EPC ABSTRACT

"Policy-driven migrant selection and labor market outcomes of immigrants in Sweden and Denmark"

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1) **Statement of the research question**

Despite not being a new phenomenon, increasing immigration flows in the recent decades have put the issue of migration integration in the spotlight. Namely, OECD countries have seen an increase in migration flows since 1960, with several fluctuations but an overall increase of 25 million migrants by the end of the century (OECD, 2014). The new migration pattern, with a higher share of family reunification migrants and refugees, together with an organizational change in the labor market structure, which demands more country-specific skills (Rosholm et al., 2006), has prompted a growing concern about the performance of migrants compared to natives. Newer migrants perform worse on migration indicators in comparison to earlier migrants (OECD, 2023) and, although the gap is slowly converging, the differences are significant enough to place migrant integration as one of the most important political concerns (Causa & Jean, 2007).

In light of the growing controversy regarding migration flows, integration policy plays a key role in this process, acting as a tool that can affect several fiscal, social and cultural outcomes (Edo et al., 2020). Countries have adopted a wide range of policies regarding education, citizenship requirements and labor market integration, with different purposes, ranging from reducing the number of migrants to improving their adaptation to the host country. The existing evidence of their impact on integration outcomes is, however, inconclusive, especially in the long run (Goodman, 2015; Platt et al., 2022). The aim of this paper, therefore, is to contribute to the empirical evidence on immigration integration policies and how these can affect migration self-selection migrant trajectories in the long run, with a focus on labor market outcomes.

For our purpose, the cases of Sweden and Denmark represent an illustrative example of migration and policy change. Both countries have had similar levels and types of migration since the second half of the twentieth century, as well as a similar position regarding immigration policies. The turn of the century, however, brought a paradigm shift in Denmark, with the implementation of stricter policies. The country comparison is optimal in this context because of the different immigration policies but similar socioeconomic characteristics between the countries: the difficulty of the language is similar; they are geographically close and share similar cultures and standards of living. Therefore, individuals from a given country of origin would, in the absence of family ties, have little reason to opt for one country of destination over the other. Immigration policies, therefore, may play an important role when choosing one of the two countries.

From the perspective of selection theory (Borjas, 1987), migration decision is the result of a calculation in order to maximize income, taking into account the probabilities of finding employment in the host country. In addition, self-selection in terms of individual characteristics (such as educational attainment or ability) plays a key role in the outcomes in the host country. The introduction of stricter immigration policies may hinder the prospects of acquiring a job in Denmark, and therefore preventing those individuals with a lower possibility of working from migrating. According to the theory, the expected findings would be a positive selection in the post-reform migrant cohorts in Denmark, but no significant change in the characteristics of those arriving to Sweden (or, if any, we would expect spillover effects (Bratu et al., 2020) from the migrants who decide to move to Sweden instead of Denmark due to the policies). Due to this positive selection, the results would show an elevated trajectory in terms of earnings for migrants arriving to Denmark after the reform.

The contribution of this paper is, therefore, to analyze how a series of reforms in Denmark modified the self-selection of migrants and how the potential change in self-selection affected the outcomes of migrants to Denmark (and potential spillovers to Sweden) in terms of long-run labor market outcomes.

2) Data and research methods

The analysis is based on Swedish and Danish administrative registers retrieved from Statistics Sweden and Statistics Denmark. Both sources of register data are comprehensive records of annual information about the total population. The study focuses on labor market outcomes and self-selection before and after the reform in each of the countries. Using panel data is optimal in this context because it allows analyzing the trajectory of migrants over time, avoiding cohort immigration effects that would appear in cross-sectional data (Borjas, 1987). In order to get an accurate measure of the impact of the reform, the sample will consist of individuals from countries which were senders of the type of migration affected by the policy change. Namely, the policies were aimed at restricting family reunification migrants and refugees. The countries will be selected according to two requirements: first, the countries need to be senders of the type of migration affected by the reform (family reunification and refugees). Secondly, countries have to be significant senders of migration to both host countries, in order to allow for comparison between Sweden and Denmark.

Thus, the selected countries are Iran, Iraq, Somalia, Turkey and former Yugoslavia [1]. The sample includes all types of immigration in the early results, but we expect to get more information regarding the grounds for settlement and divide the sample by family reunification/refugees and worker migrants . The individuals in the sample arrived 5 years before and after the reform; this is, from 1997 to 2007. The age at arrival is restricted between 19 and 40 years. This setting allows to capture the self-selection trend before and after the reform as well as the earning trajectories of individuals since their arrival to the country. The individuals are followed from the year of arrival until 2016, which is the last year of data available.

The approach of the study is to treat Sweden as a quasi-counterfactual of the effect of the reform in Denmark. In order to make the comparison as accurate as possible, the sample of immigrants will be compared to natives with similar demographic characteristics and the gap in labor market outcomes between natives and immigrants will be calculated. The sample of natives will be composed of all individuals who are born in Sweden and are between 19 and 40 years between 1997 and 2007. This is, if an individual was 18 in 1997, that person will start appearing on the data in the year 1998, which is when the individual will be 19 and will fulfil the restriction. Therefore, the sample will be cohorts born between 1958 and 1988. Equally, the sample will exclude second-generation immigrants, by restricting the sample to individuals whose both parents are Swedish/Danish. However, the Swedish sample does not contain information regarding parents from 1985 onwards. This restricts the sample of Swedish natives to individuals born up until 1985 instead of 1988.

The variables of interest are chosen so that they are comparable between the two countries. The dependent variable will analyze the labor market integration of immigrants. This will be measured using two indicators: an annual employment indicator, which takes value 1 if the individual has a positive labor income bigger than 3 price base amounts[2], and if this salary is bigger than welfare and unemployment income. The second proxy will be annual labor income, measured as the taxable salary, including parental and sick benefits.

The human capital variables are age at migration, a dummy variable stating country of birth, and an education variable with the maximum educational attainment, taking values 1 if primary, 2 if secondary and 3 if tertiary. To net out time-specific effects, annual dummies are included. A trend effect in years since migration is included for immigrants, to capture changes provoked by experience as time progresses. Control variables are the common ones included in the literature: age, age squared, marital status, regional unemployment rate, region

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[1] Former Yugoslavia is composed of Serbia, Montenegro, Croatia, Macedonia and Bosnia

[2] This amount is used in Sweden as a measurement of the living costs over time, adjusted to inflation. This is used to calculate tax payments, pensions or benefits, being the maximum sickness benefit 7.5 times the base amount, for instance. For the Danish case the amounts have been adjusted to DKK.

of residence after settlement, sex and number of kids under 18. The model employed will be OLS, random effects model and a potential poisson model, with the following form:

$$Y_{it} = \alpha + \gamma X_{it} + \lambda * ysm\_pre_{it} + \delta * ysm\_post_{it} + \theta Z_{it} + \varepsilon_{it}$$

Where Y_{it} represents our dependent variable, earnings or employment, for a determined individual i at time t. X_{it} is a dummy taking value 0 if the individual arrives before the reform and 1 if the individual arrives after. This dummy is then interacted with years since migration (ysm) (N=1,...,13 for Sweden and N=1,...,10). The regression will be specified for each country of birth (Iraq, Iran, Somalia, Turkey and Former Yugoslavia). Z_{it} represents the control variables.

3) Preliminary findings

Table 1 Descriptive statistics of the sample

|	SWEDEN			DENMARK		
	Natives	**Pre-reform**	**Post-reform**	**Natives**	**Pre-reform**	**Post-reform**
No. of observations	9,095,763	383,229	289,168	7,187,333	122,730	27,259
No. of individuals	490,136	29,137	27,356	399,853	13,190	3,631
Ind By country of birth						
Somalia		1,670	3,261		2,237	205
Turkey		2,618	3,107		3,017	995
Former Yugoslavia		9,517	4,086		2,380	1,149
Iran		3,301	3,344		890	487
Iraq		12,031	13,558		4,664	794
Educational attainment, % (2002/at arrival)						
Primary	10.84	27.46	32.85	29.29	43.27	42.75
Secondary	55.83	41.53	29.76	49.16	40.55	35.51
Tertiary	33.32	31.01	37.40	21.54	16.17	21.74
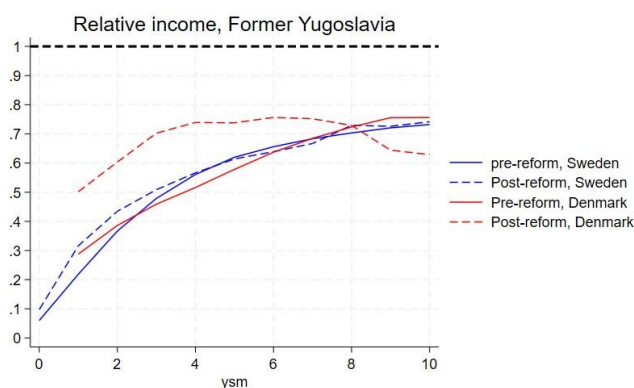
Figure 1: Mean income, pre and post reform and years since migration (ysm)

Table 1 shows some descriptive statistics of the native sample in each country during the year of the reform and the cohorts of interest, divided by those arriving before 2002 and after 2002 (individuals arriving in 2002 are excluded from the sample). Two main conclusions emerge from the table: the number of individuals arriving to Denmark decreases significantly, whereas the number for Sweden does not show any significant difference. This result holds for all countries of origin. Secondly, whereas the educational attainment in postreform cohorts in Sweden changes both for primary and tertiary education, the Danish case shows an increase only in the share of those with tertiary education, tentatively supporting the selection theory. In Figure 1, the mean income is calculated by age, sex and education and plotted against years since migration. The result supports the initial hypothesis: whereas the pre and post reform cohorts in Sweden do not show significant differences, the pre and post reform cohorts in Denmark show a 20% difference in the annual earnings 1 year after their arrival compared to the pre-reform cohort.

The preliminary findings of our paper seem to confirm the expected results from selection theory. Figures 2.1 and 2.2 show the predicted relative earnings of Former Yugoslavian migrants of pre and post reform cohorts coming to Denmark and Sweden, plotted against years since migration and in comparison to the native performance (black dashed line) of an individual with the same demographic characteristics (age, educational level, civil status, etc.):
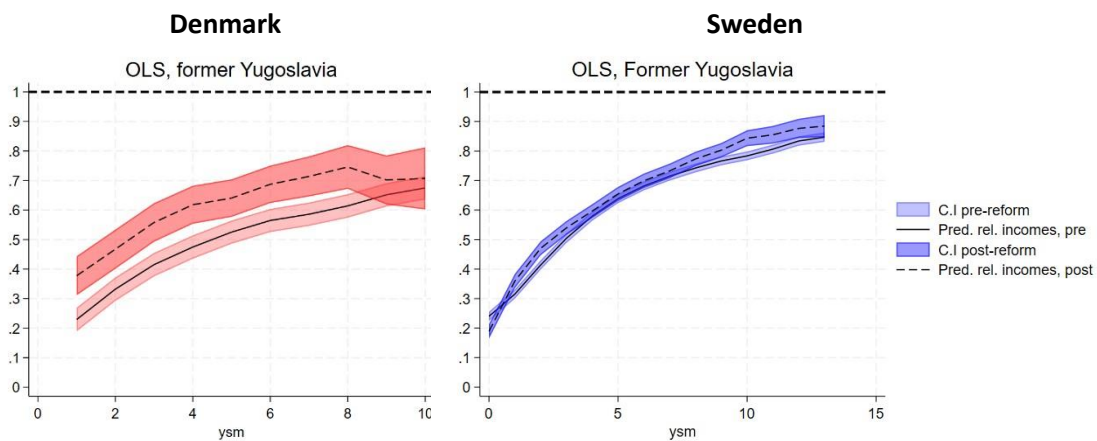

Figure 2.1 and 2.2: Predicted relative incomes of the OLS regression, Former Yugoslavia

The dashed line shows the performance of post reform cohorts, showing that the performance of post and pre reform cohorts in Sweden did not change whereas the post-reform cohorts in Denmark perform significantly better than the pre-reform cohorts. Namely, Former Yugoslavians who arrived before the reform started out with a salary that was around 20% of the salary of the natives, whereas the post-reform cohort started with 40% of the salary of their native peers. This result holds for the rest of the countries, and also in the random effects model. The results, therefore, seem to support the idea that the migration policy employed modified the self-selection of migrants, as expected by the theoretical framework, elevating the earnings of those individuals who migrated to Denmark after the reform. This result seems to be net out of individual characteristics, as the regressions show. Equally, the comparison to Sweden seems to support the hypothesis that the flows of migration did not have any significant changes so as to affect the performance of migrants in the long run.

The paper will further include sensitivity tests to strengthen the validity of the results. Mainly, the model will test the difference in pre and post reform cohorts of migrants coming from Germany and Norway, expecting a non-significant difference between the groups. Furthermore, we will analyze cohorts arriving closer to the reform, and whether there was a spillover effect on the closer region to Sweden by measuring the pre and post reform cohort performance in comparison to the rest of the country.

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