 47%	18 6%	10 4%	6 2%	278 100%
Total	11%	31%	45%	7%	3%	2%	100%

Table A2. 10. Required job characteristics by readiness to move

Required job characteristics	Readiness to move			Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	
Accepts same qualification only	120 46%	355 47%	528 49%	1003 48%
Accepts lower qualification	40 15%	93 12%	142 13%	275 13%
Accepts another profession	103 39%	303 40%	414 38%	820 39%
Total	263 100%	751 100%	1084 100%	2098 100%

Table A2.11. Potential migrants by required differential between net monthly wage after migration and current wage (per cent distribution within current wage groups)

Required wage differential	Current net monthly wage or benefit				Total
	< 100 LVL ^a	100-200 LVL	200-300 LVL	> 300 LVL	
Less than 300 LVL ^b	25%	13%	8%	9%	11%
300 - 600 LVL	37%	35%	31%	14%	27%
600 – 800 LVL	17%	25%	24%	20%	22%
At least 800 LVL	21%	27%	38%	57%	40%
Total number of respondents	178 100%	642 100%	530 100%	748 100%	2098 100%

Notes: ^a Including respondents with no labour income

^b Including respondents who have chosen the answer "Wage difference does not matter"

Table A2.12. Required prearrangements in the host country by readiness to move

Required prearrangements in the host country	Readiness to move						Total
	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	More likely no wish to move	Definitely no wish to move	Have not thought about moving	
N/A				158	80	51	289 12%
No requirements	48 18%	43 6%	11 1%				102 4%
Housing only	31 12%	64 9%	39 4%				134 6%
Job only	104 40%	369 49%	437 40%				910 38%
Both job and housing	80 30%	275 37%	597 55%				952 40%
Total	263 100%	751 100%	1084 100%	158	80	51	2387 100%

Table A2.13. Required prerequisites to migrate by readiness to move

Required prerequisites	Wish to move and stay	Wish to move and consider staying	Wish to move for limited time period	Total
Contract with EU employer or EU recruitment agency	39 15%	96 12%	94 9%	229 11%
Only contract with EU employer	183 70%	531 71%	726 67%	1440 69%
Contract with EU employer, Latvian or EU recruitment agency	41 15%	124 17%	264 24%	429 20%
Total	263 100%	751 100%	1084 100%	2098 100%

Appendix 3. Econometric analysis of the results of the on-line survey “Are you prepared to work abroad?”

Table A3.1. Determinants of propensity to move west among Internet users^a

Explanatory variables	Coef.	t-value	Marginal effects^b	
			c	d
Age (coef. and marginal effects × 10)	-0.007	-0.80	-0.007	-0.017
Male	0.143	1.03	0.014	0.035
Marital status (vs. single or divorced)				
Married	-0.310	-2.13**	-0.033	-0.081
Widow	-0.957	-1.90*	-0.124	-0.223
Permanent residence in the countryside (vs. cities)	0.502	1.19	0.041	0.125
Education (vs. higher education)				
Postsecondary vocational	0.061	0.31	0.006	0.015
General secondary	-0.155	-0.77	-0.017	-0.037
Vocational secondary or vocational basic	0.831	1.58	0.064	0.204
Basic	-0.492	-0.62	-0.062	-0.114
Employment status (vs. employed)				
Nonemployed (jobseeker or student)	1.181	1.60	0.074	0.278
Other nonemployed	0.302	0.29	0.027	0.075
Net monthly earnings (vs. > 300 LVL)				
Less than 100 LVL	0.880	2.63***	0.075	0.216
100 LVL to 200 LVL	0.283	1.60	0.030	0.069
201 LVL to 300 LVL	0.401	2.31**	0.041	0.098
Current occupation^e				
Agricultural specialists	-0.949	-1.11	-0.145	-0.198
Skilled manual workers; Police and security; Engineers (except IT, communications, and construction); Teachers; Civil servants	-0.167	-0.82	-0.020	-0.040
Managers; Sales persons; Communications engineers; Economists, accountants, finance specialists; Scientists	0.133	0.74	0.014	0.033
IT engineers, computing professionals and associated professionals	0.359	1.37	0.034	0.089
Marketing specialists; secretaries, translators; architects; construction engineers; personal service specialists; coaches; construction workers	0.665	2.79***	0.057	0.165
Working abroad (vs. working in Latvia)	1.293	3.42***	0.083	0.304
Survey conducted in Russian (vs. Latvian)	-0.119	-0.72	-0.012	-0.029

Notes: ^a Dependent variable Y is based on the question “When it becomes possible for Latvian residents to work in the EU member countries without receiving a special working permit, would you be willing to move to one of these countries and work there?”: Y = 1 if respondent has chosen one of the following answers: (1) Yes, I would like to move permanently to one of the EU countries; (2) Yes, I would like to go for some time and also consider possibility to stay permanently; (3) Yes, but only for limited time period and then return to Latvia; Y = 0 if one of the answers [(4) Rather no; (5) Definitely no; (6) I have not thought about it] has been chosen. Number of observations is 2387. Log L = -846.62. ^b Change in predicted probability of Y = 1 due to unit change in the given variable, while other variables are kept at their mean values.

^c Assuming equal response rate among potential movers (Y=1) and stayers (Y=0). Average predicted probability (mean Y) is 0.879. Constant in the model is 1.793. ^d Assuming 10 times higher response rate among potential movers (Y=1) than among stayers (Y=0). Average predicted probability is 0.421. Constant in the model is -0.501. ^e Reference group includes: elementary occupations; lawyers, artists, health professionals (incl. nurses) and other not listed occupations.

Table A3.2. Permanent vs. temporary planned emigration among Internet users: estimated coefficients of alternative logit models ^a

Explanatory variables	(1)	(2)	(3)	(4) ^b
Age	-0.020***	-0.019***	-0.020***	-0.020***
Male	-0.051	-0.056	-0.086	-0.189
Marital status (vs. single or divorced)				
Married	-0.145	-0.173	-0.175	-0.168
Widow	0.630	0.770	0.615	0.471
Permanent residence (vs. Riga)				
Other city	-0.244**	-0.217**	-0.276**	-0.289**
Countryside	-0.550**	-0.545*	-0.622**	-0.720**
Education (vs. tertiary ^c)				
General secondary	-0.379***	-0.413***	-0.458***	-0.501***
Vocational (secondary or basic)	-0.481*	-0.325	-0.345	-0.402
Basic	1.324*	1.324*	1.282*	1.268*
Employment status (vs. employee)				
Self-employed	0.465**	0.463**	0.498**	0.315
Nonemployed (jobseeker or student)	0.492	0.554*	0.638**	0.800**
Other nonemployed	-0.391	-0.450	-0.518	-0.466
Current occupation (vs. managers and marketing specialists)				
Personal service workers		-2.067*	-2.357*	Y=0
Architects, construction engineers		-0.693**	-0.678**	-0.751**
Teachers		-0.497	-0.430	-0.545
Sales persons; skilled manual workers; civil servants		-0.218	-0.249	-0.187
Other occupations (not listed)		-0.050	-0.023	0.012
Secretaries; economists, accountants, finance specialists; engineers (except IT, communications, and construction); security; agricultural specialists; elementary occupations; scientists		0.143	0.141	0.147
IT professionals and associated professionals		0.063	0.197	0.195
Artists and alike; construction workers		0.280	0.274	0.436
Communications engineers; lawyers		0.401*	0.424**	0.391*
Health professionals and nurses		0.543	0.630	0.642
Translators		0.576*	0.627*	0.767**
Working abroad (vs. working in Latvia)	0.553***	0.561***	0.638***	
Russian language website (vs. Latvian)	1.332***	1.301***	1.347***	1.365***
Expected occupation abroad (vs. current occupation/qualification)				
Accepts lower qualification			0.334**	0.272*
Accepts another profession			0.353***	0.345***
Preferred country (vs. other EU members)				
Sweden			-0.275*	-0.315**
Denmark			-0.448**	-0.417*
Netherlands			-0.217	-0.339*
UK			-0.376***	-0.399***
Ireland			-0.763***	-0.712***
Number obs.	2098	2098	2098	1921
Log L	-1361.6	-1347.3	-1331.3	-1219.3
Pseudo R-squared	0.0630	0.0728	0.0838	0.0826

Notes: ^a Dependent variable Y is based on the question “When it becomes possible for Latvian residents to work in the EU member countries without receiving a special working permit, would you be willing to move to one of these countries and work there?”: Y = 1 if the respondent would like to “move permanently” or “go for some time and also consider possibility to stay permanently” in one of the EU countries; Y=0 if the answer “Yes, but only for limited time period” was chosen; respondents who answered negatively not included. Coefficients significantly different from zero at 10%, 5%, 1% level are marked with *, **, *** respectively. Constant is not reported.

^b Respondents working abroad excluded.

^c Higher and postsecondary vocational education were undistinguishable in this model.

Table A3.3. Permanent vs. temporary planned emigration among Internet users: the baseline logit model^a

Explanatory variables	Mean	Coef.	t-value	dP/dx ^b
Age	29.10	-0.020***	-2.93	-0.005
Male	0.538	-0.086	-0.87	-0.020
Marital status (vs. single or divorced)				
Married	0.330	-0.175	-1.56	-0.041
Widow	0.009	0.615	1.15	0.152
Permanent residence (vs. Riga)				
Other city	0.255	-0.276**	-2.45	-0.065
Countryside	0.033	-0.622**	-2.19	-0.138
Education (vs. tertiary^c)				
General secondary	0.145	-0.458***	-3.27	-0.104
Vocational (secondary or basic)	0.034	-0.345	-1.25	-0.079
Basic	0.007	1.282*	1.84	0.306
Employment status (vs. employee)				
Self-employed	0.045	0.498**	2.09	0.122
Non-employed (jobseeker or student)	0.025	0.638**	2.02	0.157
Other non-employed	0.006	-0.518	-0.85	-0.112
Current occupation (vs. managers and marketing specialists)				
Personal service workers	0.004	-2.357*	-1.93	-0.324
Architects, construction engineers	0.024	-0.678**	-2.06	-0.142
Teachers	0.026	-0.430	-1.29	-0.095
Sales persons; skilled manual workers; civil servants	0.139	-0.249	-1.52	-0.057
Other occupations (not listed)	0.117	-0.023	-0.14	-0.005
Secretaries; economists, accountants, finance specialists; engineers (except IT, communications, and construction); security; agricultural specialists; elementary occupations; scientists	0.276	0.141	1.02	0.034
IT professionals and associated professionals	0.095	0.197	1.04	0.047
Artists and alike; construction workers	0.024	0.274	0.84	0.066
Communications engineers; lawyers	0.061	0.424**	1.97	0.104
Health professionals and nurses	0.013	0.630	1.50	0.155
Translators	0.021	0.627*	1.82	0.154
Working abroad (vs. working in Latvia)	0.082	0.638***	3.60	0.157
Russian language website (vs. Latvian)	0.176	1.347***	9.78	0.325
Expected occupation abroad (vs. current occupation/qualification)				
Accepts lower qualification	0.131	0.334**	2.23	0.079
Accepts another profession	0.391	0.353***	3.29	0.083
Preferred country (vs other EU members)				
Sweden	0.128	-0.275*	-1.80	-0.067
Denmark	0.055	-0.448**	-2.10	-0.106
Netherlands	0.092	-0.217	-1.25	-0.053
UK	0.298	-0.376***	-3.21	-0.090
Ireland	0.077	-0.763***	-3.93	-0.173

Notes: ^a Dependent variable Y is based on the question “When it becomes possible for Latvian residents to work in the EU member countries without receiving a special working permit, would you be willing to move to one of these countries and work there?”. Y = 1 if the respondent would like to “move permanently” or “go for some time and also consider possibility to stay permanently” in one of the EU countries; Y=0 if the answer “Yes, but only for limited time period” was chosen; respondents who answered negatively not included. Coefficients significantly different from zero at 10%, 5%, 1% level are marked with *, **, *** respectively. Number of observations is 2098, Log L = -1331.3, estimated constant 0.490**.

^b Marginal effect, i.e. change in predicted probability of Y = 1 due to unit change in the given variable, while other variables are kept at their mean values. Sample average Prob(Y=1) = 0.48; however, for a person with average characteristics Prob(Y=1) = 0.39.

^c Higher and postsecondary vocational education.

Appendix 4. Wages in Latvia and in the European Union

Table A4.1 Average gross ^a monthly wages (LVL ^b) in Sweden and Latvia by occupation and gender, 2002

Code	Occupation	Males		Females	
		Sweden	Latvia	Sweden	Latvia
213	Computing professionals	2458	370	2226	303
214	Architects, engineers	2429	243	2081	215
222	Health professionals (except nursing)	2886	247	2349	190
223	Nursing and midwifery professionals	2045	175	1834	175
231	Higher education teaching professionals	2059	284	1718	236
232	Secondary education teaching professionals	1660	196	1668	217
233	Primary, pre-primary education teaching prof.	1544	171	1588	194
234	Special education teaching professionals	1675	211	1544	234
235	Other teaching professionals	1907	180	1501	186
241	Business professionals	2661	307	2074	208
242	Legal professionals	2878	303	2487	341
243	Archivists, librarians and related professionals	1697	137	1537	137
244	Social science and related professionals	2153	322	1871	211
245	Writers and creative or performing artists	2059	232	1813	220
311	Physical and engineering science technicians	1892	205	1711	181
312	Computer associate professionals	1842	241	1646	161
313	Optical and electronic equipment operators	1762	145	1457	144
314	Ship, aircraft controllers and technicians	3219	349	2574	339
315	Safety and quality inspectors	1863	265	1791	167
322	Modern health associate professionals	1675	136	1653	134
323	Nursing associate professionals	1921	138	1834	131
331	Primary education associate professionals	1566	171	1378	197
332	Pre-primary education associate professionals	1494	142	1457	140
341	Finance and sales associate professionals	2074	263	1631	230
342	Business services agents and trade brokers	1834	178	1530	172
343	Administrative associate professionals	1907	165	1639	194
346	Social work associate professionals	1421	119	1349	123
347	Entertainment and sports associate professionals	1747	135	1595	114
411	Secretaries and keyboard-operating clerks	1436	201	1457	148
412	Numerical clerks	1573	182	1428	137
413	Material-recording and transport clerks	1508	160	1436	131
414	Library, mail and related clerks	1312	103	1305	93
421	Cashiers, tellers and related clerks	1349	154	1298	146
422	Client information clerks	1312	217	1269	155
511	Travel attendants and related workers	1617	140	1689	122
512	Housekeeping and restaurant services workers	1341	112	1204	82
513	Personal care and related workers	1378	86	1312	83
514	Other personal services workers	1457	61	1305	43
522	Shop salesperson and demonstrators	1450	110	1312	73
614	Market-oriented skilled agricult. workers	1506	164	1417	129
724	Electrical equipment mechanics and fitters	1595	193	1494	159
741	Food processing and related trades workers	1499	101	1470	91
742	Wood treaders and related trades workers	1356	99	-	103
743	Textile, garment and related trades workers	1422	124	1256	96
832	Motor vehicle drivers	1312	128	1225	203
833	Agricultural and other mobile-plant operators	1562	154	1627	145
913	Domestic and related helpers, cleaners etc.	1319	73	1233	77
914	Building caretakers, window cleaners	1399	84	1392	80
915	Messengers, luggage deliverers	1478	105	1406	80

Notes: ^a See Table A4.2 for comparison of net wages. ^b We have used recent (June 2003) exchange rate 1 SEK = 0.0725 LVL rather than somewhat lower rate prevailing in 2002.

Sources: Statistics Sweden (SCB) (<http://www.scb.se>) and Central Statistical Bureau of Latvia (2003).

**Table A4.2 Ratio and difference of single men's net monthly earnings.
Sweden vs. Latvia, 2002, private sector.**

Wage in Sweden Wage in Latvia Occupation code ^a	67% of average for given occupation				Average for given occupation			
	Average for given occupation		300 LVL after tax		Average for given occupation		300 LVL after tax	
	Ratio	Diff., LVL	Ratio	Diff., LVL	Ratio	Diff., LVL	Ratio	Diff., LVL
314	5.4	1067	4.4	1010	8.2	1752	6.7	1696
241	5.8	1033	4.2	948	7.7	1435	5.5	1350
222	6.9	1033	4.0	907	10.3	1615	6.0	1489
242	5.7	993	4.0	905	8.4	1573	5.9	1485
214	6.5	944	3.7	815	9.2	1401	5.2	1272
213	4.4	869	3.8	827	6.2	1329	5.3	1287
223	7.6	826	3.2	651	11.0	1247	4.6	1072
323	9.0	797	3.0	597	13.1	1198	4.3	997
245	5.9	793	3.2	657	8.4	1217	4.6	1080
341	5.2	778	3.2	663	7.5	1204	4.6	1089
343	7.5	772	3.0	591	10.9	1170	4.3	988
244	4.4	772	3.3	698	6.4	1212	4.8	1137
235	7.0	762	3.0	591	10.1	1160	4.3	988
231	4.8	757	3.2	657	6.9	1181	4.6	1080
311	6.1	739	2.9	584	8.8	1134	4.3	979
342	6.8	732	2.9	559	9.8	1117	4.1	944
347	8.4	722	2.7	519	12.3	1093	4.0	890
313	7.9	722	2.8	526	11.5	1095	4.0	899
243	8.1	697	2.7	496	11.7	1060	3.9	858
312	5.1	692	2.9	562	7.3	1078	4.2	948
322	8.0	687	2.6	485	11.6	1046	3.8	845
315	4.7	685	2.9	571	6.8	1076	4.2	962
511	7.5	657	2.5	458	11.0	1007	3.7	808
232	5.6	640	2.6	479	8.2	997	3.8	836
234	5.3	636	2.6	485	7.7	996	3.8	845
514	14.5	636	2.3	383	21.4	960	3.4	707
741	9.5	629	2.3	403	13.9	959	3.4	733
833	6.6	622	2.4	432	9.7	963	3.6	773
915	9.0	616	2.3	393	13.3	943	3.4	720
331	6.0	612	2.4	434	8.8	954	3.6	776
724	5.4	611	2.5	448	8.0	957	3.6	795
412	5.7	608	2.5	438	8.3	951	3.6	781
233	5.9	602	2.4	424	8.7	940	3.5	762
522	8.5	600	2.3	380	12.5	922	3.3	702
332	6.9	598	2.3	400	10.1	928	3.4	730
914	10.4	593	2.2	356	15.4	907	3.2	670
413	6.2	593	2.4	407	9.1	925	3.5	739
614	6.0	589	2.4	406	8.8	921	3.5	738
513	10.1	582	2.2	346	14.9	891	3.2	656
346	7.7	580	2.2	366	11.4	897	3.3	684
743	7.4	578	2.2	367	11.0	895	3.3	684
913	11.2	563	2.1	319	16.7	862	3.1	617
742	8.8	563	2.1	336	13.0	869	3.1	641
512	7.7	547	2.1	329	11.4	850	3.1	632
414	8.1	540	2.1	315	12.1	837	3.0	613
411	4.7	531	2.2	373	7.0	851	3.3	693
832	6.6	523	2.1	315	9.8	820	3.0	613
421	5.7	522	2.1	332	8.5	826	3.1	637
422	4.0	462	2.1	315	6.0	760	3.0	613

Notes:^a See Table A4.1. Occupations sorted by column 3. Sources: Calculation based on gross wages from Table A4.1; source of income tax rates and employee social contribution is OECD.

Table A4.3. Net monthly earnings (EUR) of a single worker in selected EU countries ^a (assuming 67% of average earnings in given economic activity) and in Latvia ^b (assuming average earnings)

Country	Economic activity ^d								
	C	D	E	F	G	H	I	J	K
Denmark	1272	1050	1128	1028	937	741	1170	1073	1142
Germany	1477	1257	1605	981	986	662	n.a.	1632	n.a.
Greece	765	598	1051	465	483	654	857	1038	714
Spain	1077	937	1523	746	753	624	1062	1560	745
France	849	1158	1231	1032	1042	1090	936	1620	1321
Ireland	1664	1394	2204	1523	1142	925	1542	1834	1679
Netherlands	2035	1238	1703	1204	1027	763	1246	1660	1196
Austria	1477	1332	2024	1214	1162	806	1229	1864	1365
Portugal	523	461	861	481	566	400	806	1122	590
Finland	1178	1152	1324	1100	1175	989	1171	1446	1296
Sweden	1268	1250	1438	1140	1196	843	1245	1802	1362
United Kingdom	2417	1621	2106	1738	1355	964	1630	2424	1803
EU12	1334	1120	1516	1054	985	788	1074	1590	1101
EU10 (without Greece and Portugal)	1515	1272	1640	1218	1114	865	1130	1706	1241
Latvia, EUR ^c	190	159	257	153	120	94	205	420	184
EU10 vs.Latvia: difference in EUR ^c	1325	1113	1383	1065	994	771	925	1286	1057
EU10 vs.Latvia: difference in LVL ^c	862	724	899	692	646	501	601	836	687
EU10 vs.Latvia: difference in LVL ^c assuming net wage in Latvia 300 LVL	685	527	766	492	424	262	434	809	506

Notes: ^a Year 2000 data. ^b Year 2002 data. ^c 1 EUR = 0.650 LVL

^d C – mining; D – manufacturing; E – electricity, gas and water supply; F – construction;

G – trade; H – hotels and restaurants; I – transport, storage, and communications;

J – financial intermediation; K – real estate and business activities.

Sources. Gross wages are taken from “Labour Costs Survey 2000 Member States”, by Anne Paternoster. Eurostat, *Statistics in focus, theme 3-7/2003*. Source of income tax rates and employee social contribution is OECD. Latvian data: Central Statistical Bureau of Latvia (2003).

Table A4.4. Minimum gross monthly (EUR) in selected EU member states and candidate countries, January 2003.

Candidate countries		EU member states	
Bulgaria	56	Portugal	416
Romania	73	Spain	526
Latvia	116	Greece	605
Slovakia	118	Ireland	1073
Lithuania	125	United Kingdom	1105
Estonia	138	France	1154
Turkey	189	Belgium	1163
Czech Republic	199	Netherlands	1249
Poland	201	Luxembourg	1369
Hungary	212		
Malta	535		
Slovenia	451		

Source: Minimum wages EU Member States and Candidate Countries, January 2003, Richard Clare, Anne Paternoster (Eurostat, *Statistics in focus, theme 3-10/2003*).