

DISCUSSION PAPER SERIES

IZA DP No. 16044

**In and Out of Privileged and  
Disadvantaged Neighborhoods in  
Sweden – On the Importance of Country  
of Birth**

Björn Gustafsson  
Torun Österberg

MARCH 2023

## DISCUSSION PAPER SERIES

IZA DP No. 16044

# In and Out of Privileged and Disadvantaged Neighborhoods in Sweden – On the Importance of Country of Birth

**Björn Gustafsson**

*University of Gothenburg and IZA*

**Torun Österberg**

*University of Gothenburg*

MARCH 2023

Any opinions expressed in this paper are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but IZA takes no institutional policy positions. The IZA research network is committed to the IZA Guiding Principles of Research Integrity.

The IZA Institute of Labor Economics is an independent economic research institute that conducts research in labor economics and offers evidence-based policy advice on labor market issues. Supported by the Deutsche Post Foundation, IZA runs the world's largest network of economists, whose research aims to provide answers to the global labor market challenges of our time. Our key objective is to build bridges between academic research, policymakers and society.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

ISSN: 2365-9793

**IZA – Institute of Labor Economics**

Schaumburg-Lippe-Straße 5–9  
53113 Bonn, Germany

Phone: +49-228-3894-0  
Email: [publications@iza.org](mailto:publications@iza.org)

[www.iza.org](http://www.iza.org)

## ABSTRACT

---

# In and Out of Privileged and Disadvantaged Neighborhoods in Sweden – On the Importance of Country of Birth

Moves into and out of privileged neighborhoods as well as moves into and out of disadvantaged neighborhoods in metropolitan Sweden are studied using register data on all moves by adults that took place between 2004 and 2006. Based on estimated multivariate models, we find that, for all four types of moves, age, education, household income, household composition and its changes, as well as labor market status and its changes, matter. However, in addition, where the person was born can matter, as, with some exceptions, foreign-born people are less likely than natives with the same characteristics to move into a privileged neighborhood. Furthermore, foreign-born are typically less likely than natives with the same characteristics to move out of the metropolitan regions. However, considerable heterogeneity in probabilities to move between those born in different categories of countries is found. Adults born in high-income countries are, in many cases, moving similarly to natives with the same characteristics, while this is typically not found among people born in low-income countries. The latter might be due to fewer assets, lesser social capital, discrimination in the housing market or in housing finance, or by choice.

**JEL Classification:** J15, J61, R23

**Keywords:** residential mobility, neighbourhoods, immigrants, Sweden

**Corresponding author:**

Björn Gustafsson  
Department of Social Work  
Göteborg University  
P.O. Box 720  
SE 405 30 Göteborg  
Sweden

E-mail: [Bjorn.Gustafsson@socwork.gu.se](mailto:Bjorn.Gustafsson@socwork.gu.se)

## **1. Introduction**

Residential segregation has become a serious concern in metropolitan Sweden, where economic and ethnic segregation is strongly related. For example, in what in this paper is defined as disadvantaged neighborhoods, foreign-born make up two-thirds of all adults in 2004, while in privileged neighborhoods, they constitute not more than 13 percent. Important forces generating residential segregation are movements in and out of neighborhoods, as are moves in and out from metropolitan regions. To shed light on what generates such moves is the aim of this paper. We are particularly interested in how different kinds of immigrant background are related to how people move.

Obviously, people move for many reasons. Some are demographic, such as a changed household composition. The life cycle matters, as moves are typically more likely to take place among young adults than among older people. There are also often economic reasons behind moves. When a person enters or exits employment, this can lead to a neighborhood change. A move to a privileged neighborhood is easier to make if the household receives a high income, or due to, for example, a longer education, expect to receive a high income in the future.

The philosophy behind the empirical study we report here is that, in order to better understand why foreign-born adults move, one should first have a good understanding of why native people move. We ask: In the case of having the same characteristics as natives, are the probabilities of foreign-born people moving different? We are also interested in revealing a hierarchy among foreign-born when it comes to moves: Are people from a foreign country with a low GDP and a population and society more dissimilar from natives, moving differently

compared with foreign-born from countries that, in several respects, are similar to the native population in Sweden?

This study is based on register data showing in- and out-moves of privileged, as well as disadvantaged neighborhoods, made by adults who lived in metropolitan Sweden in 2004, by inspecting their location in 2006. We specify and estimate four equations. One reveals the determinants of having entered a privileged neighborhood, a second the determinants of entering a disadvantaged neighborhood. In a third equation, we inquire into the factors relating to exits from a privileged neighborhood, and in a fourth, factors that are related to the exit from a disadvantaged neighborhood.

Our study aims to contribute to the existing literature in several ways. We are, most probably, the first to study moves in and out of privileged neighborhoods in Sweden. When studying moves out of a privileged, as well as from a disadvantaged neighborhood, we regard locations outside metropolitan Sweden as one destination. Further, by distinguishing between immigrants born in eight different categories of countries, and also considering if a foreign-born person has a native partner, we can better than in previous studies analyze if and how a foreign background plays a role for moves which are not related to the variables we take into consideration in the analysis.

## **2. Why immigration and country of origin can matter for moves**

In the international literature on immigrants and residential segregation, researchers have given different emphasis to how and why immigrants move. “Place assimilation” commonly stands

for an optimistic scenario in which newly arrived immigrants, although upon entry often find less attractive housing in a disadvantaged neighborhood, over time in the new country improve their housing situation. As a consequence, housing conditions and neighborhood quality over time become increasingly similar to those of similar natives. A less optimistic perspective: “Place segregation” introduces barriers and difficulties for immigrants to improve housing conditions and the quality in the neighborhoods in which they live. The place segregation view means that most of the initial differences between immigrants and natives remain long after a foreign-born has arrived in the new country. Those two perspectives on migrants’ moves are not necessarily conflicting (Alba and Logan, 1991). For example, one scenario can best apply to one category of immigrants, the other to a second.

On an analytical level, one can distinguish between two types of reason why being foreign born is related to moves. One is that foreign born are different from natives regarding observed characteristics and events that are related to moves. Such factors include that immigrants are typically younger than natives, and moves are more often taking place when a person is young. Natives typically, and more often than immigrants, own sufficient amounts of financial assets that are required to buy a home and can thereby more easily move to a privileged neighborhood. A third example of immigrants being potentially disadvantaged is that information and connections can play a key role in finding a new home. Still a mechanism is that housing can be inherited from a member of an older generation, and foreign born can be less likely than natives to benefit from such transfers.

A second type of reason for foreign born to move differently from natives is that, in the moves conditioned by observed characteristics such as age, education, and income, a foreign background is linked to the probability of moving. Reasons might be discrimination in the

housing market and/or in housing finance. There are by now several studies that have shown that many categories of foreign born are worse treated than natives in the Swedish housing market: Ahmed and Hammarstedt, (2008); Ahmed et al. (2010); Bengtsson et al. (2012); Carlsson and Eriksson (2014). Ngeh (2011, p. 131) reports from ethnological research of African migrants living in the city of Malmö that these people felt that they had limited access to housing, especially decent housing.

All those possible mechanisms we have discussed up to now motivate policy intervention, as they indicate the existence of exclusion of immigrants. The mechanisms are immigrants' lesser ownership of wealth, lesser access to information channels and other forms of social capital, and discrimination by property owners and/or financial institutions. However, some reasons for a foreign-born person having a different probability of moving than a native with the same observed characteristics hardly motivates policy measures: Foreign born might differ from natives with the same characteristics in preferences regarding characteristics of a house and in which neighborhood to live. For example, some foreign born can prefer to live in other types of neighborhoods than natives, and vice versa. Such differences can originate from preferring to live in an ethnic enclave, because this can make it easier to find a job, to buy and consume ethnic goods and services and/or to take part in social events of an ethnic character. Aradhya et al. (2017) used data on a sample of immigrants originating from different regions in Iran and Turkey living in Sweden between 1968 and 2001. The analysis showed that those foreign born had been less likely to relocate from municipalities in which a large presence of other people from the same region of origin lived.

In this study, we also investigate if, and in such case to what extent, being foreign born plays a role in movements out of metropolitan areas. We expect that some foreign born have a lower

probability than natives with the same characteristics to make such moves, for several reasons: Natives are most likely better informed about work and housing opportunities existing outside the metropolitan regions than foreign born are. This is because natives are more likely to have useful social network nodes outside a metropolitan area. In addition, a substantial number of natives residing in metropolitan Sweden have previously lived in a place outside the metropolitan regions. Some people with such a history may nourish plans to leave a metropolitan location, for example after having completed their education or after having taken the first steps in a career, or for retirement. In addition, culture, in a broad sense, is typically more international in metropolitan areas than elsewhere, and for such reasons less attractive for some foreign born.

### **3. Context**

During many years, Sweden received many work migrants, with their families predominately originating from other European countries. For decades, Sweden has also received large numbers of people from low- and middle-income countries that are visibly different from the native inhabitants. Many such people have been granted resident permits after receiving refugee status for humanitarian reasons or as relatives to previously arrived immigrants. It has been well documented that, since the beginning of the 1990s, an employment gap exists between most categories foreign-born and the native population. This gap is larger than in most other rich countries and can be attributed to several factors (OECD 2016).

Some factors relate to the immigrants themselves and their skills: Immigrants are in many cases shorter educated than natives of the same age and/or their education and skills can have limited

transferability from the country of origin. Newly arrived immigrants to Sweden typically lack skills in communicating in the Swedish language and they often have limited knowledge of Swedish-specific institutions. Other factors relate to discrimination and employers' limited interest in hiring workers with a foreign background. Still another perspective is to focus on the structure of the Swedish labor market. In it, wages are set by negotiation between employers and trade unions in a way that the lowest wages are relatively high, consequently limiting the demand for low productivity workers. Having no or limited earnings, and as being newly arrived, many of Sweden's foreign born from middle- and low-income countries reside in disadvantaged urban neighborhoods that for some years have often been described as "immigrant dense."

According to common perception, urban Sweden previously had little residential segregation. However, during the 1990s, the issue of increased residential segregation did attract policy-makers' and researchers' attention. Aldén and Hammarstedt (2016) report that ethnic residential segregation based on exposure was broadly unchanged between 2000 and 2012. Malmberg et al. (2018), studying 1990 to 2012, write that different trends in ethnic segregation depend on which measure is applied. One important reason for the change is that, since the 1980s, the Swedish distribution of income has been on an upward trajectory. (See, for example, Swedish Ministry of Finance, 2019.) This in turn can be traced to factors such as changes in the labor market, the increased role of capital income during some years, and changes in the tax and transfer system. The decreased ambitions for housing policy can also be mentioned. For example, between 1974 and 1991, but not afterwards, housing policy was prominent enough to motivate a separate governmental ministry headed by a minister belonging to the cabinet.<sup>i</sup>

#### 4. Literature review

The combination of the increased number of immigrants, and the policy interest in residential segregation, provide background for several authors that studied the housing careers and inter-neighborhood moves of immigrants and, in some cases, natives in Sweden. This was aided by very good availability of data through which people can be followed over time in Sweden.<sup>ii</sup>

*/Table 1 about here/*

Table 1 lists 19 studies of residential movers among immigrants in Sweden, all published 2002 or later. We have grouped the studies in three categories. The first consists of investigations dealing with migrants housing careers. In such studies, rental housing can take the lowest and owner-occupied housing the top position. Although such hierarchy can be correlated with neighborhood characteristics, the correlation must not be perfect. The second category of studies deals with if cross-neighborhood moves are associated with changed ethnic composition in the neighborhood of origin. The third category of studies focuses on immigrant's neighborhood moves. Our study belongs to this category. The table includes information on which categories of immigrants are studied, if natives are included as a control group, spatial area, and years studied. For each study, we also report its focus and our interpretation of the main results.

From Table 1, several observations can be made. The territory covered varies as some studies have investigated one metropolitan region, others several, still others have studied middle-sized cities, and there are also studies of the entire country. There is also research comparing the capital region of Stockholm with its counterparts in Denmark and Finland.

There are variations across studies in what is meant by “immigrants.” In some it is the focus on the one-country-of-birth category (in one study Turkey, in another Iran, plus Iraq). Another examines foreign born from all countries around the globe, which are included in one single category: “immigrants.” In still other studies, larger sender countries are defined. There are also studies that have, like this, defined several categories in a manner that exhausts all countries on the globe. The two latter strategies make it possible to compare moves by immigrants of different origins.

Looking at results, there are some, but not very clear, indications that immigrants improve their position in the housing hierarchy relatively quickly after entering Sweden. While this can be attributed to an assimilation process, it can also be an effect of the life cycle or of events household members have experienced since immigration. Pay attention to that only in studies that include a native comparison group, it is possible to separate the importance of life cycle events from a pure immigrant spatial assimilation process. Magnusson et al. (2014) and Kauppinen (2015) demonstrate that immigrants from low-income countries tend to have slower housing careers.

We notice that among visible minority people growing up in a low-income neighborhood, there is an above average probability that as an adult they have lived in the same kind of neighborhood (Gustafsson et al., 2017). Furthermore, it can be noticed that studies that have

included household economic resources measured by income attribute a large role to them (Magnusson and Qzuekren, 2002; Bråmås and Andersson, 2010). We can also conclude that while there is some evidence that natives avoid moving to neighborhoods with a concentration of immigrants, there is little evidence that natives move out from a neighborhood after the concentration of immigrants has increased (Bråmås, 2006; Aldén et al., 2015; Muller et al., 2018).

Taken together, the previous studies give a somewhat complex picture of the role immigrant background has on neighborhood moves in Sweden. One reason is that “immigrant background” has been given different meanings. There is also a variation in research questions asked. To ask if immigrants are making an upward housing or neighborhood career, is a different question from asking if it is probable that immigrants will make such moves, ones that differ from that of natives having the same household characteristics and/or experiencing the same events.

We also note some blank spots in the research on immigrant background and residential mobility in urban Sweden. We have found no study on mobility into and out of economically privileged neighborhoods, nor on the role of foreign background in movements out of the cities/regions studied. There is little systematic comparison of moves by immigrants from different categories of countries.

## **5. Research design**

We study movements of adults (people aged 18 and older) in metropolitan Sweden, constituting the regions around the capital Stockholm, the city of Gothenburg, and the city of Malmö, by people who, in 2004, lived in those regions.<sup>iii</sup> We classify neighborhoods in those three regions in eight different groups, from privileged (economic type 1) to disadvantaged (economic type 8).<sup>iv</sup> As our research interest is on moves that are related to residential segregation, we focus on moves into and out of privileged neighborhoods (economic type 1) and on moves into and out of disadvantaged neighborhoods (economic type 8). When studying moves out of privileged and out of disadvantaged neighborhoods, one of the destinations is a location outside one of the metropolitan areas. A move is registered as having occurred when a person in 2006 lived in another neighborhood of metropolitan Sweden when compared with 2004, or if the person had moved out of a metropolitan area.<sup>v</sup>

For the purpose of this study, we have to specify what is “a neighborhood” as well as what is “a privileged” and “a disadvantaged” (or “poor”) neighborhood. Starting with the first, it can be noticed that different definitions of “neighborhood” have been used in research on Sweden. Some Swedish studies have used the Small Areas for Market Statistics (SAMS). The disadvantage of these is that they are not uniform for the three regions studied, see Amcoff (2012). Others, for example van Ham et al. (2014) use bespoke measures. Such measures do not, unlike ours, consider the physical characteristics of, for example, buildings and roads when defining what constitutes a neighborhood.

We applied one that was developed to map residential segregation in metropolitan Sweden, and is not an administrative category. It is documented in Biterman and Franzén (2007). These neighborhood definitions are only available until the year 2006 and hence limit our study to that time period. A neighborhood is defined as a population area that:

- Is demarcated by natural borders (major streets, green areas, etc.).
- Corresponds to a city district or a residential area.

- Has a number of inhabitants large enough to provide the basis for certain private or public services.
- Can be supposed to be looked upon as a neighborhood by its inhabitants.

The neighborhoods we study had the same borders during the years studied here. Most had a population of between four thousand and ten thousand inhabitants and cannot be considered as rural. The definition of privileged and respectively disadvantaged neighborhoods follows algorithms described in National Board of Health and Social Welfare (2010, pp. 296–7), having as input the relative frequency of males aged 25–64 with low, alternatively high-factor income (income from work and capital). In 2004, 39,204 adults lived in a privileged neighborhood, and 59,832 in a disadvantaged neighborhood.

We study four kinds of moves:

- a. Entry into a privileged neighborhood by adults who, in 2004, were living in another type of neighborhood of the three metropolitan regions. This sample consists of 1,073,652 people, of whom 3,412 had moved into one privileged neighborhood.
- b. Entry into a disadvantaged neighborhood by adults who, in 2004, were living in another type of neighborhood in one of the metropolitan areas. This sample consists of 1,057,371 people, of whom 4,418 moved into a disadvantaged neighborhood.
- c. Exit from a privileged neighborhood by people who, in 2004, were living in such a neighborhood. We define three categories of destinations: one is another privileged neighborhood in metropolitan Sweden; a second is a neighborhood in metropolitan

Sweden which is not privileged. The third destination is somewhere in Sweden outside of the metropolitan regions. This sample consists of 39,204 people, of whom 328 moved to a similar neighborhood, 2,541 to a less privileged neighborhood in metropolitan Sweden, and 660 moved out of metropolitan Sweden.

- d. Exit from a disadvantaged neighborhood by people who, in 2004, were living in such a neighborhood. Also in this case, we define three types of destinations: an equally disadvantaged neighborhood, a less disadvantaged neighborhood in metropolitan Sweden, and a destination in Sweden outside of the metropolitan areas. This sample consists of 59,832 people, of whom 2,192 moved to a similar neighborhood, 7,425 moved to a less disadvantaged neighborhood in metropolitan Sweden, and 2,313 moved out of metropolitan Sweden.

The data we work with originates from the database LISA, added with information on each individual's address and matching neighborhood codes. Statistics Sweden (2011) documents the database, which uses personal identity numbers of all individuals with permanent residence in Sweden in order to link information across registers and years. For this study, we have extracted a dataset covering all individuals who were born 1985 or earlier and lived in one of the three metropolitan areas in 2004. To be present in each of the four samples, it was required that the person had not died or emigrated in 2006.<sup>vi</sup> Immigrants are defined by country of birth in nine categories as reported in Table 2.

/Table 2 about here/

We use several explanatory variables when specifying the four equations that are all specified as multinomial logit models. Some are pure demographics: age of the person (eight dummy variables), marital status of the person in 2002 interacted with gender (four dummy variables), variables measuring if the person had divorced between 2004 and 2006 interacted by gender (two dummy variables), one variable indicating the number of children under 18 in the household in 2004. There is also one dummy variable indicating that the household size had increased, and another if household size had decreased between 2004 and 2006. All variables are measured on a household level and, in case there are two adults in the household, age and education relates to the reference person (the male).

Furthermore, there are eight dummy variables indicating the education level of the person. Strict economic circumstances are represented by five dummy variables interacted with gender, and one showing if the person was in the core labor force in 2004.<sup>viii</sup> We also include four dummy variables indicating adult males or females respectively who changed labor market status between 2004 and 2006. We also include disposable household per-capita income as it is defined in LISA, as an explanatory variable. Finally, immigrant country of birth is included by the eight dummy variables as shown in Table 2. There are also three dummy variables indicating if the person in 2004 was born in a region of countries and had a native-born partner. Thus, in each equation, a large number of coefficients are estimated.

## **6. How natives move**

/Figure 1a and Figure 1 b about here/

Figure 1a shows households of natives that are married, their given characteristics, and how the predicted probability of *entering a privileged neighborhood* is related to his or her age, education, if the person was integrated in the labor market in 2004, and the income of the household. We see that the predicted probability to enter a privileged neighborhood increases by age of the reference person up to 31–35 years, and thereafter decreases rapidly until 49–58 years of age, after which the curves fan out until, after age 85, the probability of entering a privileged neighborhood slightly increases. The latter possibly reflects a tendency to move into an institution for the elderly. In Figure 1 we also see that being longer educated and having a high income is critical for entering into a privileged neighborhood.

Figure 1b illustrates how selected demographic and labor market changes between 2004 and 2006 are related to the probability of moving into a privileged neighborhood. The figure is constructed based on the estimates where the reference person's age is 31–35 years, who has upper secondary education, and who married in 2004. It distinguishes between those who had favorable (a long education, having a job, and a high income) and unfavorable characteristics respectively in 2004, and illustrates that the former leads to a much higher probability of moving into a privileged neighborhood. We also see that if the spouse starts to work, and if a child is born (household size increase), those changes mean a considerably higher probability of moving into a privileged neighborhood. We can thus conclude that a typical native person who moves to a privileged neighborhood is longer educated, in their thirties, with a favorable situation in 2004, forms a family, and the partner enters working life.<sup>viii</sup>

/Figure 2a and b about here/

We now turn to discuss the *probabilities of moving into a disadvantaged neighborhood*. Figure 2 shows the case of a couple with selected characteristics. It can be seen that the predicted probability is highest if the person is 19 to 26 years of age, and thereafter decreases by age up to 85 years of age. Some initial characteristics mean that the person is considerably more likely to enter a disadvantaged neighborhood than if having other initial characteristics. In Figure 2b we can see that losing a job as well as some demographic events for a person with unfavorable initial conditions sizably increases the probability of moving into a disadvantaged neighborhood. We can conclude that a native with an above average probability of moving into a disadvantaged neighborhood is a young adult with unfavorable initial characteristics who has lost a job and/or has experienced changes in household composition.

/Figure 3 a, b about here/

*What makes a person leave a privileged neighborhood?* Figure 3 a and b shows predictions for a married person who in 2004 was living in a privileged neighborhood to stay alternatively move to different destinations. We see that a separation means a substantially increased probability of moving to another type of neighborhood within metropolitan Sweden. Similar, but not as strong, is the consequence of one of the adults in the couple losing her or his job.

/Figure 4a, b about here /

Finally, for this section, we turn to *exit from a disadvantaged neighborhood* by a native born. Figure 4 a and b shows that separation and (not equally strong) taking up a job means increased probabilities of moving out of a disadvantaged neighborhood. Pay attention to that in some cases is the probability of moving to a destination outside metropolitan Sweden not low.

## 7. The role of being foreign born in moves

/ Figure 5 about here/

We now illustrate how the eight categories of being foreign born, as well as the country background of the partner, are related to each of the four different kinds of moves that were studied for native born in the preceding section. Starting with the equation for *moves into a privileged neighborhood*, we see in Figure 5 that for some people with favorable characteristics, a foreign background does not mean much of a different probability compared to a native born. This is the case for foreign-born men or women married with a native-born spouse. The situation is similar in case the person self is born in the north-east of Europe or in Western of Europe.

In contrast, we report that despite favorable characteristics, the probability of moving into a privileged neighborhood is rather low if the person is born in an Asian country, the south-east of Europe or in Sub-Saharan Africa. We note that the probability of moving into a privileged neighborhood, even if having favorable characteristics, is rather low if the person is born in

Sub-Saharan Africa. While the predicted probability for a native person with favorable characteristics to move to a privileged neighborhood is 3 percent, the corresponding predicted probability for a person with the same characteristics but born in Sub-Saharan Africa is as low as 0.3 percent.

/Figure 6 about here/

We now turn to the predictions from the equation *moves into a disadvantaged neighborhood*. Figure 6 shows that when having unfavorable characteristics the probability to enter differ much by where the person was born. The predicted probability to enter a disadvantaged neighborhood if being native born is 4 percent, if born in Western Europe or being foreign born and having a native partner are all comparably low (6 percent), and if the person is born in another Nordic country it is 7 percent. The situation is different if the person is born in the Middle East (21 percent), and particularly if the person is born in Sub-Saharan Africa (28 percent). Thus, for the illustrated person with unfavorable characteristics, the probability of moving into a disadvantaged neighborhood is seven times as high as for a native-born person with the same characteristics.

/Figure 7 about here/

How is a foreign background related to the probabilities of moving out of a privileged neighborhood? Figure 7 illustrates this for a couple aged 31–35 years old, having upper secondary education of three years, and if both spouses have lost their job.<sup>ix</sup> In almost all cases,

the probability of moving out of metropolitan Sweden is highest for native born. Actually, in the case of being born in Sub-Saharan Africa, South Asia, or in Central Asia, the predicted probability of leaving the metropolitan areas is zero. The only exception from this pattern is people born in “other parts of Asia” who have a probability larger than for natives and also people born in Western Europe. Figure 7 also shows that if both spouses lose their job, the probability of remaining in a privileged neighborhood is lowest in the cases of those born in the Middle East, “other Asia”, or in Sub-Saharan Africa. For example, while the predicted probability of a native-born person remaining in a privileged neighborhood is 53 percent, and the probability of moving to another kind of neighborhood in metropolitan Sweden is 29 percent, the corresponding probabilities for a person with the same characteristics but born in Sub-Saharan Africa are 26 percent respectively 74 percent.

/Figure 8 about here/

Finally, we illustrate how the probability of moving out of a disadvantaged neighborhood in the case of both spouses taking up a job varies by the country of birth. Figure 8 show that, not surprisingly, a native background implies one of the lowest probabilities to stay and one of the highest to move (38 percent). However, this is not very different from the probability of moving among those foreign born with the lowest probability of moving (those born in Sub-Saharan Africa having a 30 percent probability of moving).

## **8. Conclusions**

Metropolitan Sweden is evidently segregated by income and by country of birth. In this paper we have investigated how migration has contributed to this pattern by studying moves to privileged and to disadvantaged neighborhoods. We have also studied moves out of a privileged neighborhood and out of a disadvantaged neighborhood. Register data on all such moves by adults that occurred between the years 2004 and 2006 were used to estimate multinomial logit models. We have distinguished between people born in Sweden and those born in eight different categories of countries.

The estimated four equations confirm that many factors are related to the probability of a person moving. It was shown that the probability of moving into a disadvantaged neighborhood is highest when aged 19 to 26 years and decreases up to the normal retirement age. The probability of moving to a privileged neighborhood first increases by age when the person is 31 to 35 years of age, and then falls. Moves are also related to the person's education, labor market status and its changes, and to the level of income in the household in which the person lives. Moves are also related to the structure of the household and its changes. Foreign-born people differ from natives, for example, by on average being younger and also in many other respects.

We are most probably the first who have studied entry and exit into economically privileged neighborhoods in Sweden by native born and foreign born. The findings indicate that, on condition of a number of characteristics and changes, immigrants from several categories of countries do have a lower probability of moving to a privileged neighborhood. The exceptions are those with a native spouse or being born in Western or Northern Europe.

Furthermore, we have found that most categories of foreign born are more likely to move to a disadvantaged neighborhood than natives with the same characteristics. This is particularly the case among people born in Sub-Saharan Africa, followed by those born in the Middle East or in Southern Europe. In contrast, we reported that, in cases of people living in a disadvantaged neighborhood and where the adult household members take up a job, the probability of moving is not very different between native born and most categories of foreign born.

One piece of the picture of residential segregation by country of birth in metropolitan regions in Sweden has not, to our understanding, been shown in previous research. We have found that many categories of foreign born are less likely than natives with the same characteristics, or natives who have experienced the same events, to move from a disadvantaged neighborhood to a destination outside one of the metropolitan regions.

Our results, in combination with the literature surveyed in Section 2, can be read as demonstrating the existence of a hierarchy of countries of origin when it comes to moves. It is therefore advisable to not treat “immigrants” as a homogenous category in studies of residential migration. People born in the north or the west of Europe are, as our data shows, in many characteristics similar to natives, and they also move similarly to natives with the same characteristics. At the other extreme are people born in Sub-Saharan Africa, North Africa, or Middle East, and “other Asian” who move dissimilarly to how natives with the same characteristics do.

We end this paper by indicating directions for future research on immigrant background, residential mobility, and segregation in Sweden. First, notice that our data relates to residential

mobility that had taken place in metropolitan regions between 2004 and 2006. This means limitations regarding whom we have studied, and also the mobility pattern studied.

Starting with whom we study it can be noted that we have not studied people born after 1985 nor people who have immigrated to Sweden after 2004. On the latter it should be noted that in 2015 Sweden received a rather large inflow of refugees and their families from low- and middle-income countries than during preceding and following years. Furthermore, residential mobility pattern in Metropolitan Sweden might have changed after 2006. On the period studied there are indications of that aspects of residential segregation has rather increased in Metropolitan Sweden than decreased after the years we studied. For example, Nordin (2022) report that the gap in average disposable income between neighbourhoods with the highest proportion immigrants and other neighbourhoods, which had widened rapidly between 1990 (the first year studied by this author) and 2006, had further increased in 2017 (the last year studied by the same author). It would therefore for several reasons be highly motivated to conduct a study similar to the one here reported for a more recent period.

Finally, more research is called for in order to understand why foreign-born people in many cases have a lower probability than natives with the same characteristics of entering privileged neighborhoods, and also have higher probabilities of moving out from a privileged neighborhood. Parallel to this: Why does a foreign born of most backgrounds have higher probabilities of entering a disadvantaged neighborhood than native born with the same characteristics? As we have discussed, possible reasons include lesser ownership of assets, lesser social capital, and the existence of discrimination in the housing market and/or in housing finance. However, variation in preferences between foreign born and native born can also play

a role. It should be a welcomed task for future research to try to find out how much weight should be put on each of those alternative possible explanations.

## References

- Abrahansson, M., Borgegård, L-E, Fransson, U. (2002) "Housing Careers: Immigrants in Local Swedish Housing Markets", Housing Studies, 17 (3), 445–464.
- Ahmed, A. and Hammarstedt, M. (2008) "Discrimination in the Rental Housing Market: A Field Experiment on the Internet", 64, 362–372.
- Ahmed, A. Andersson, L., and Hammarstedt, M. (2010) "Can Discrimination in the Housing Market Be Reduced by Increasing the Information about the Applicants?" Land Economics, 86 (1) 79–90.
- Alba, R.D. and Logan, J.R. (1991) "Variations on Two Themes: Racial and Ethnic Pattern in the Attainment of Suburban Residence", Demography, 28, 431–453.
- Aldén, L., Hammarstedt, M., and Neuman, E. (2015) "Ethnic Segregation, Tipping Behavior, and Native Residential Mobility" International Migration Review, 49, 36–69.
- Aldén, L. and Hammarstedt, M. (2016) Boende med konsekvens – en ESO-rapport om etnisk bostadssegregation och arbetsmarknad, Stockholm: Ministry of Finance, Report to the Expert Group of Public Economics, 2016:1.
- Alm Fjellborg, A. (2021) "Out-mobility from Stockholm's Immigrant-dense Neighborhoods—a Study of Two Cohorts", Geografiska Annaler Series B, Human Geography, 103 (1), 1 -20.
- Amcoff J. (2012). "Hur fungerar SAMS-områdena i studier av grannskapseffekter? En studie av SAMS-områdenas homogenitet", (How well does SAMS work in studies of neighborhood effects?). Socialvetenskaplig Tidskrift 19: 93–115.

Andersson, R. (2013) “Reproducing and Reshaping Ethnic Residential Segregation in Stockholm: The Role of Selective Migration Moves”, Geografiska Annaler: Series B, 95 (2), 163–187.

Andersson, R. and Hedman, L. (2016) “Economic Decline and Residential Segregation: A Swedish Study with Focus on Malmö”, Urban Geography, 37, 748–768.

Andersson, E.K., Malmberg, B., and Clark, W. A. V. (2021) “Neighborhood Context and Young Adult Mobility: A Life Course Approach”, Population, Space and Place, 27 (3), e2405.

Aradhya, S., Hedefalk, F., Helgertz, J., and Scott, K. (2017) “Region of Origin: Settlement Decisions of Turkish and Iranian Immigrants in Sweden, 1968–2001”, Population, Space and Place, e2031.

Bengtsson, R., Iverman, E., Tyrefors Hinnerich, B. (2012) “Gender and Ethnic Discrimination in the Rental Housing Market”, Applied Economic Letters, 19, 1–5.

Bitterman, D. and Franzén, E. (2007) “Residential Segregation (Chapter 6)” in International Journal of Social Welfare, 16, Supplement 1, 127– 162.

Bråmås, Å. (2006) ““White Flight”? The Production and Reproduction of Immigrant Concentration Areas in Swedish Cities, 1990–2000”, Urban Studies, 43 (7) 1127–1146.

Bråmås, Å and Andersson, R. (2010) “Who Leaves Rental Housing? Examining Possible Explanations for Ethnic Housing Segmentation in Uppsala, Sweden”, Journal of Housing and Built Environment, 25, 331–352.

Carlsson, M. and Eriksson, S. (2014) “Discrimination in the Rental Market for Apartments”, Journal of Housing Economics, 23, 41–54.

Gustafsson, B. Katz, K., and Österberg, T. (2017) “Residential Segregation from Generation to Generation: Intergenerational Association in Socio-Spatial Context among Visible Minorities and the Majority Population in Metropolitan Sweden” Population, Space and Place, 23 (4), 1–13.

van Ham, M., Hedman, L., Manley, D., and Coulter, R. (2014) “Intergenerational Transmission of Neighborhood Poverty in Sweden: An Innovative Analysis of Individual Neighborhood Histories”, Transactions of the Institute of British Geographers, 39 (4), 402–414.

Hedin, K., Clark, E., Lundholm, E., and Malmberg, G. (2012) “Neoliberalization of Housing in Sweden: Gentrification, Filtering, and Social Polarization”, Annals of the Association of American Geographers, 102, 443–463.

Hedman, L. van Ham, M., and Manley, D. (2011) “Neighborhood Choice and Neighborhood Reproduction”, Environment and Planning A, 43, 1381–1399.

Iceland, J. and Scopilliti, M. (2008) “Immigrant Residential Segregation in U.S. Metropolitan Areas, 1990–2000”, Demography, 45(1), 79–94.

Kadarik, K. (2020) “Immigrants’ Mobility towards Native-Dominated Neighborhoods: The Role of Individual Resources, Country of Origin, and Settlement Context”, Geografiska Annaler: Series B, Human Geography, 102 (2), 191–213.

Kauppinen, T. M., Skifter Andersen, H., and Hedman, L. (2015) “Determinants of Immigrants’ Entry to Homeownership in Three Nordic Capital City Regions”, Geografiska Annaler: Series B, Human Geography, 97, 343–362.

Macpherson, R.A. and Strögren, M. (2012) “Spatial Assimilation and Native Partnership: Evidence of Iranian and Iraqi Immigrant Mobility from Segregated Areas in Stockholm, Sweden”, Population, Space and Place, 19, 311–328.

Magnusson, L. and Qzuekren, S. (2002) “The Housing Career of Turkish Households in Middle-sized Swedish Municipalities”, Housing Studies, 17 (3), 465–486.

Magnusson Turner, L. and Hedman, L. (2014) “Linking Integration and Housing Career: A Longitudinal Analysis of Immigrant Groups in Sweden”, Housing Studies, 29, 270–290.

Malmberg, B., Andersson, E., and Haandrikman, K. (2018) “Residential Segregation of European and Non-European Migrants in Sweden: 1990–2012”, European Journal of Population, 34 (2), 169–193.

Muller, T.S., Grund, T.U., and Koskinen, J.H. (2018) “Residential Segregation and ‘Ethnic Flight’ vs. ‘Ethnic Avoidance’ in Sweden”, European Sociological Review, 34 (3), 268–285.

National Board of Health and Welfare (2010), Social Rapport 2010, Stockholm.

Ngeh, J. (2011) Conflict, Marginalisation and Transformation: African Migrants in Sweden, Umeå: Doctoral theses at the Department of Sociology/ Umeå University, No 65

Available at <http://www.diva-portal.org/smash/get/diva2:413114/FULLTEXT01.pdf>

Nordin, M. (2022) "Landsbygden och invandrartäta områden i städer – två perspektiv på ojämlikhet", *AgriFood Rapport 2022:1*, Lund: AgriFood Economics Centre. Available at [AgriFood\\_Rapport20221.pdf](#)

OECD (2016) Working Together: Skills and Labour Market Integration of Immigrants and their Children in Sweden, OECD Publishing Paris, DOI:10.1787/9789264257382-en

Statistics Sweden (2011) Longitudinell integrationsdatabas för Sjukförsäkrings- och Arbetsmarknadsstudier (LISA) 1990–2009, (Integrated longitudinal database for labour market research) Series Background Facts Labour and Education Statistics 2011:4. Örebro.

Swedish Ministry of Finance (2019) *Långtidsutredningen 2019 (Long term projection)*, Stockholm, SOU 2019: 65. Available at: <https://www.regeringen.se/rattsliga-dokument/statens-offentliga-utredningar/2019/12/sou-201965/>

Vogiazides, L. (2018) "Exiting Distressed Neighborhoods: The Timing and Spatial Assimilation among International Migrants in Sweden", Population Space and Place, 24 (8), e2169. <https://doi.org/10.1002/psp.2169>VOGIAZIDES13 of 13

Vogiazides, L. and Chihaya, K. (2020) "Migrants' Long Term Residential Trajectories in Sweden: Persistent Neighborhood Deprivation or Spatial Assimilation?", Housing Studies, 35 (5), 875–902.

Wessel, T., Andersson, R., Kauppinen, T., Skifter Andersen, H. (2017) “Spatial Integration of Immigrants in Nordic Cities: The Relevance of Spatial Assimilation Theory in a Welfare State Context”, *Urban Affairs Review*, 53 (5), 812–842.

---

<sup>i</sup> For changes in housing policy, see Hedin et al. (2012) or Andersson and Magnusson Turner (2014).

<sup>ii</sup> Compare this with the situation in, for example, the United States, where researchers typically have to use repeated cross section data when studying the mechanisms behind immigrant residential segregation: see, for example, Iceland, J. and Scopilliti, M. (2008).

<sup>iii</sup> Although this study covers most moves which affect residential segregation in Metropolitan Sweden, it does not exhaust all such moves. Not covered are people who entered Sweden between 2002 and 2004, as well as people who, between 2002 and 2004, had moved to Metropolitan Sweden from elsewhere in Sweden.

<sup>iv</sup> The classification of neighborhoods is based on the ratio between the proportion of inhabitants who are financially weak (low-income earners) and the proportion of inhabitants who are financially resourceful (high-income earners).

<sup>v</sup> Limitations with our modeling approach are that we do not consider the spatial distance between initial neighbourhoods and possible destinations, nor the spatial mobility individuals and households have experienced before 2004.

<sup>vi</sup> While our specification includes a number of possible factors that are related to people’s move, we do not consider changes in the ethnic composition of the neighborhood at origin or at the destination.

<sup>vii</sup> Being in the core labor force is here defined as having an earned income that exceeds 3.5 price Base Amounts. In 2004 this was the equivalent of earning more than 137 550 SEK.

<sup>viii</sup> This description is broadly consistent with what Kauppinen et al. (2016) report concerning entry into homeownership among young adults in Stockholm.

<sup>ix</sup> When inspecting the figure, it is worth remembering that for some immigrant categories, the number of people living in a privileged neighborhood is rather low, see Table 2.

**Table 1**

**Nineteen studies on immigrants and residential mobility in Sweden**

Author(s)	Focus on disadvantaged area	Immigrants from	Natives	Place	Years	Focus	Main results
<b>Studies of immigrant's housing careers</b>							
Abrahamson et al. (2002)	No	Finland, Yugoslavia, Chile, Africa, Iran, Turkey	Not studied	The middle cities Jönköping, Västerås, and Gävle	1985 to 1995	Tenure careers among movers who stayed in the same municipality	Younger individuals more often tend to make rent-to-owner careers compared to older people. City as well as origin matters, but effect of time spent in Sweden is not equally evident.
Magnusson and Qzuekren (2002)	No	Turkey	Not studied	The middle-sized cities Jönköping, Västerås, and Gävle	1975 to 1990	Tenure careers and changed size of dwellings (among those who lived in the three municipalities in 1990)	A strong relationship between higher income, increased household size and larger dwellings, or, in most cases, moves from rental to owner-occupied housing. Immigrants move more frequently during first years after immigration.
BråmÅ and Andersson (2010)	No	Western countries, Eastern Europe, Middle East, Sub-Saharan Africa, other Asia, Latin America	Swedish born	The city of Uppsala	2000 and 2004	“Who leaves rental housing among persons born 1940–1980?”	Movements out of rental housing are positively associated with education, various income variables, and age. Conditioned on a number of household characteristics do a background in East European and Sub-Sahara decrease the probability to leave rental housing
Magnusson Turner and Hedman (2014)	No	Western Europe, Eastern Europe, MENA, Sub-Saharan Africa, North America, Latin America	Swedish	Greater Stockholm area	1990–2008	First move into homeownership	Natives and immigrants from Western Europe have had similar residential patterns, while other immigrant categories are less likely to reside in owner-occupied dwellings. Asian and African immigrants are slower to enter homeownership than others when

							controlling for a number of characteristics.
Kauppinen et al. (2015)	No	Western countries, Eastern Europe, Africa, West Asia, other Asia; aged 25–34	Swedish born	Stockholm region (and region of Helsinki and Copenhagen)	A 10-year follow-up period between 1991 and 2008	First move into homeownership including cooperative housing (Bostadsrätt)	Foreign born, particularly those born in Africa and East Asia, move less frequently to homeownership. Such moves are strongly related to household changes and to income.
<b>Studies of ethnic flight and ethnic avoidance</b>							
Bråmã (2006)	Focus on immigrant concentration areas	Non-Swedish	Swedish	Urban residential areas in various cities in Sweden in which the percentage of the population with Swedish background decreased by more than 25 percent between 1990 and 2000	1991–1995 and 1996–2000	Is the decreased share of residents with Swedish background primarily caused by out-migration or in-migration?	Most of the decrease in the proportion of Swedish people is attributed to Swedes avoiding moving into the areas investigated.
Anderson, R. (2013)	No	Western countries, Eastern Europe, Non-Western countries	Swedish	Stockholm county	2005–2008	Out- as well as in- moves in neighborhoods that have experienced a fast increase in the share of the Non-Nordic-born population	Out- as well as in-moves are related to a large number of household characteristics. When controlling for a range of individual and neighborhood attributes there is clear evidence that native-born Swedes are less inclined than most immigrant categories to move into immigrant dense areas while ethnic origin does not seem to matter much when explaining who leaves such areas.
Aldén et al. (2015)	No	European, Non-European	Swedish born	The 12 largest municipalities in Sweden	1990–2000, 2000–2007	Do natives leave/ avoid moving into a neighborhood due to increased proportion of immigrants?	Native population growth in a neighborhood discontinuously drops once the share of non-European immigrants exceeds the identified tipping point. Native tipping behavior can be ascribed to both native flight and native avoidance.
Muller et al. (2018)	No	Foreign born and people born in Sweden with at least one foreign-born parent. In some analyses, disaggregated to EU resident and non-EU residents	Native born with two native-born parents	Stockholm metropolitan area	1990–2003	Are moves related to changed ethnic composition in a neighborhood?	Swedes avoid moving into neighborhoods where ethnic minorities live. Little support for natives moving out of neighborhoods with increased proportion of immigrants.

<b>Studies of international migrants' neighborhood moves</b>							
Hedman et al. (2011)	No	Foreign born, mixed Foreign, and Swedish born	Swedish born	The city of Uppsala	1997–2006	What characterizes moves (from outside Uppsala and within Uppsala) to different neighborhoods?	Household income is a key characteristics influencing neighborhood sorting. The effect of ethnicity is complicated.
Macpherson and Strömberg (2013)	Neighborhoods belonging to the Metropolitan Development Initiative (MDI)	From Iran and Iraq (as one category) born between 1956 and 2007	Not studied	MDI in Stockholm county	2001 and 2007	What characterizes those who move out of the MDI?	Iranian and Iraq immigrants achieved an “up” and “out” trajectory suggested by assimilation theory. Education, income, duration in the country, and native partner contribute to spatial movements.
Andersson and Hedman (2016)	Neighborhoods targeted by political interventions in the mid-1990s (MDI)	West Europe, Eastern Europe, non-Western	Swedish	The city of Malmö	1990–95 2005–2010	The role of household characteristics including ethnicity in entry and exit from poor neighborhoods during changed macroeconomic climate	In addition to household characteristics, does ethnicity have a distinct ethnic component that appears fairly similar during the two periods studied?
Gustafsson, Katz, and Österberg (2017)	Quintile of average neighbourhood income	Visible minority countries (= countries outside Europe with the exception of North America and Southeast Europe)	Studied (merged with immigrants from North America and Europe, with the exception of the south east.)	Stockholm, Gothenburg, and Malmö Metropolitan regions	1990 and 2006	To what degree do young adults live in neighbourhoods that are similar, in terms of relative average household income, to the neighbourhoods in which they grew up?	Large differences between visible minorities and the majority population in terms of the percentage of each that both grew up in underprivileged neighbourhoods and lived in such neighbourhoods as adults.
Wessel et al. (2017)	No	People aged 25 to 49 in 2000 born in Asia, Africa, and Latin America, and who lived in the metropolitan area studied until 2008	Swedish born	Stockholm Metropolitan region (and Copenhagen, Helsinki, and Oslo metropolitan areas)	2000–2008	Changes in neighborhood position	A lack of aggregate upward mobility in the spatial hierarchy.
Vogiazides (2018)	20 MDI neighborhoods	Western Europe, Eastern Europe, North America and Oceania, Latin America, Middle East and North Africa, other Africa, other Asia	Swedish born	Stockholm and Malmö metropolitan regions	Moves between 2002 and 2012	Factors related to moves out of distressed areas	Higher socio-economic situation increases the likelihood of moving to a more affluent neighborhood. The longer a person has resided in a place, the less likely he or she is to move. Also, considerable differences in residential

							mobility between migrant groups after controlling for differences in background factors.
Kadarik (2020)	No	People from all countries who migrated to Sweden and who were at least 16 years old when migrating	Not studied	All counties respectively of Stockholm, Gothenburg, and Malmö regions	1990 to 2010	Focus on moving to native-dominated neighborhoods	In addition to, for example, income, does country of origin matter for entering a native-dense neighborhood?
Vogiazides, and Chihaya (2020)	The study distinguishes between three types of neighborhoods, one is poor neighborhoods	All countries, and people who arrived in 2003 that were at that time aged 25 to 55	Not included	Stockholm region, Gothenburg Region, Malmö region, large cities, other locations	2004 to 2012	Persistent neighborhoods deprivation or spatial assimilation	Four fifths of migrants resided in the same category of neighborhoods, and two-thirds consistently lived in a deprived area, while only 12 percent moved from a deprived neighborhood to a higher-income neighborhood.
Andersson, Malmberg, and Clark (2021)	Neighbourhoods defined as the closest 200 people, and also 12,800 people who are classified by income poverty rates	Europe, outside Europe	Studied	All of Sweden	2001 and 2016	To what degree do young adults live in neighborhoods that are similar, in terms of income poverty, to the neighborhoods in which they grew up?	A large proportion of individuals with a background from countries outside Europe improve their neighborhood status, from where they were living as teenagers, to where they live after leaving home. Individuals who stay in the poorest neighborhoods come from less favorable backgrounds, have low school grades, tend to have children early, have low incomes, and lower educational attainment
Alm Fjellborg (2021)	“Out” mobility from neighbourhoods with a high concentration of non-Western immigrants	Non-western born	Not studied	Stockholm County	1993–2000 and 2001–2008	How out-moves vary by ownership (rental, cooperative, and homeownership) and decade.	Renters are the most mobile group, followed by co-op owners and people living in homeownership housing.

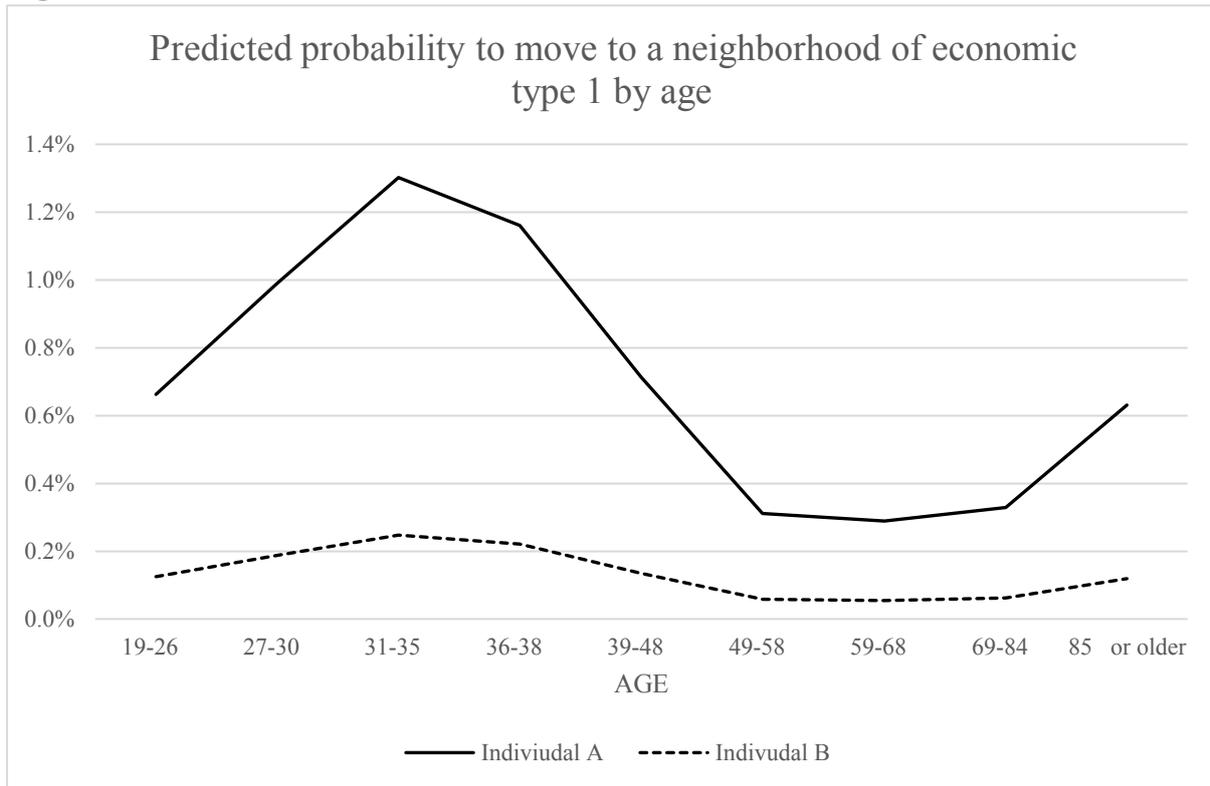
**Table 2**  
**Definition of nine categories of foreign-born and number of observations in each of the four samples**

Name of origin	Number of observations in sample			
	a	b	c	d
Sweden	845,596	828,459	34,064	20,601
Nordic countries	34,669	37,188	493	3,124
Western Europe	13,417	13,907	402	944
North Eastern Europe	16,612	18,238	308	1,974
South Eastern Europe	16,926	23,831	123	7,097
Middle East, North Africa	23,072	33,938	234	11,157
South America	9,513	11,659	72	2,237
Sub-Saharan Africa	6,070	10,087	26	4,048
Other Asia	8,681	10,505	139	2,013
Married to Swedish-born woman	30,048	30,507	1,280	1,845
Married to Swedish-born woman	41,187	40,765	1,849	1,571
Mixed household	11,580	14,568	214	3,221
<b>Total</b>	<b>1,057,371</b>	<b>1,073,652</b>	<b>39,204</b>	<b>59,832</b>

For definition of origins, see the supplementary material.

- a. Adult person who, in 2004, was living in types of neighborhoods other than the privileged of the three metropolitan regions.
- b. Adult person who, in 2004, was living in a type of neighborhood other than a disadvantaged in one of the metropolitan areas.
- c. Adult people who, in 2004, were living in a privileged neighborhood.
- d. Adult people who, in 2004, were living in a disadvantaged neighborhood.

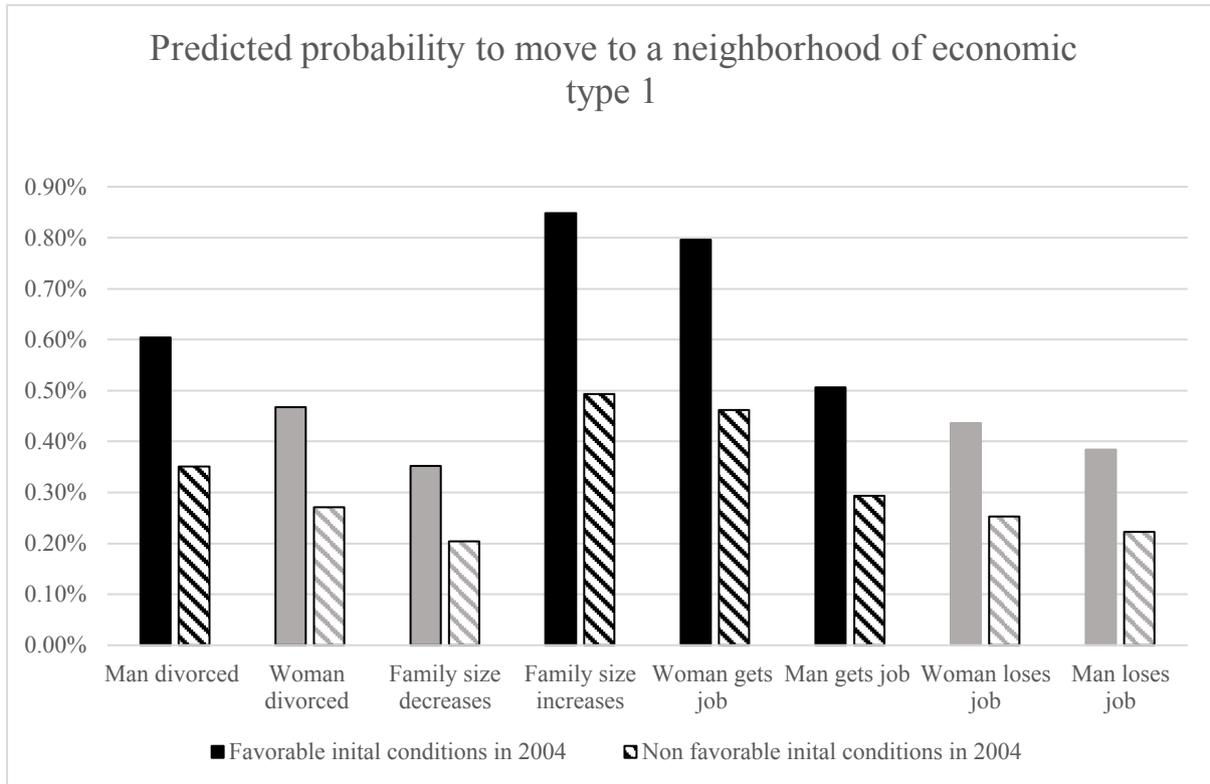
**Figure 1a**



**Individual A** : 3 years or more post-secondary education, both man and woman have income > 3.5 PBA, disposable income per household of 200,000.

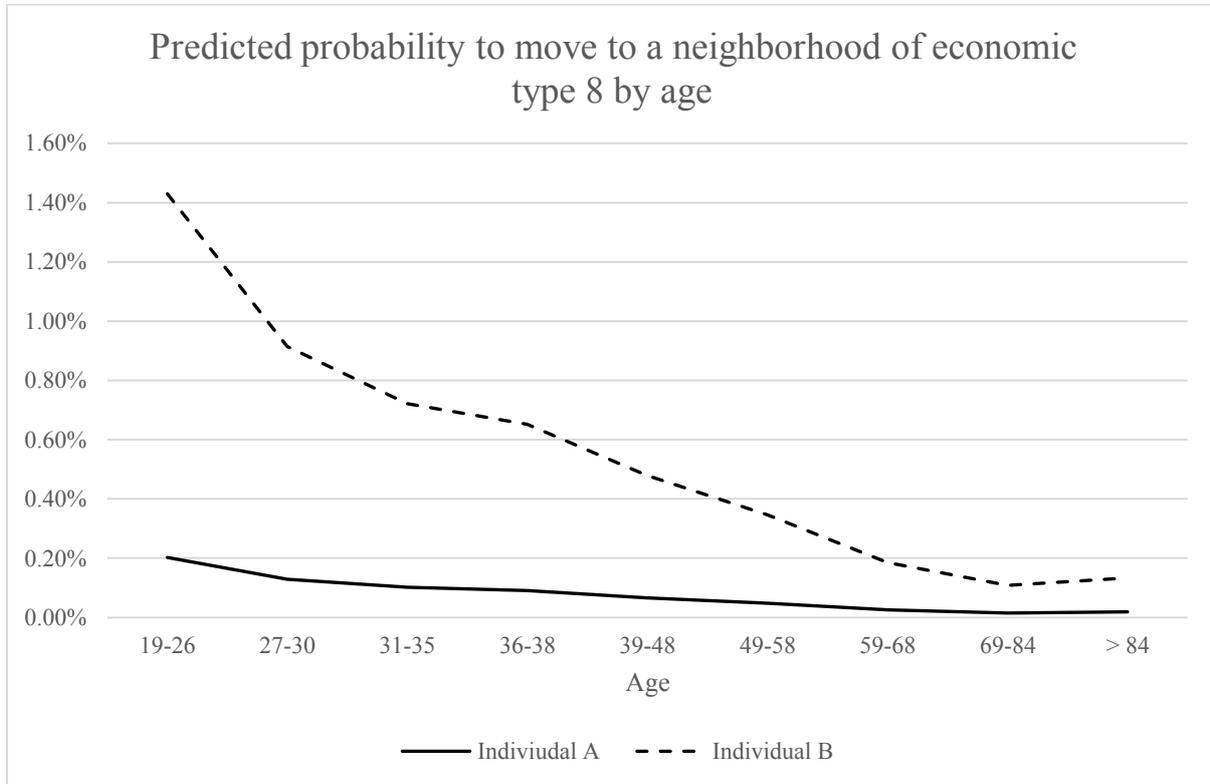
**Individual B** : Compulsory education, neither man nor woman have income > 3.5 PBA, disposable income per household of 100,000.

**Figure 1b**



Predicted for an individual 31–35 years old, upper secondary education for 2 years.  
Favorable initial conditions (both man and woman have 3.5 PBB and disposable income per household of 150,000).  
Not favorable initial conditions (Neither man nor woman have 3.5 PBB and disposable income per household of 100,000).  
Grey bars indicate that the covariate is not significant at the 5 percent level.

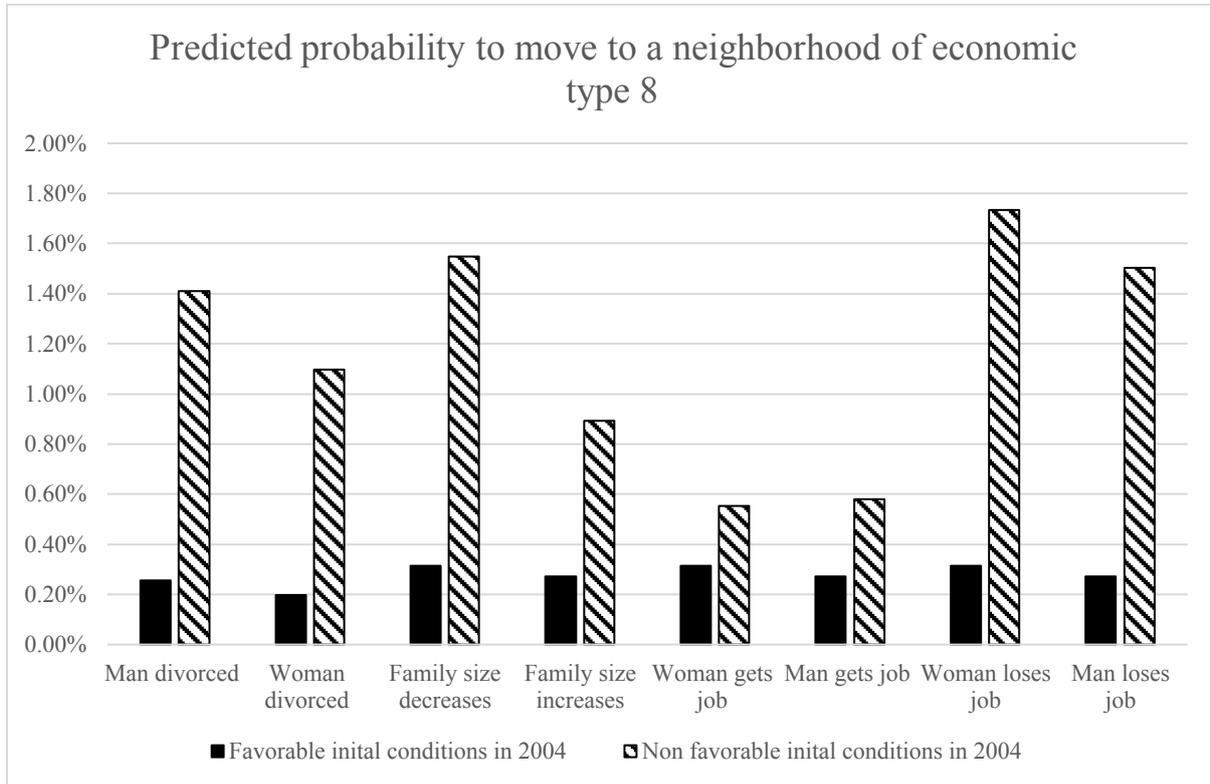
**Figure 2a**



**Individual A** : 3 years or more of post-secondary education, both man and woman have income > 3.5 PBA, disposable income per household of 200 000.

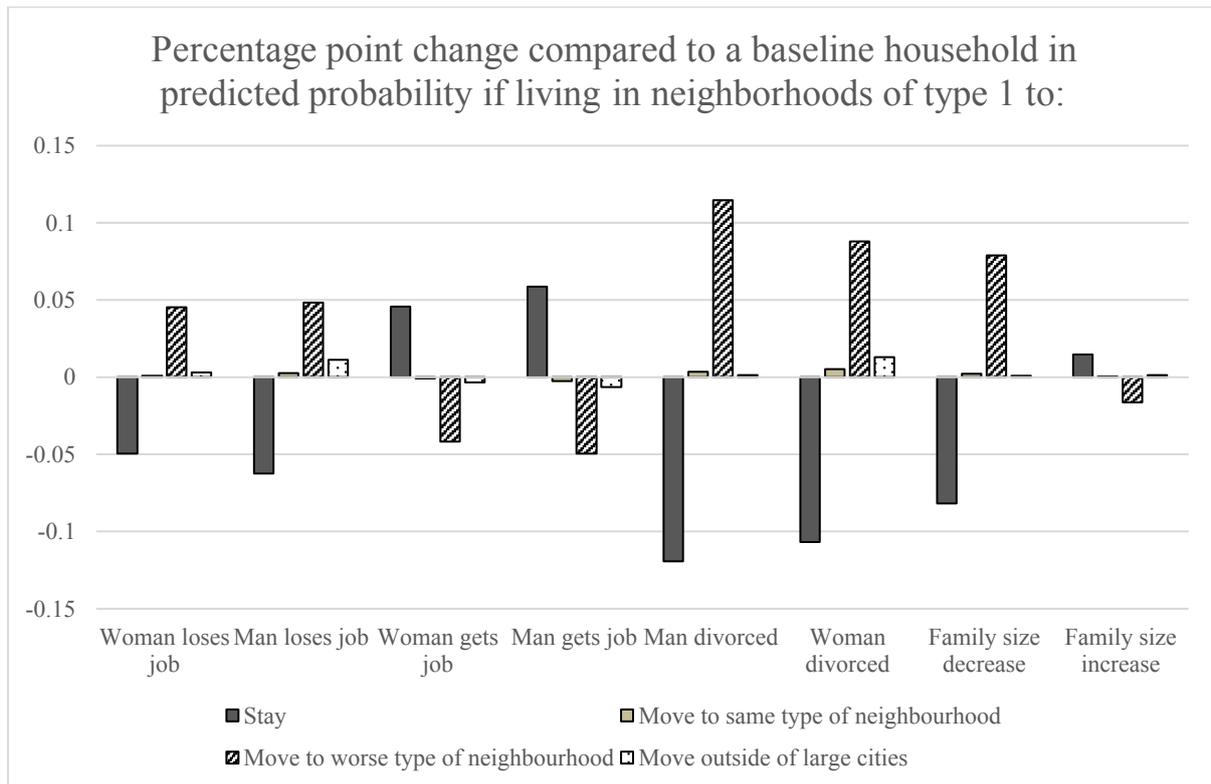
**Individual B** : compulsory education, neither man nor woman have income > 3.5 PBA, disposable income per household of 100 000.

**Figure 2b**



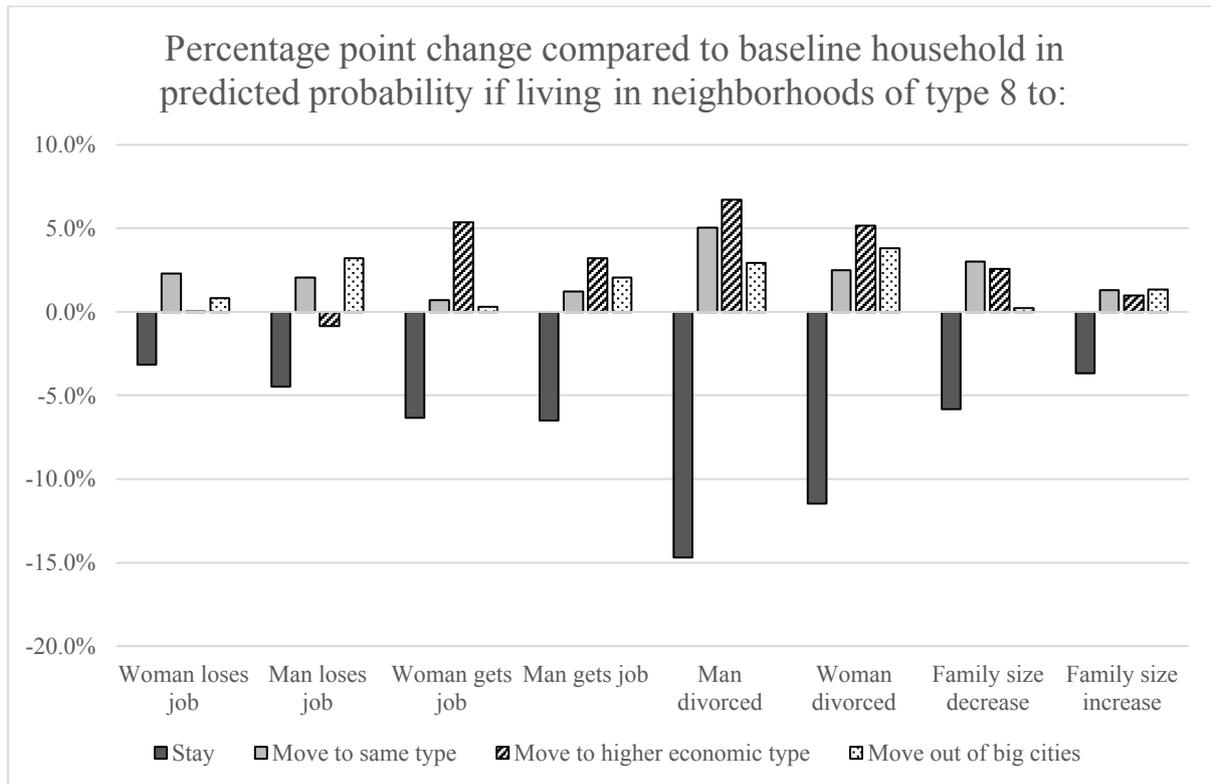
Predicted for an individual 31–35 years old, upper secondary education for 2 years.  
 Favorable initial conditions (both man and woman have 3.5 PBB and disposable income per household of 150,000).  
 Not favorable initial conditions (Neither man nor woman have 3.5 PBB and disposable income per household of 100,000).  
 Grey bars indicate that the covariate is not significant at the 5 percent level.

**Figure 3**



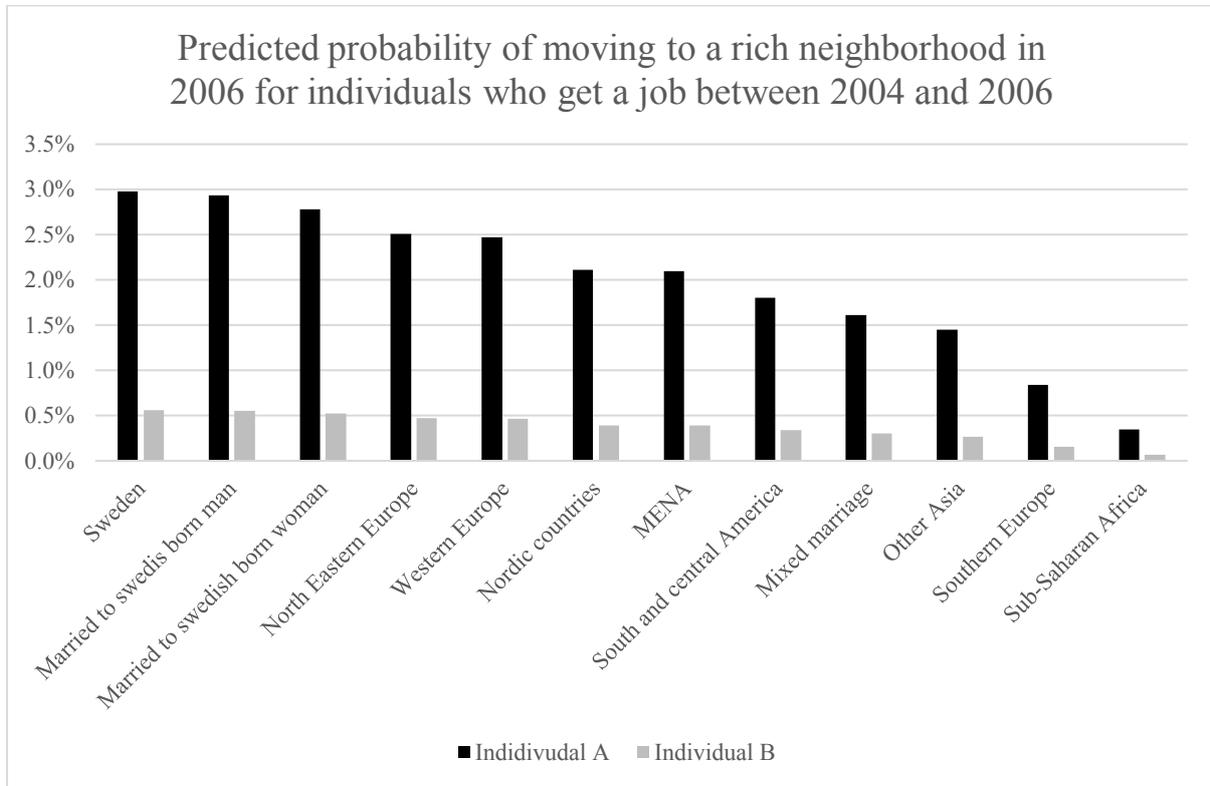
Baseline household: Swedish born, upper secondary education of 3 years or more, both man and woman have income >3.5 PBB, and household disposable income of 230,000 per household member.

**Figure 4**



Baseline household: Age 39–48, upper secondary education of 2 years, background in Middle East, and household disposable income of 114,000 SEK.

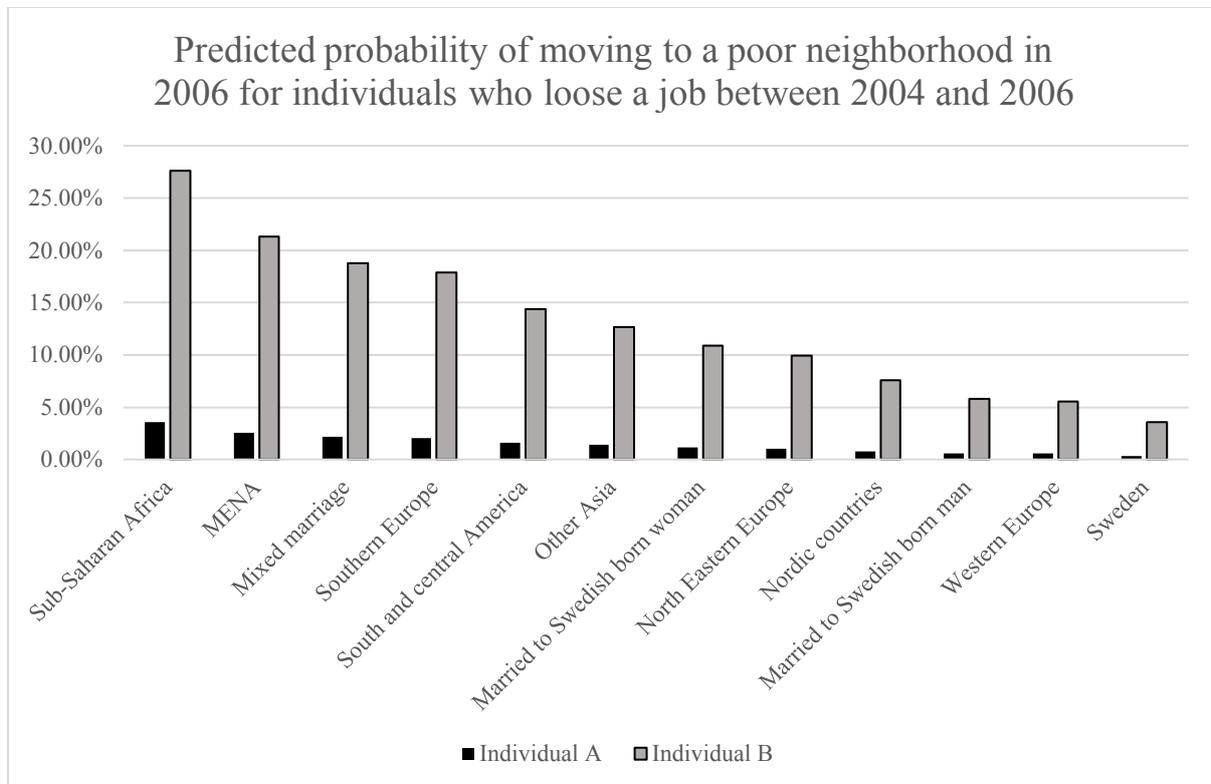
**Figure 5**



Individual A: 31–35 year-old-person, university education, 3 years or more high income of 200,000 disposable income per household member (SEK), both man and woman get job, both man and woman have income above 3.5 PBB.

Individual B: 31–35 years old, compulsory schooling, low income (100,000 SEK) disposable income per household member.

**Figure 6**

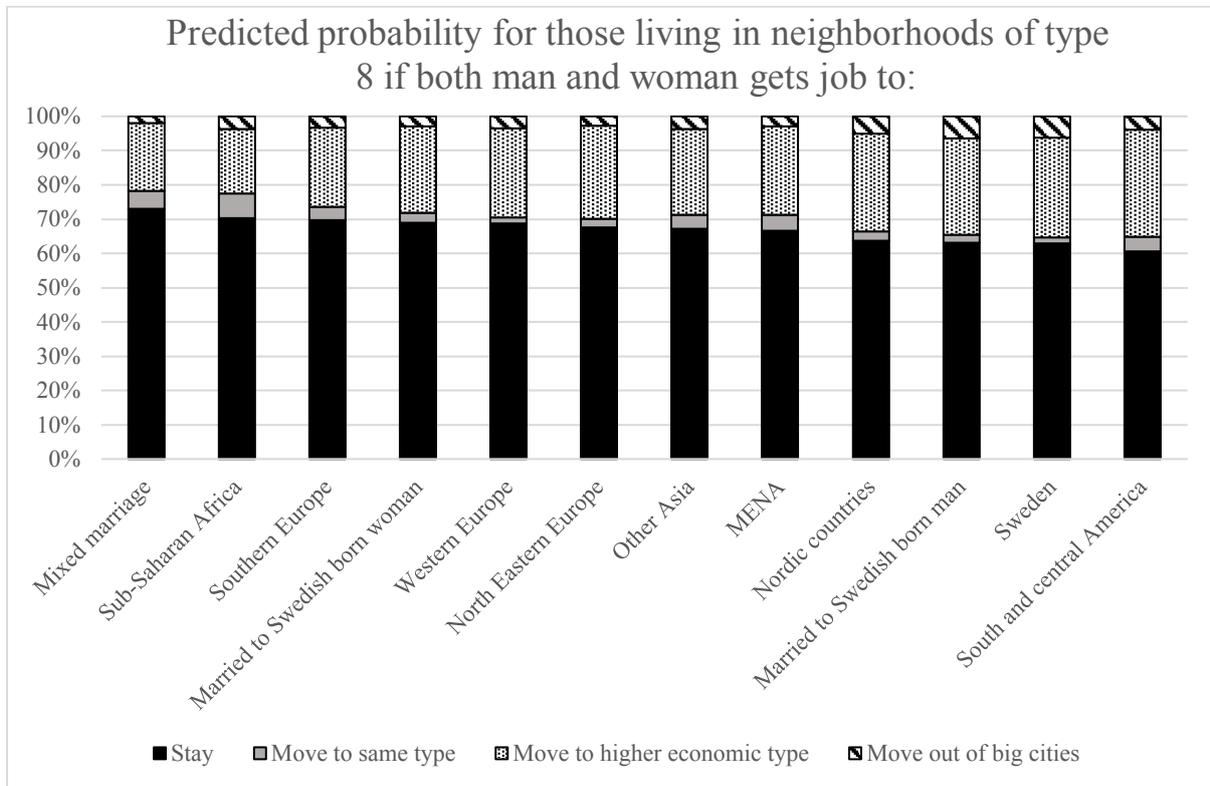


Individual A: 31–35 years old, university education of 3 years or more, high income of 200 000 disposable income per household member, both man and woman get jobs, both man and woman have income above 3.5 PBB.

Individual B: 31–35 years old, compulsory schooling, low income of 100 000 disposable income per household member.



**Figure 8**



Predicted for 31–35-year old with upper secondary education of 3 years, in 2004 neither man nor woman has 3.5 PBB, and have 100,000 disposable income per household member. Between 2004 and 2006 both man and woman get jobs.