Movement without integration?

An analysis of labor market attainment in Sweden among its post-war immigrants from Estonia, Latvia, Lithuania and Poland.

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Abstract

Following the end to Soviet occupation the question of an integrated Baltic Sea region has been high on the policy agenda. There is now talk of the European Union adopting a Baltic Sea Strategy in 2009 in order to promote deepened integration and prosperity in the region. In this paper a truly fundamental aspect of such integration is approached, namely that of labor market attainment and integration. By offering an economic analysis of the fate of previous immigrants, using individual data, we seek to address the question of incentives for current and future labor market migration and integration in the region.

In this study we thus investigate the labor market attainment of all immigrants of working age from the neighboring Baltic countries on the Swedish labor market in 2004. As neighboring Baltic countries is here understood Poland, Estonia, Latvia and Lithuania, henceforth alternatively referred to as either PELL countries or Baltic countries. Data is a special delivery from Statistics Sweden and comprise all immigrants to Sweden from these countries from 1944 onwards. Comparisons are made with a stratified random sample of persons born in Sweden. Stratification is made on age and gender.

The analysis is conducted in three steps. In the first step we investigate labor force participation at the time of observation. This is done by estimating the probability of being part of the labor force in 2004, defined as either being employed or actively looking for employment. The group not belonging to the labor force thus contains both those permanently out of the labor force (e.g. early retirees) and those temporary out of the labor force (e.g. students and those on parental leave). In the second step we estimate the probability of employment among those included in the labor force. Employment is here defined as having a registered income in excess of one basic amount (SEK 39,300; app. €4,000). In the third and final step where we analyze the earnings of those employed we control for both types of selection described above. This means that we estimate a model with double selection.

Preliminary results show that immigrants are less likely to be part of the labor force; that they are overrepresented among the unemployed and that the positive effects from higher education is less for immigrants than for native Swedes. However, among those in the labor force and being employed the income differences are relatively minor. Nevertheless, the fact that we find large negative effects relating to educations remains an issue of concern.

Keywords: migration, integration, labor market attainment, Estonia, Latvia, Lithuania, Poland, Sweden

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1. Introduction

During the Cold War labor market migration to Sweden from our eastern neighbors was limited. At the same time immigrants and refugees were welcome, at least as long as they did not threaten foreign policy relations to the Soviet Union. With the fall of the Berlin Wall attitudes began to change. Fear of millions of immigrants from "Eastern Europe" became widespread. At first this was most prevalent in parts of the academic community, but as European Union (EU) enlargement grew closer, terms such as 'economic immigrants' and 'social tourism' spread also to policy circles. In the aftermath of the first eastern enlargement it is obvious that these fears were vastly exaggerated. The predicted 'floods' of immigrants turned into 'trickles', and focus has gradually turned towards the question of why so few chose to come to Sweden? Wadensjö (2007:5) for example concluded that Baltic and Polish immigration "*is still small compared to the total immigration and the size of the Swedish labour market.*"

Indeed, Swedish attitudes seem to have changed completely on the official level and the need for labor market migration is now openly acknowledged and embraced also in the highest policy circles. Concurrently, and not at all unrelated, the question of integration in the Baltic Sea region has been put high on the agenda. A Baltic Sea strategy is under preparation by the European Commission, after an initiative by the Swedish government, aiming to deepen integration in the region. An important aspect of such regional integration of course concerns factor mobility. However, whereas the flows of good and services have grown steadily from the early 1990's onwards to such an extent that the notion of an integrated market does not seem too distant, the developments with regard to labor market mobility and integration has been lagging behind the rhetoric and the grand schemes. Inflows of labor from the new member countries of the EU have, as mentioned, been significantly lower than expected. *The question is why?*[1]

Our take on this issue is the one of economists. We believe that labor mobility and migration can be analyzed with the basic toolbox of economics, i.e. by looking at incentives and disincentives for certain types of action. Naturally, labor market mobility (including migration)

[1] Wadensjö (2007:5-6) also asks why this is so. However, in comparison to Wadensjö who speculates that a contributing factor could be that unemployment in Sweden at present is low, we seek the answers more in the relative success of previous immigrants.

is an extremely complex issue where a multitude of factors are at play. Even so it is clear that many of these factors fall back on and reflect different aspects of the same question, namely are there reasons to presume that a person is better off in location A than B?[2] The analogy holds irrespective if location refers to a certain workplace, a city, a region or a country. The question may be answered and/or analyzed in absolute as well as relative terms, i.e. are the wages higher in A than (absolute) or will my skills relative to others be seen and appreciated more in location A than in B (relative)?

When it comes to decisions whether to migrate or not it may nevertheless be hard to assess correctly the exact pecuniary outcome of a decision to move. Instead it can be assumed that more 'diffuse' incentives come to play. It is for example often said that Swedish 19th century emigration to America was heavily influenced by what is commonly called "America Letters", i.e. letters where relatives and earlier émigrés told about the brilliant life and conditions that they were experiencing in their new home country (whether true or not is a different story). Indeed, this kind of signaling (through letters home) has been deemed to be of the utmost importance in explaining the extensive Swedish migration to America.[3]

The same logic could also be applied to the very large group of immigrants already residing in Sweden. That is, their integration and relative success on the Swedish labor market could – in analogy with the above example of 19th century letters 'home' from America – be expected to have an impact on current and future migration through the signals purveyed to friends and relatives in their respective native country; if appreciated to the extent that could be expected given their education etc the signals sent home would be positive ones. Conversely, if not gaining the recognition and attainment on the labor market that they feel they deserve, the signaling would be less positive.

Partly it is considerations of this kind that have led us to approach the question of Baltic Sea region integration through an analysis of labor market performance among all those that immigrated to Sweden from Estonia, Latvia, Lithuania and Poland in the period 1944-2004. The questions asked concern how these individuals fared compared to Swedes with regard to:

[2] The logic holds irrespective if one refers to positive or negative selection (cf. Borjas, 1987; Chiswick, 1978), i.e. irrespective of the underlying causes one locality is preferred over the other.

[3] On Swedish emigration to America, see e.g. Runblom & Norman (1976).

(i) being included in the labor force; *(ii)* being employed; and *(iii)* income from employment. The answers provided could have bearing not only upon the preconditions for a regional labor market in the Baltic Sea region, but also upon the question of integration in Swedish society in general.

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The remainder of this paper is structured as follows. In Section 2 we aim to provide a backdrop to our model and analysis proper by means of providing a brief overview of the history of migration from Estonia, Latvia, Lithuania and Poland to Sweden (Section 2.1) as well as an account for previous studies in the field of labor market attainment and integration (Section 2.2). Also, in Section 2.3, we give a brief introduction to the dataset used for the analysis. Follows does Section 3 where our modeling is explained and where we proceed with our three steps of analysis. Section 4 concludes with a discussion of these preliminary results and we also give directions for future research.

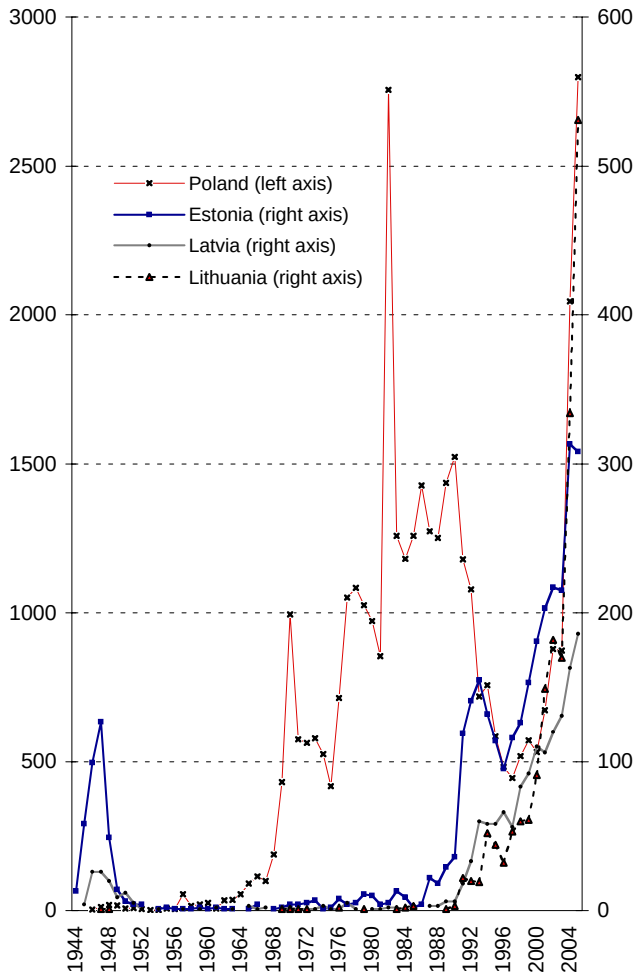
2. Background and data

In this section we aim to place our study into context by providing a brief empirical account of post-war immigration to Sweden from the countries of interest to the study as well as a short review of previous studies in the field. The section concludes with a description of the data used in our research.

2.1 Post-war immigration from Estonia, Latvia, Lithuania and Poland

The immediate post-war migration to Sweden from our neighboring countries was quite extensive, in particular from Estonia and Latvia. In total some 20,000 Estonians and 5,000 Latvians fled to Sweden in connection to the end of World War II. Also, prior to the ending of the war, some 8,000 concentration camp prisoners of Polish origin were transferred from Germany to Sweden. Inflows from Lithuania were much more limited though.

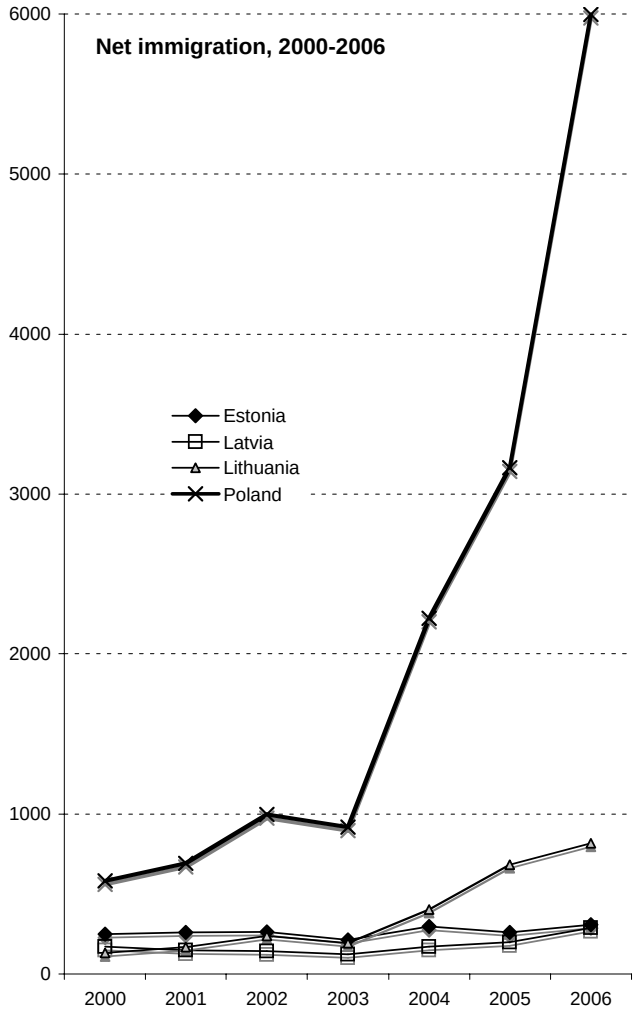
Figure 1. *Year of immigration of individuals included in the dataset*



During the Cold War inflows from Estonia, Latvia and Lithuania remained severely limited however, whereas Polish immigrants became increasingly common during the 1970's when certain liberalizations with regard to their international contacts were introduced. These inflows continued both during and after the reign of Solidarity, although they reached a peak in connection to the Jaruzelski coup in December when some 3,000 Poles were granted permanent residence permits in Sweden. Over the years the inflows made Poles the sixth larges immigrant group in Sweden.

The general trends, especially with regard to Poland, are also reflected in Figure 1, which depicts the immigration year of those included in our sample. However, remember that our sample consists only of those in working age at the time of observation (2004), and Figure 1 thus excludes many of the post-war immigrants since they by now have reached the age for pension. Noteworthy (also Figure 1) is that working age immigration from Poland declined during the 1990's whereas the opposite happened with regard to flows from Estonia, Latvia and Lithuania.

Figure 2. *Net immigration according to country of origin, 2000-2006*



What then happened after the turn of the century with eastern enlargement approaching and also taking place? Did the 'alarmists' turn out to be correct? As seen in Figure 2 there was indeed an acceleration of inflows during and after 2004. However, the "floods" of immigrants that had been predicted did not materialize. Most numerous, however, were persons of Polish origin with a cumulative net inflow of close to 15,000 in the 2000-2006 period, out of which close to 80 per cent from 2004 and onwards. However, by comparison it may be remembered that Polish migration to Great Britain is estimated to be around half a million after the eastern enlargement.

Noteworthy is also that the composition of immigration from the three Baltic states (Estonia, Latvia and Lithuania) went through a change, with Estonian immigration – previously always the largest group of the three – was significantly surpassed by Lithuanian immigration. A possible explanation may lie in the relatively higher GDP growth in Estonia as compared to Lithuania.

However, a general conclusion must be that Sweden as a destination did not turn out as popular as expected and the question on the policy agenda now seems to be why so few have chosen to come? This interpretation is for example underlined by the significant efforts by the

current government to liberalize and increase also non-EU labor immigration.[4] Our take on this question is to analyze the relative success of the existing immigrant population as a potential explanation to the selection patterns of current and future immigrants from the countries in question.

2.2 Previous studies

The Nordic countries have for long taken pride in liberal policies for mobility from 1954 onwards when a common market for labor was established. Numerous studies have been conducted on the extent and implications of intra-Nordic mobility (cf. Dølvik & Eldring, 2006; Wadensjö, 1996). Also the labor market situation for non-Nordic immigrants in Sweden has been assessed in a number of studies, where the main thrust of the evidence point to a respectable employment situation up to the mid-1970s, followed by a rapid deterioration during the late 1970s and 1980s – despite a booming Swedish economy in the latter period (cf. Ekberg, 1983; Ohlson, 1975; Wadensjö, 1973). From the mid-1990s, the situation appears to have stabilized – albeit in a situation where unemployment for foreign-born remains high (cf. Ekberg, 1999; Scott, 1999; Ekberg & Hammarstedt, 2002). The general empirical evidence on labor market performance for immigrants is thus quite extensive. There has also been some research on labor movement, migration and integration in the Baltic Sea Region as surveyed by Heikkilä *et al.* (2004). The analytical contribution, however, is to a great extent based on the Finnish experience and much is based on macro-level data. The latter holds also for contributions focusing on mobility within the three Baltic states (Estonia, Latvia and Lithuania) (cf. Hazans, 2003; Paas *et al.*, 2003), and those who look at the implications of EU enlargement (cf. Piracha & Vickerman, 2002; Kallaste *et al.*, 2003).

A partial exception to this generalization is the work carried out by Wadensjö (2007) who studies the labor market situation for foreign born nationals (or their kin) from any of the ten new member states (incl. Estonia, Latvia, Lithuania and Poland) being part of the May 2004 enlargement of the European Union. The results point to an adequate labor market situation for immigrants, albeit with somewhat lower wages than for natives when controlling for the level of education.

[4] There are also many in the academic community that point to increased immigration as a way to solve the demographic problems of Sweden. Cf. Palme & Tamas, 2006.

The novelty of our research nevertheless rests in the of use very detailed *micro-level* data, focusing on labor market performance of those individuals who for one reason or other moved to Sweden from the 'south-eastern' part of the Baltic Sea Region (Estonia, Latvia, Lithuania and Poland), in combination with the three-step modeling described in Section 3. To sum up, there are studies with a focus on regions based on micro data,[5] but none that focus on the Baltic Sea Region. Furthermore, from a methodological point of view, labor market performance among foreign born (or their kin) from a specific area is usually approached by adding a single control variable in the equation to capture all of the country and region effects. Our utilization of full micro data information, however, allows for explicit controls for factors such as gender, education, sector, location, etc. This also makes it possible to look at e.g. differences in the rate of return on education and regional disparities.

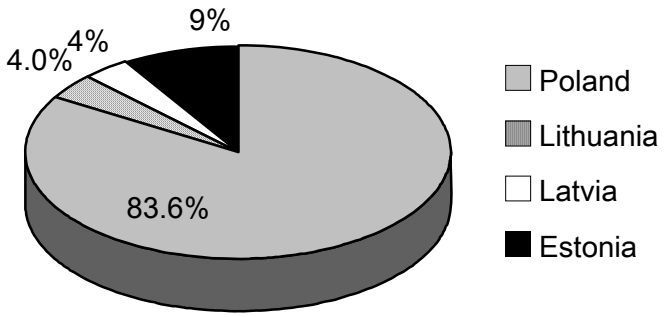
2.3 The dataset

The data used for our analysis have been specially produced for this research project by Statistics Sweden and comprise all persons emigrated from Estonia, Latvia, Lithuania and Poland to Sweden since 1944 and that were of working age (19-66 years) in 2004. The year of immigration for these individuals is what is depicted in Figure 1 above. The group includes a total of 45,715 individuals, out of which the vast majority (83.6%) of Polish origin (see Figure 3). Since our research question concerns how well these immigrants have fared on the Swedish labor market we have constructed a control group of persons born in Sweden where stratification is based on age and gender.[6] This means that persons in our control group are of the same age and we have an equal number of male and females in both groups.

[5] The prime example is the above referenced work by Wadensjö (2007); other examples include Ekberg & Ohlson (2000) who study integration of refugee immigrants from Bosnia in the Gnosjö region. Ekberg & Andersson (1995) has also covered the labour market situation development for Finnish migration to Sweden.

[6] Data for a second control group has been ordered but as of yet not delivered. In this group we have included persons born in a country other than Sweden, Poland, Estonia, Latvia or Lithuania. Once delivered the analysis will be extended to a three-group analysis; the modelling will however remain the same.

Figure 3. *Distribution by country of origin of the individuals included in the dataset*



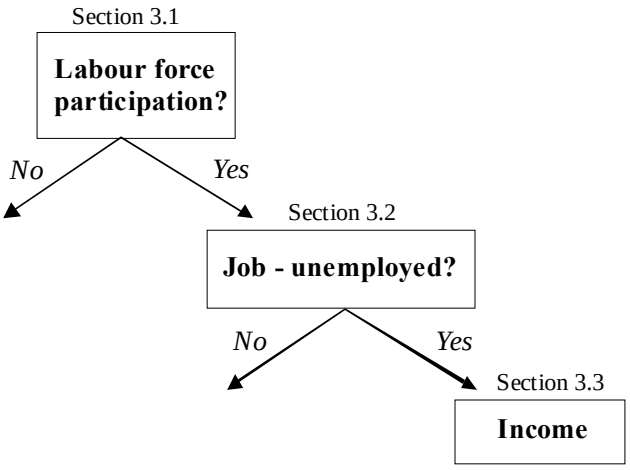
In addition to the relevant information relating to the labor market position of individuals (employment status, earnings, unemployment history, type and size of employer etc.) the dataset also includes general demographic data (e.g. age, gender, marital status etc.), information on the individual's educational level and his/her geographical domicile.

Since we will use subsets of the original dataset for the different steps of analysis, the data used are presented and discussed in relation to the different steps.

3. Model and results

In our modeling we will use a three-step approach (see Figure 4). The reason for this is two-fold: *(i)* all three aspects of inquiry, i.e. labor force inclusion, employment and income, are crucial to assess an individual's labor market position; and *(ii)* given that we are in the possession of this information we are also able to control for selection bias in all three steps. The latter is of particular importance in studies where group comparisons are made, since the kind of selection that we are modeling could be related to a person's native and cultural background. This section will therefore present all steps ending up with a generalization of the traditional Heckman selection model (Heckman, 1978), including all three steps in the analysis. The strategy is summarized in the figure below.

Figure 4. *Outlining our model: the three steps of analysis*



Since we are focusing on *differences* in estimates rather than the estimates themselves we use the thoughts presented in Blinder (1973) and Oaxaca (1973). However, since we are using different models in the different steps, the decomposition has to be adjusted for the methods used. The basic idea of the so-called Blinder-Oaxaca decomposition is to estimate separate regressions for each group and obtain the estimates, that is:

Group 1 $y_1 = \alpha_1 + \boldsymbol{\beta}_1 \mathbf{x}$ Group 2 $y_2 = \alpha_2 + \boldsymbol{\beta}_2 \mathbf{x}$

Following that we then compute the difference,

$$y_1 - y_2 = \underbrace{\alpha_1 - \alpha_2}_{i} + \underbrace{(\boldsymbol{\beta}_1 - \boldsymbol{\beta}_2)\mathbf{x}_1}_{C} + \underbrace{(\mathbf{x}_1 - \mathbf{x}_2)\boldsymbol{\beta}_2}_{E} \quad \textbf{[1]}$$

to obtain: *i)* unexplained systematic differences; *C*) differences in coefficients, i.e. in rate of returns and *E*) differences in endowment.

3.1. Labor force participation

Belonging to the labor force is defined as either having a job or looking for job at the time for our observation (2004). The group excluded from the labor force thus comprises both those permanently out of the labor force (e.g. early retirees) and those temporarily out of the labor force (e.g. students and those on parental leave). The question for our analysis is thus if we can identify differences in the probability to be included in the labor force, given a vector of

individual characteristics? We investigate this question using a standard probit model (cf. Maddala, 1983).

3.1.1. Data

As described above we use two different groups for the analysis; persons born in Sweden and persons born in either Estonia, Latvia, Lithuania or Poland (below, PELL countries). For the different comparisons we use slightly different model formulations. Descriptive statistics for this first step of analysis is presented in columns two and three in Table 1 below.

Table 1. *Descriptive statistics for the model of labor force participation (Step 1)*

Indicator	PELL countries		Sweden	
	Mean	Std. Dev.	Mean	Std. Dev.
In the labor force	0.75	0.43	0.90	0.30
Age	43.83	12.91	43.83	12.91
Female	0.66	0.47	0.66	0.47
Upper secondary school	0.42	0.49	0.49	0.50
University	0.47	0.50	0.35	0.48
Married	0.46	0.50	0.43	0.50
Large city county	0.74	0.44	0.48	0.50
Forest county	0.06	0.23	0.21	0.41
Number of unemployment days 2000-2003	96.16	200.95	58.07	148.49
Children between 0 - 3 years	0.10	0.34	0.13	0.39
Either below 25 or above 55 years of age	0.21	0.41	0.21	0.41
Women less than 35 years of age	0.19	0.39	0.19	0.39
Upper secondary school and below 25 years of age	0.04	0.19	0.05	0.22

The dependent variable in this first analysis is being in the labor force at the year for the study, and as can be seen there is a quite large difference between our two groups. Twenty five per cent of the population of persons that emigrated from the Baltic countries (PELL) is out of the labor force (75 per cent in), while the same figure for the Swedish control group (SE) is 10 per cent. This gives some implications for the next steps in the analysis; the large difference clearly indicates that the selection process of being in the labor force differs between the two groups.

Besides the standard control variables relating to human capital we also include/construct some variables that are likely to be important, especially for those that are temporary out of the labor force. The first of these is that we include children 0-3 years of age. We assume that persons having children in those ages are more likely than other to be out of the labor force

due to parental leave. Two control variables relating to age are also constructed. The first indicate if a person is below 25 years of age and the second if a person is above 55 years of age. We expect both these variable to negatively influence the probability to be in the labor force. Finally we construct a variable indicating if a person is below 25 years of age *and* has the highest education equal to upper secondary school. This variable will capture those that sill are in the educational system.

3.1.2 Model

We will use a probit model to estimate the probability that a person will be in the labor force. This is probably not the best model since a probit model assumes that the processes, here to be in the labor force, follows a normal distribution. Since only a minority of the persons is out of the labor force we are modeling something that most likely occurs. This means that the assumption of normal distribution probably is violated.[7] However, we will proceed with the probit model mainly due to two reasons: *(i)* when we are comparing two groups, the violation of the distributional assumption will effect both groups in a similar fashion; and *(ii)* to be able to make comparisons with other studies of the effect in terms of signs (not coefficients).

[2] $$P(y = \textit{In the labour force}) = \alpha_i^{LF} + \boldsymbol{\beta}_{\mathbf{i}}^{LF}\mathbf{x}_{\mathbf{i}}^{LF}$$, where $i = 1$ for PELL immigrants and $i = 2$ for persons born in Sweden.

Since we here use a non-linear (probit) model the traditional Blinder-Oaxaca decomposition has to be modified.[8] Following Fairlie (2006) the decomposition can, for variable k and group 1 and 2, be expressed as:

[3] $$y_1 - y_2 = \underbrace{\left[\Phi(\beta_2^k x_1^k) - \Phi(\beta_2^k x_2^k)\right]}_{E} + \underbrace{\left[\Phi(\beta_1^k x_1^k) - \Phi(\beta_2^k x_1^k)\right]}_{C}$$

Here Φ is the standard normal distribution function. Thus we are investigating differences in the marginal effects.

[7] One type of extreme value distribution that could be used is the Gumbel distribution however, we will leave the development of binary dependent regressions for different distributional assumptions for future research.

[8] Probit estimates and marginal effects are presented in the Appendix.

3.1.3. Results

In Table 2 below the results with regard to labor force participation are presented. The first column reports the difference between immigrants from the Baltic countries and persons born in Sweden; the standard error of the difference is presented within parentheses.

To interpret the results first recall that the endowment effect equals differences in characteristics evaluated at, in our case Swedish rate of return (β_2) and the coefficient effect is the difference in rate of return evaluated at the mean for, in our case PELL-countries ($\overline{x}_1$). The total effect is summarized in the two last rows and measure how much of the difference in the probability of being in the labor force is due to the two effects and column two indicates how much of the difference that relates to certain variables. A positive sign indicates that PELL immigrants are better off and a negative sign indicate that persons born in Sweden are dong better.

Overall the immigrant group have a 33 per cent lower probability of being in the labor force compared to persons born in Sweden. The decomposition shows that only 0.3 per cent of the difference relates to endowment effects while as much as 32.7 per cent of difference in the probability of being in the labor force relate to differences in the rate of return on different characteristics.

Table 2. *Decomposition of the probability to be in the labor force.*

Variable	Immigrants from PELL countries vs. persons born in Sweden			
	Decomposed Difference	Standard error	Absolute Difference	Standard Error of Difference
Endowment				
Age	N.A	N.A	N.A	N.A
Age squared	N.A	N.A	N.A	N.A
Female	N.A	N.A	N.A	N.A
Upper secondary school	**-0.004**	0.000	**-0.073**	0.002
University	**0.010**	0.000	**0.119**	0.003
Married	**0.001**	0.000	**0.028**	0.002
Large city county	**-0.003**	0.001	**0.265**	0.051
Forest county	**0.001**	0.000	**-0.154**	0.053
Number of unemployment days 2000-2003	**-0.001**	0.000	**38**	8.779
Children between 0 - 3 years	-0.000	0.000	-0.026	0.014
Either below 25 or above 55 years of age	N.A			
Women less than 35 years of age	N.A			
Upper secondary school and < 25 years of age	**-0.001**	0.000	**-0.017**	0.000
Coefficients				
Age	**-0.669**	0.122	**-0.015**	0.003
Age squared	**0.387**	0.066	**0.000**	0.000
Female	-0.004	0.004	-0.006	0.006
Upper secondary school	**-0.016**	0.003	**-0.039**	0.007
University	**-0.012**	0.003	**-0.026**	0.007
Married	**-0.011**	0.002	**-0.025**	0.005
Large city county	**0.020**	0.004	**0.027**	0.006
Forest county	-0.001	0.001	-0.021	0.011
Number of unemployment days 2000-2003	**0.020**	0.001	**0.000**	0.000
Children between 0 - 3 years	*0.002*	0.001	*0.019*	0.008
Either below 25 or above 55 years of age	*-0.005*	0.003	*-0.026*	0.012
Women less than 35 years of age	**0.008**	0.002	**0.041**	0.010
Upper secondary school and < 25 years of age	**-0.003**	0.000	-0.092	0.009
Endowments total	**-0.003**	0.001		
Coefficient total	*-0.327*	0.139		

Note: Bold indicate significant at 1 per cent level and italic indicate significant at 5 per cent level.

Turning to the ingoing components we focus on column four, absolute differences. A positive sign indicates that immigrants are better off than persons born in Sweden and a negative sign that persons born in Sweden are better off than immigrants from the group of PELL-countries. Recall that we have sampled the data to match on age and gender; therefore there are no endowment effects relating to variables to characteristics. Relating to differences in endowments three variables stand out. Firstly, the dummy variables capturing university education differ significantly between the two groups. The difference is almost 12 percentage

points, i.e. 12 percent more in the population of immigrants have a university degree compared to Swedes. Secondly, immigrants are more likely to live in large cities.[9] Compared to the random sample of persons born in Sweden the difference is almost 27 percentage points in favor for immigrants from the group of PELL countries. The opposite holds for living in forest counties. Thirdly, immigrants have on average been unemployed longer. The difference is 38 days.

Turning to the coefficient, or the rate of return effect, almost all differences are negative and significant. This means that the rate of return on different characteristics is lower for the immigrant population. In particular the negative effect on the education variables should be noted. As seen in the separate estimates presented in the Appendix (Table A2), the rate of return on university education is positive, however it is less positive for immigrants from the Baltic countries. The rate of return on university education on the probability to be in the labor force is -2.6. This indicates that the effect on labor force participation is 2.6 percentage points lower for immigrants with a university education.

To sum up, our results show that *immigrants from PELL countries are less likely to be in the labor force and that this fact is mainly due to differences in the rate of return*. That is, these immigrants are at a disadvantage compared to the Swedish control group. There may be a number of potential explanations to this result. One could be that it is a well known fact that some immigrants return to the country of origin without notifying relevant authorities, i.e. there may in this step of analysis be some problems relating to the registry data delivered from Statistics Sweden. However, it must be deemed unlikely that such data problems can explain but a part of the observed difference. A competing, and perhaps more likely but less appealing explanation, lies within the field of discrimination. The question of high 'thresholds' to enter the Swedish labor market has for example been given significant attention during later years; not least in the public debate. What, in turn, may be the causes for such thresholds and discrimination is nevertheless not within the realm proper of this paper.

[9] This is the case for all immigrant groups in Sweden (see e.g. Hammarstedt 2002, 2003 and Åslund 2005).

3.2. Employment

In the second step we estimate the probability to have a job, controlling for the probability of belonging to the labor force. Having a job is here defined as having an income exceeding one basic amount (SEK 39,300; app. €4,000). The reason for this cut-off point is that it is frequently used by Statistics Sweden. The argument is that if a person earns below one basic amount he or she is most likely to have only a very limited connection to the labor market, e.g. students working extra on spare time. Thus, if not applying this cut-off point we would risk to base our analysis on a biased material.[10]

3.2.1. Model

As seen above there are individual characteristics that influence the probability to be in the labor force. What we have is a potential problem with selection bias, i.e. there are some systematic variations in labor force participation that cause the estimates of the probability of having a job to be biased. One way of solving this is to use a traditional Heckman approach and calculate the inverse Mills ratio in the first step and use it as a regressor in the second stage. However, since both our dependent variables are binary this approach results in some problems, mostly related to the non-linearity of the second stage. A way of solving this problem is to estimate both outcomes simultaneously using a double probit framework (cf. Boyes, Hoffman and Lowe, 1989).

The model we are estimating is thus:

$$\textbf{[4]} \qquad P[y = job \,|\, p(\text{in the labour force})] = \alpha_i^{\,J} + f_1(\boldsymbol{\beta}_\mathbf{i}^{\,J}\mathbf{x}_\mathbf{i}^{\,J}, f_2(\gamma_i^{\,LF}\lambda_i^{\,LF}))$$

where $i = 1$ for immigrants from the PELL countries and 2 for persons born in Sweden and $\lambda_i^{\,LF}$ is the hazard, or inverse Mills ratio. However, λ^{LF} is estimated simultaneously as the outcome equation and not with a two-step approach.

3.2.2. Data

Recall that to define our outcome variable *employed*, we use an earnings threshold. Persons that on a yearly basis earn less than one basic amount (SEK 39,300; app. €4,000) are defined as

[10] In our work we have tested different cut-off points; however, we get no qualitative differences in our analysis irrespective if we use one, two or three basic amounts as our cut-off point.

unemployed. Descriptive statistics for the variables included in this step of the analysis are presented in Table 3.

Table 3. *Descriptive statistics of variables in the model explaining employment – unemployment.*

Indicator	Immigrants from PELL countries (n = 31,655)		Persons born in Sweden (n = 37,705)	
	Mean	Std. Dev.	Mean	Std. Dev.
Employed	0.77	0.42	0.86	0.34
Age	43.30	12.42	43.20	12.61
Female	0.65	0.48	0.65	0.48
Upper secondary school	0.43	0.49	0.50	0.50
University	0.48	0.50	0.37	0.48
Number of children < 16 years of age	0.48	0.79	0.57	0.90
Married	0.48	0.50	0.44	0.50
Large city county	0.73	0.44	0.48	0.50
Forest county	0.06	0.24	0.21	0.41
Number of unemployment days 2000-2003	105.11	207.32	56.79	145.34

As can be seen the difference in the variable of interest, namely labor force *employment*, between immigrants from the group of PELL countries and the Swedish control group is in this case smaller than the difference relating to labor force *participation*. Seventy seven per cent of the immigrant labor force are working as compared to 86 per cent of the Swedish control group, whereas the difference with regard to labor force participation was as high as 15 percentage points (see Table 1). This holds even though university education is more prevalent in the immigrant group and that they to a larger extent reside in city counties (where unemployment traditionally has been lower). Also, there is a 9 percentage point difference with regard to having children below the age of 16, i.e. children usually living at home. Further, as can be seen the number of historical unemployment days for immigrants is almost double that of the Swedish control group. All these factors would together lead us to expect a very high employment rate. Given that this is not the case the picture painted in Table 3 must be deemed quite discouraging.

As noted in Section 3.1, there was quite large a difference in labor force participation among immigrants from the PELL countries and the Swedish control group. This will cause the

model for estimating employment – unemployment to be unnecessarily biased. Therefore we need to control for selection in this step.

3.2.3 Results

Important to note is that at present we have not yet sorted out how the decomposition should be done. By consequence we present the absolute differences computed as differences in marginal effects. At the moment we are thus not yet able to produce the correct standard errors. However, different strategies only give marginal differences in standard errors. Even so the results should be interpreted with caution.

In Table 4 the results with respect to differences are presented. The total effect due to differences in endowment is for the probability of having a job negative, i.e. *immigrants from the Baltic countries are at a disadvantage*. However, only one percent of the difference in the probability of having a job is explained by endowment effects. Almost 21 per cent of the difference in the probability of having a job is instead related to differences in the coefficients, i.e differences in the rate of return of different characteristics.

Since more persons from the immigrant group were out of the labor force we now can observe small differences in age. As for the labor force participation analysis, the variable indicating university degree and the variables indicating location are the largest. Even here both variable representing education are negative and significant. This can be interpreted as if persons from PELL countries have less positive return on educational efforts. However, with regard to the probability of having a job, the university degree variable is not significantly different between the two groups. As for the rate of returns the largest difference is related to education.

Table 4. *The difference in the probability of having a job, given labor force participation*

Variable	Immigrants from PELL countries VS. Persons born in Sweden	
	Absolute difference in marginal effects	Standard error
Coefficients		
Age	**0.002**	0.000
Female	**0.018**	0.007
Upper secondary school	**-0.033**	0.011
University	**-0.028**	0.011
Number of children	**0.018**	0.004
Married	-0.010	0.008
Large city county	0.004	0.008
Forest county	-0.014	0.013
Number of unemployment days 2000-2003	**0.000**	0.000
Age linear	**-0.012**	0.002
Age squared	**0.000**	0.000

Note: Bold indicate significant at 1 per cent level and italic significant at 5 per cent level.

Overall there are small differences in the probability of having a job, given labor market participation. It can however be noted that the rate of return on education is less for persons from PELL countries. For example, having a university degree is 2.8 percentage points less positive for former PELL inhabitants than for native Swedes. Also noteworthy is that women from this group of countries are doing better than their Swedish counterparts.

3.3. Income

In this third, and final, step of our analysis we turn our attention to the question of income differences. It should however be noted that this is done with a basis in the two selections presented above.

3.3.1. Model

Our final destination is thus to investigate if there are income differences between immigrants from the PELL countries and persons born in Sweden by Swedish parents. As seen in Sections 3.1. and 3.2. we will have two selection processes influencing the estimates; namely *to be in the labor force* and *to have a job*, respectively. If this is not taken into account, the estimate for income differences will be biased.

However, in this part of the analysis we use *income* as the dependent variable. Therefore we are back to the original thoughts of the Heckman model, albeit with a slight adjustment in the number of selection steps. Thus, let λ_i^{LF} be the hazard associated with being in the labor force

for country *i* and λ_i^J is the hazard associated with having a job in country *i*; then the model could be expressed as $Income = \alpha_i^I + \boldsymbol{\beta}_\mathbf{i}^I \mathbf{x}_\mathbf{i}^I + \gamma_{1,i}^I \lambda_i^J + \gamma_{2,i}^I \lambda_i^{LF}$. However, since $\lambda^J = f(\boldsymbol{\beta}^J, \mathbf{x}^J, \lambda^{LF})$ we use the results from Section 3.2. and estimate the reduced form:

$$\textbf{[5]} \qquad Income = \alpha_i^I + \boldsymbol{\beta}_\mathbf{i}^I \mathbf{x}_\mathbf{i}^I + \gamma_{2,i}^I \lambda_i^J$$

where λ^J is assumed to capture the selection from both previous steps, due to the fact that λ^{LF} was included in the estimates used to obtain λ^J. Further, since we here have a continuous dependent variable we use the original Blinder – Oaxaca decomposition described in equation [1].

3.3.2. Data

Again recall our cut-off point of one basic amount of yearly income. Another way would be to simply use those individuals that have an income exceeding 0. A problem is that we then include e.g. students that work extra, but whose main occupation remain studies rather than work. This will obviously increase the variance and make our estimated standard errors larger. To make our estimate targeted towards those that mainly are occupied with work, we need to use the cut-off point in income that was discussed in the beginning of Section 3.2. In Table 5 the data used for analyzing income differences is presented.

Table 5. *Descriptive statistics of variables included in the Heckman two-stage regression on yearly income.*

	Immigrants from PELL countries (n = 24,315)		Persons born in Sweden (n = 32.574)	
	Mean	Std. Dev.	Mean	Std. Dev.
Log Income	7.54	0.63	7.63	0.57
Age	44.46	11.82	43.91	12.02
Female	0.65	0.48	0.65	0.48
Upper secondary school	0.43	0.50	0.50	0.50
University	0.49	0.50	0.37	0.48
Number of children	0.47	0.78	0.57	0.90
Married	0.51	0.50	0.46	0.50
Large city county	0.74	0.44	0.48	0.50
Forest county	0.06	0.23	0.20	0.40
Private sector	0.34	0.47	0.39	0.49
Number of unemployment days in 2004	11.83	42.93	8.12	34.35
Number of unemployment days 2000-2003	80.53	173.08	43.21	120.16
Number of employed at the place for employment	461.64	1325.88	389.11	1146.32
Mills inverse ratio	0.29	0.13	0.28	0.12

The differences in income, given that individuals are employed, remain relatively modest; around SEK 15,000 per year (app. €1,500). As can be seen in the Table 5 the close to half of the immigrant group included in this analysis has a university degree, whereas only 37 per cent of the Swedish control group had reached the same level of education. Also, the immigrants have fewer children and are to a larger extent "city dwellers" (74%) as compared to the control group (48%). As regards unemployment the immigrant group had a somewhat higher average than the Swedish group for 2004 (12 vs. 8 days), but almost double the amount of historical unemployment days in the 2000-2003 period (81 vs. 43 days).

3.3.3 Results

One of the main results is that all the difference between our two groups by coefficient effects, i.e. all differences relate to differences in the rate of return on their individual characteristics. Secondly, the difference in rate of return is 13.8 percent evaluated at mean. However, if we only consider those variables that are significant, setting the other coefficients to zero the effect is 0.4 percent in income, i.e. PELL immigrants have 0.4 percent lower income after controlling for a number of individual characteristics.

Turning to the different characteristics we see (again) that immigrants from the PELL countries have a lesser rate of return on education compared to the Swedish control group. With regards to income, persons from PELL countries with upper secondary education gets an income premium that is two percentage points less than their Swedish peers. For persons with a university degree the corresponding premium is reduced by almost 5 percentage points. Again we observe that women from the PELL countries are doing better than their Swedish counterparts; incomes are more than 4 percentage points higher. This difference is also in line with what we found in our second step of analysis, i.e. that immigrant women were employed to a greater extent than Swedish women. However, it should be remembered that the income for women remains lower than that for men.

Table 6. *Blinder – Oaxaca decomposition of earnings equation, controlling for selection into labor force and having a job.*

Variable	Immigrants from PELL countries vs. Persons born in Sweden			
	Blinder – Oaxaca Differences	Standard errors	Absolute differences	Standard error
Endowment				
Age	**0.052**	0.011	**0.480**	0.100
Age squared	**-0.041**	0.009	**36.185**	-8.189
Female	0.000	0.001	-0.002	-0.003
Upper secondary school	**-0.006**	0.001	**-0.044**	0.009
University	**0.025**	0.002	**0.078**	0.007
Number of children	0.001	0.001	-0.015	-0.011
Married	0.000	0.000	0.014	0.020
Large city county	-0.004	0.002	-0.062	0.033
Forest county	*0.006*	0.003	*-0.364*	-0.164
Private employer	**-0.001**	0.000	**0.013**	-0.004
Number of unemployment days in 2004	**-0.011**	0.001	**3.563**	-0.336
Number of unemployment days 2000-2003	**-0.021**	0.004	33.643	-5.727
Number of employed at the place for employment	**0.005**	0.001	153.241	23.455
Mills inverse ratio (λ^J)	0.018	0.013	0.467	0.337
Coefficients				
Age	-0.621	0.490	-0.014	0.011
Age squared	0.423	0.250	0.000	0.000
Female	**0.043**	0.009	**0.066**	0.014
Upper secondary school	*-0.020*	0.009	*-0.046*	0.021
University	**-0.047**	0.010	**-0.098**	0.020
Number of children	**0.022**	0.004	**0.046**	0.007
Married	-0.008	0.005	-0.015	0.010
Large city county	**-0.061**	0.008	**-0.083**	0.011
Forest county	-0.001	0.001	-0.022	0.019
Private employer	**0.044**	0.003	**0.127**	0.010
Number of unemployment days in 2004	0.001	0.001	**0.000**	0.000
Number of unemployment days 2000-2003	0.005	0.009	**0.000**	0.000
Number of employed at the place for employment	**0.015**	0.002	**0.000**	0.000
Mills inverse ratio (λ^J)	0.038	0.049	0.000	0.001
Constant	0.030	0.278	-0.030	0.030
Endowments total	-0.022	0.022		
Coefficients total	**-0.138**	0.011		

Note: Bold indicate significant at 1 per cent level and italic significant at 5 per cent level.

To sum up, even though we find differences between our two groups with regard to income, they remain very small (albeit statistically significant). Of interest though, and in line with the previous steps of analysis, is that it seems plausible that the existing differences in income may be explained by the differences in return on education. In short, education does not give an equivalent pay-off if you are an immigrant from Estonia, Latvia, Lithuania or Poland as would be the case if you were a native Swede.

4. Conclusions and concluding remarks

In this paper we have approached the question of Baltic Sea region mobility and integration through an analysis of labor market attainment for the total population of immigrants from Estonia, Latvia, Lithuania and Poland in comparison to a control group of Swedes, matched by age and gender. The analysis was carried out in three steps where we initially looked at the probability for this working age population to actually be in the labor force. In the second step we looked at the probability for those in the labor force to actually be employed. Then, in the third step, we looked at labor income among the employed persons and factors of importance for this.

As regards belonging to the labor force our results show significant differences between our immigrant group on the one hand and the Swedish control group on the other. Whereas nine out of ten native Swedes (90%) were in the labor force only three-quarters (76%) of the immigrant population were active on the labor market. Even though a possible explanation to this finding may be that immigrants have returned to their "home countries" without notifying the authorities, and thus is a problem of statistics, it is still only likely to make up for a small part of the difference. Rather it seems clear that immigrants have a harder time to actually enter the labor force. It may be noted that both endowment and coefficient effects are negative, however the majority of the effects relate to differences in coefficients, i.e. immigrants from PELL countries are at a disadvantage.

Equally noteworthy is that the positive effect upon labor force participation derived from higher education is significantly lower for immigrants from Estonia, Latvia, Lithuania and Poland than for the corresponding group of Swedes. Even if the results are not to surprise those who have followed Swedish public debate relating to integration, the detrimental effects from having a large group of highly educated individuals finding themselves unable to even enter the labor market can probably not be overestimated.

Turning to the question of employment, i.e. our second step of analysis, the differences between immigrants and native Swedes become somewhat less pronounced. However, the immigrant group remains significantly overrepresented in the category that is unemployed or earn less than one basic amount (the figure we chose as our cut-off point). Among the

immigrant group 23 per cent fall into one of these two categories, whereas the corresponding figure for the Swedish control group was 14 per cent. Again, and in line with what we found in the first step of analysis, the positive effects derived from higher education are smaller for immigrants than for native Swedes. Noteworthy though is that female immigrants are doing better, 1.8 percentage points higher probability, than their Swedish counterparts when it comes to being employed.

In the third and final step of our analysis we approach the labor income, controlling for the two steps of selections that are present. Whilst still at a disadvantage, the difference in income given that individuals are employed remain relatively modest – around SEK 15,000 per year (app. €1,500). However, the large negative effect relating to education remains, i.e. the pay-off derived from higher education is significantly smaller for the immigrant group than for the Swedish control group. For example, immigrants from PELL countries with a university degree earn on average 5 percent less than Swedes.

To sum up our analysis point to that the most marked differences with regard to labor market attainment are to be found already in the first step, i.e. whether or not to be in the labor force. However, once in the labor market the differences the disadvantage of being an immigrant from our group of Baltic countries decreases. These results nevertheless lend support to the now currently very popular notion of having high thresholds to the Swedish labor market. Of interest though, and definitely a topic for future analysis, is whether these immigrants are faring better or worse than other immigrant groups.[11]

Finally it should be noted that an enduring feature through all three steps of analysis is the smaller rate of return on education that is derived from the immigrant group. Again, this is sadly in line with other observations and studies which all point to Swedish society being unable to absorb and take advantage of highly educated immigrant labor.

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The above does not imply that we hold our results to be solely or even mainly responsible for the relatively low number of emigrants entering Sweden after the enlargement of the EU.

[11] This type of analysis will be undertaken as soon as the data from Statistics Sweden is delivered.

Rather, in terms of current Baltic Sea Region migration and integration there may be a number of different explanations to the relatively low number having Sweden as their preferred destination. For example, an explanation put forth by Brunoskis *et al.* (2003) concerns a generally low willingness to move abroad and also that the language situation made United Kingdom a more attractive destination. This, however, does not explain why migration to e.g. Norway seems to be more popular than migration to more nearby Sweden. Another explanation could be that it by now well known that the wage level is higher Norway, Denmark or Finland compared to Sweden.

Yet one possible influencing factor could be the very negative images and PR that was given of the Swedish labor market in connection with the particularly ill-timed conflict between Swedish trade union *Byggnads* and Latvian construction company, *Laval un Partneri* which in 2004 had stationed workers in Sweden after winning a public tender to construct a municipal schoolhouse. The building site was put into blockade by the trade unions and Latvian workers were in the end dismissed and returned back to Latvia amidst trade unionists chanting no less than "Latvians go home".[12] The fact that these events took place only months after the first eastern enlargement of the EU, and that the workers' experience from the Swedish labor market must be deemed as less than satisfactory, could of course have influenced, and may continue to influence, the interest of other potential immigrants in moving and joining the workforce in Sweden.

With the same logic also the results presented in this paper, based on existing immigrants, are far from unproblematic. Rather, our results may also help to explain the relatively low attractiveness of Sweden as a potential immigration destination in comparison to other countries. Indeed, in an environment where formal rules and institutions that previously hindered human capital mobility are gradually being dismantled, informal and indirect signaling about the desirability of one destination over the other may be expected to increase in importance. This, in turn, heightens the demands on societies that want to remain attractive destinations in a more globalized labor market – and those that do not manage to put talent (migrated or other) to its best possible use will soon lose in attractiveness.

[12] Cf. Wolfson & Sommers (2006); for a somewhat different perspective, see Persson (2005).

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Appendix

Table A1. *Classification of domicile*

Large city counties	01 Stockholm, 12 Skåne, 14 Västra Götaland
Forest counties	17 Värmland, 20 Dalarna, 21 Gävleborg, 22 Västernorrland, 23 Jämtland, 24 Västerbotten, 25 Norrbotten
Other counties	03 Uppsala, 04 Södermanland, 05 Östergötland, 06 Jönköping, 07 Kronoberg, 08 Kalmar, 09 Gotland, 10 Blekinge, 13 Halland, 18 Örebro, 19 Västmanland

Note: Numerical codes for the different counties are the ones used by Statistics Sweden

Table A2. *Marginal effect of the probability of being in the labor force.*

	Baltic immigrants		Born in Sweden	
Variables	Coefficient	Standard error	Coefficient	Standard error
Age	**0.026**	0.002	**0.011**	0.001
Age squared	**0.000**	0.000	**0.000**	0.000
Female	**-0.024**	0.005	**-0.031**	0.003
Upper secondary school	**0.098**	0.007	**0.059**	0.003
University	**0.113**	0.006	**0.086**	0.003
Married	**0.076**	0.004	**0.052**	0.003
Large city county	**-0.040**	0.005	**-0.013**	0.003
Forest county	0.015	0.010	-0.006	0.004
Number of unemployment days 2000-2003	**0.000**	0.000	**0.000**	0.000
Children between 0 - 3 years	**-0.027**	0.007	-0.008	0.004
Either below 25 or above 55 years of age	-0.017	0.010	**-0.043**	0.007
Women less than 35 years of age	**-0.033**	0.009	0.008	0.005
Upper secondary school and < 25 years of age	**0.150**	0.008	**0.058**	0.004
	Ps R2 = 0.10, LL=15,450, n=41983		Ps R2=0.11, LL= 12 319, n=41983	

Table A3. *Marginal effect of the probability of being employed, given labor force participation (probit with sample selection, Heckprob).*

Variables	Baltic immigrants		Born in Sweden	
	Marginal effect	Standard error	Marginal effect	Standard error
Age	**0.003**	0.000	**0.001**	0.000
Female	**-0.021**	0.004	**-0.039**	0.003
Upper secondary school	0.011	0.006	**0.044**	0.005
University	0.000	0.006	**0.028**	0.005
Number of children	**-0.007**	0.003	**-0.025**	0.002
Married	0.001	0.004	**0.011**	0.004
Large city county	0.008	0.005	0.004	0.004
Forest county	*-0.019*	0.009	-0.006	0.004
Number of unemployment days 2000-2003	**0.000**	0.000	**0.000**	0.000
Age	**0.026**	0.001	**0.038**	0.001
Age square	**0.000**	0.000	**0.000**	0.000
	LL=25 063, Wald (10)=2 877		LL=25 065, Wald (10)=3 030	
	n_{total} =41 983		n_{total} =41 983	

	$n_{uncensored}$ =31 655	$n_{uncensored}$ =37 705

Table A4. *Marginal effect of the Heckman two-step selection model, given labor force participation and employment.*

Variables	Baltic immigrants		Born in Sweden	
	Marginal effect	Standard error	Marginal effect	Standard error
Age + age squared	**0.011**	0.001	**0.009**	0.000
Female	**-0.237**	0.011	**-0.303**	0.008
Upper secondary school	**0.085**	0.018	**0.131**	0.011
University	**0.220**	0.016	**0.318**	0.011
Number of children	-0.009	0.006	**-0.055**	0.004
Married	0.006	0.008	**0.021**	0.006
Large city county	-0.016	0.009	**0.067**	0.006
Forest county	*-0.038*	0.017	*-0.015*	0.007
Private employer	**0.028**	0.008	**-0.099**	0.006
Number of unemployment days in 2004	**-0.003**	0.000	**-0.003**	0.000
Number of unemployment days 2000-2003	**-0.001**	0.000	**-0.001**	0.000
Number of employed at the place for employment	**0.000**	0.000	**0.000**	0.000
Mills inverse ratio 1 (λ^J)	0.159	0.115	0.038	0.104
Constant	**5.344**	0.229	**5.314**	0.157
Age	**0.094**	0.009	**0.108**	0.006
Age square	**-0.001**	0.000	**-0.001**	0.000
	Adj R2 = 0.23 n=24,315		Adj R2=0.30, n=32 574	