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Native Migration Responses to Increased Immigration

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INTRODUCTION

Immigration has long been a topic high on the political and academic agenda. At the EU-level, the recent political debate has focused on how to accommodate arriving refugees and the recent failed attempts to establish a functioning European mechanism for a more even spatial distribution of new arrivals. At the national level, there is a longstanding debate over the effects of immigration on the host country, be it labour market effects, fiscal effects, welfare effects, effects on long-term growth, or effects on natives' migration behaviour. The last question is important for both European and national political debates.

In this article we ask: do natives change their internal migration behaviour when exposed to increasing immigration? Our case study is Sweden. Sweden has, relative to other European countries, high levels of refugee immigration, stretching back over three decades. Over the last seven decades, there has been an increase in the number of immigrants to Sweden, as well as a change in the immigrants' source region. This is highlighted in Figure 1. In the mid 1900's, the foreign born population made up less than 3% of the Swedish population, and largely originated from the Nordic countries. This pattern has since changed, with an initial increase in labour market immigration from non-Nordic European countries in the 1960s and 1970s, which was followed by non-European refugee- and family-related immigration, especially from the early 1980s onward. The foreign born population in Sweden now constitutes over 16% of the population, with the majority of foreigners having been born outside Europe. With such a significant change in population characteristics, questions emerge as to how the host country is affected.

POTENTIAL MECHANISMS FOR NATIVES' MIGRATION RESPONSES

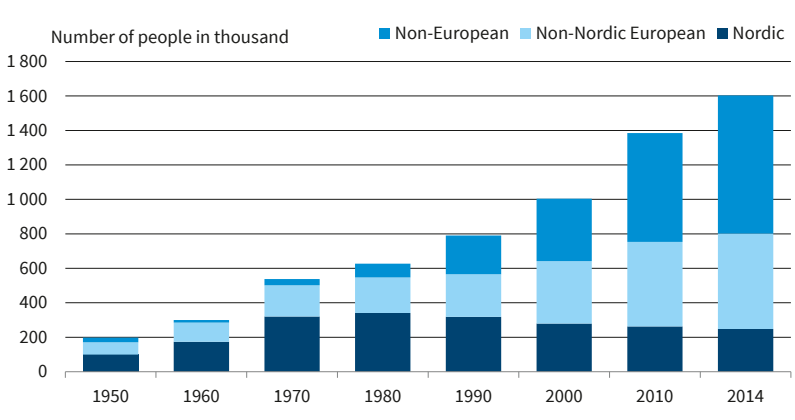
In the migration literature, researchers usually differentiate between the concepts of white *flight* and white *avoidance* (or similarly, native flight and native avoidance). The former describes when natives move *out of* a neighbourhood due to the increased presence of immigrants, while the latter implies that increased immigration causes natives to avoid moving *into* neighbourhoods.

While it is possible to have native avoidance, but not native flight, as well as vice-versa, the mechanisms driving the migration response are likely to be similar. Firstly, natives may have preferences for neighbours with a shared ethnicity or racial background (see, for example, Farley et al. 1978, Farley et al. 1994, and Card et al. 2008). Secondly, natives might expect or perceive incoming refugees as having lower levels of education and income, as well as a poorer overall socio-economic status. If natives prefer to live with individuals who are similar in these aspects, the flight phenomenon is perhaps better described as economic, rather than native, flight. As we will see, effects due to economic or ethnic preferences are inherently difficult to separate from each other.[1] Thirdly, parents might choose where to live based on where the (perceived) best schools are (see, for example, Betts and Fairlie, 2003, for a discussion of how immigration can be perceived to affect school outcomes). This mechanism, however, is most likely of secondary order in Sweden, where a voucher system also allows parents to choose schools in neighbourhoods other than their residential location. Aside from these three behavioural mechanisms, immigration inflows may also affect the housing market. If higher immigration changes house prices, natives may react to these changes rather than to the immigrants per se (see, for example, the model in Boustan 2010). Furthermore, to the extent that the housing supply is fixed in the short run, each individual moving into a neighbourhood means that there is one less spot for everyone else. While we expect price mechanisms to be of little importance since most immigrants occupy rental housing,

[1] It is worth noting that in the classic paper by Thomas Schelling (1971), segregation can be based on any characteristics that individuals find important to sort on.

Figure 1

Foreign-Born in Sweden 1950–2014
By region of birth



Source: Blind and Dahlberg (2015).

which is regulated in Sweden, this latter "mechanical" effect is important for the interpretation of the results.[2]

WHAT DOES THE EXISTING LITERATURE SAY?

In the US, researchers have investigated the question of *white* flight for a long time. Generally, US data differ somewhat from European data, and instead of asking if natives move out of neighbourhoods due to increased immigration, US surveys often ask if the white population migrated due to black immigration. Notable research here includes Boustan (2010), who studies the effect of black migration into northern cities from 1940 to 1970, and how this affected the white population living in cities. Careful estimations find that for every black migrant, 2.7 white individuals left.

For results based on European data, Rathelot and Safi (2014) find indications of native avoidance in their study of France, but not native flight. Using data from the UK, Sá (2015) shows evidence that the growth in the native population is significantly smaller in areas with higher immigration. When studying the development over time in four neighbourhoods in three Swedish cities, Bråmå (2006) finds signs of native avoidance, but not native flight.

A related body of literature makes use of an argument put forward by Thomas Schelling (1971), whereby flight is not a linear process. Instead, natives start to leave after a certain tipping point, after which the individual with the strongest preferences for homogeneity leaves, triggering a chain of events that could lead to full segregation. Card et al. (2008) formalised this way of thinking empirically, finding tipping points in the US at around 8–12% of minorities.[3] Likewise, Aldén et al. (2015) conclude that they have found significant tipping points when using Swedish data.

Another body of literature within economics has studied the labour displacement effects of natives due to increased immigration. This literature concerns the effect of immigration on native wages and employment. Most papers find minor or no effects.[4]

DATA AND METHOD FOR THE CASE OF SWEDEN

Our Swedish study (Andersson et al. 2017) aims to isolate the effect of foreign immigration on the migration behaviour of natives from other factors that may simultaneously drive the two. In other words, we aim to estimate the causal effect of immigration on native migration.[5] To this end, we make use of a very comprehensive database called GeoSweden. The database includes yearly anonymised individual information on all residents in Sweden with permanent addresses, starting in 1990 and ending in 2014. It has information on demographic and socio-economic characteristics such as age, gender, marriage, country of birth, labour market status, education and income. It also includes information on type of residence and parents' foreign background that will prove important to gaining a deeper understanding of the internal migration process.

The database also holds detailed information on immigrants such as their country of origin and the reason for their immigration. This constitutes an interesting tool that has not been available in previous studies as it enables us to separate refugees from labour migrants and other types of immigration. From a methodological point of view, this separation is valuable because refugee migrants tend to be less selective about where they locate. Another crucial feature of the data is that it provides individuals' place of residence on a highly differentiated basis, which means that we can define "neighbourhoods" to and from which people migrate as quite small geographical units.[6] This, we argue, is an advantage compared to previous literature, which frequently uses larger geographical units (such as MSAs in the US).[7]

Thanks to this data, we can apply a research design that is an improvement on existing work in terms of capturing the causal effect of immigration. The design is a type of regression analysis labelled as a "shift-share strategy" (Altonji and Card 1991; Card and DiNardo 2000), but fine-tuned in several ways. In general, the idea with the shift-share strategy is to use the fact that new immigrants tend to be drawn to places where their predecessors have previously settled. Our first improvement lies in the fact that our measure of previous immigrant settlement is constructed from a refugee placement programme that disallowed refugee immigrants to select their place of residency in the 1990s. Other improvements are possible thanks to the comprehensive data as described above.

SAMPLE DESCRIPTION

Table 1 and 2 describe our data sample, which covers the period 1997–2010 (we also use data for the years 1990–1993 to measure refugee settlement during years of the placement programme). Table 1 presents the mean and standard deviation for the main variables. On average, just less than one immigrant per year moved into a given neighbourhood, but the standard deviation is much larger than that, reflecting the fact that many neighbourhoods differ from the average. In particular, our neighbourhoods are generally small, and a substantial share (over 80%) received no immigrants at all. The neighbourhood population is on average around

[2] See Andersson et al. (2017) for a lengthier discussion of potential mechanisms driving the native migration response.

[3] Easterly (2009) does however not find any signs of a tipping point in the US.

[4] This body of literature is very large and cannot easily be captured here. A few interesting examples include Card (1990), Peri and Sparber (2009) and more recently Dustmann et al. (2017).

[5] Our main definition of a native is a person born in Sweden. However, in a sub-group analysis we separate these natives based on where their parents are born; see the result section below.

[6] In particular, we define a neighbourhood as a so-called Small Area for Market Statistics, SAMS.

[7] Immigration into a certain neighbourhood in a larger city may go largely unnoticed by natives who live in another neighbourhood within the same city borders.

Table 1

Descriptive Statistics for Main Variables

Variable	Obs.	Mean	Std. Dev.	Min	Max
Outflow	114,477	85.2	118	0	2352
Inflow	114,470	85.2	121	0	2716
Immigration	114,478	0.82	4.7	0	313
Population	114,478	1,019	1,236	1	20,285

Source: GeoSweden (2017).

1,000, but this figure ranges from as low as 1 to as high as 20,000. As for the native population, 85 individuals on average move out of or into a neighbourhood in a given year. In terms of turnover, around 10 % of the natives in a typical neighbourhood are exchanged in any given year.

Our sample includes refugee migration from over 30 countries, which represents the majority of refugee immigration to Sweden during our time period. Table 2 lists the most dominant sources of immigration – the seven source countries in the table account for as much as 85% of all refugee immigration in our sample. It is worth noting that a very large share of the sample consists of Iraqis, which is largely due to the Iraqi war.

DISCUSSION OF RESULTS

In Andersson et al. (2017) we study how native migration responds within a one-year-period following increased immigration. Two main conclusions can be drawn from this analysis; firstly, we find no significant overall effects of immigration into a neighbourhood on native migration patterns, neither statistically nor economically. This conclusion holds regardless of the measure of native migration used; out-migration (flight), in-migration (avoidance), or total changes in the native population. Interestingly, this result contradicts the earlier migration literature (e.g., Boustan 2010; Rathelot and Safi 2014; Sà 2015; Bråmå 2006). There are several possible reasons for this discrepancy, such as different time periods and/or time spans during which immigration and the following native migration response is measured, different data sets and different definitions of "immigrants" and "natives". Lastly, an important explanation could be the refined, more reliable estimation method in Andersson et al. (2017).[8]

Table 2

Countries of Origin for Majority of Refugee Immigrants (in Sample) to Sweden 1997–2009

Countries	Frequency	Share of sample (%)
Iraq	40,537	43
Somalia	11,597	12
Serbia/Montenegro/Kosovo	8,345	9
Bosnia	6,727	7
Iran	5,105	5
Afghanistan	4,347	5
Syria	3,954	4

Source: GeoSweden (2017).

Our second main conclusion is that migration processes and how they respond to increased immigration are complex matters. More specifically, the null effect we find on average masks interesting subgroup patterns, which can only be revealed thanks to the richness of our data. An example of an aspect that, due to unavailable data, has been neglected in previous literature, but that seems important to understanding migratory behaviour is type of residence and the option of moving that accompanies it. In particular, we detect significant flight among natives in owner-occupied housing and condominiums, who are likely to be more mobile than those staying in rental-controlled municipal housing.[9] Another interesting dimension that has previously been mostly overlooked is the "degree of foreign background". There is no clear definition of a "native", and our analysis shows that those defined more broadly as natives – namely, those who are themselves born in Sweden, but have foreign-born parents (sometimes referred to as "second-generation immigrants") – seem to react at least as strongly to increased immigration as native-born individuals whose parents are also born in Sweden. In particular, they seem to move out of neighborhoods with larger immigration in the same pace as native-born individuals whose parents are also born in Sweden.

Because immigrants on average tend to have lower income and education, disentangling residential preferences along ethnic versus socio-economic dimensions is intrinsically difficult. But at the very least, our combined sub-group analysis indicates that the latter cannot be neglected. More in-depth analysis of how natives with both parents born in Sweden and "second-generation immigrants" respond to increased immigration is required to better understand what drives residential preferences.

The analysis in Andersson et al. (2017) takes a one-year perspective, but decisions to move sometimes take longer than that. Although many factors poten-

[8] This first conclusion also does not rhyme well with some of the results from the related – yet different in nature – studies of ethnically driven tipping points (e.g., Card et al. 2008, and Aldén et al. 2015).

[9] This is tightly linked to the fact that many living in public rental apartments belong to lower income groups, who might not have many options outside the public rental housing market. Furthermore, housing queues in several municipalities are long, making mobility limited in practice.

tially change in the long run, making it difficult to isolate the effects of immigration, looking into more long-term migratory responses is an interesting task for future studies. Another potential research avenue would be to examine whether school choice among natives who stay in increasingly immigrant-dense neighbourhoods results in segregated schools. This is the next step on our agenda.

REFERENCES

Aldén, L., M. Hammarstedt, and E. Neuman (2015), "Ethnic Segregation, Tipping Behaviour, and Native Residential Mobility", *International Migration Review 49, 36*–69.

Altonji, J. G. and D. Card (1991), "The Effects of Immigration on the Labour Market Outcomes of Less-Skilled Natives", *Immigration, Trade and the Labour Market*, University of Chicago Press, 201–234.

Andersson, H., H. Berg and M. Dahlberg (2017), "Migrating Natives and Foreign Immigration", *mimeo*, Uppsala University.

Betts, J. R. and R. W. Fairlie (2003), "Does Immigration Induce 'Native Flight' from Public Schools Into Private Schools?", *Journal of Public Economics* 87, 987–1012.

Blind, I. and M. Dahlberg (2015), "Immigration, New Religious Symbols, and the Dynamic of Neighbourhoods", *mimeo,* Uppsala University.

Boustan, L. (2010), "Was Postwar Suburbanization 'White Flight' Evidence from the Black Migration", *The Quarterly Journal of Economics* 125, 417–443.

Bråmå, Å. (2006), "'White Flight' The Production and Reproduction of Immigrant Concentration Areas in Swedish Cities, 1990-2000", *Urban Studies* 43, 1127–1146.

Card, D. (1990), "The Impact of the Mariel Boatlift on the Miami Labour Market", *Industrial and Labour Relations Review* 43, 245–257.

Card, D. and J. DiNardo (2000), "Do Immigrant Inflows Lead to Native Outflows?", *American Economic Review* 90, 360-367.

Card, D., A. Mas and J. Rothstein (2008), "Tipping and the Dynamics of Segregation", *The Quarterly Journal of Economics* 123, 177–218.

Dustmann C., U. Schönberg and J. Stuhler (2017), "Labour Supply Shocks, Native Wages, and the Adjustment of Local Employment", *The Quarterly Journal of Economics* 132 (1), 435–483.

Easterly, W. (2009) "Empirics of Strategic Interdependence: The Case of the Racial Tipping Point", *BE Journal of Macroeconomics* 9, Article 11.

Farley, R., H. Schuman, S. Bianchi, D. Colasanto and S. Hatchett (1978), "'Chocolate City, Vanilla Suburbs': Will the Trend Toward Racially Separate Communities Continue?", *Social Science Research* 7, 319–344.

Farley, R., C. Steeh, M. Krysan, T. Jackson and K. Reeves (1994), "Stereotypes and Segregation: Neighbourhoods in the Detroit Area", *American Journal of Sociology* 100, 750–780.

Peri, G. and C. Sparber (2009), "Assessing Inherent Model Bias: an Application to Native Displacement in Response to Immigration", *Journal of Urban Economics* 69, 82–91.

Rathelot, R. and M. Safi (2014), "Local Ethnic Composition and Natives' and Immigrants' Geographic Mobility in France, 1982-1999", *American Sociological Review* 79, 43–64.

Sá, F. (2015), "Immigration and House Prices in the UK", *The Economic Journal* 125, 1393–1424.

Schelling, T. C. (1971), "Dynamic Models of Segregation", *Journal of Mathematical Sociology* 1, 143–186.