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ABSTRACT

This paper focuses on the residential settlement decisions of first-generation immigrants from Iran and Turkey in Sweden between 1968 and 2001. We aim to address a gap in our knowledge regarding the residential decisions of immigrants by examining two comparatively disadvantaged groups in the labor market, combining post-migration outcomes with unique information pertaining to the individual’s pre-migration experience. More specifically, we examine a sample of immigrants from Turkey and Iran, arriving in Sweden between 1968 and 1994, and followed until 2001. This study intends to build upon the current understanding of country of origin’s impact on immigrants’ settlement patterns by focusing upon within country of origin regional effects. The contribution of this paper is in assessing whether region of origin is a better predictor of relocation destination than is country of origin, the more often used measure in existing research.


Introduction

Residential integration can be seen as a general form of immigrant integration, as it directly impacts the economic, health, and social outcomes of the immigrants through specific environmental exposures (Musterd et al. 2008, Åslund 2005, Åslund, Hensvik and Skans 2009). This paper further delves into the residential preferences of immigrants to further understand the mechanisms behind the process of ethnic segregation. Specifically, we will explore whether region of origin networks impact settlement decisions of immigrants in the host country.

The determinants of the residential decisions made by immigrants have been well-researched by migration scholars across disciplines (Alba et al. 2014, Chiang and Hsu 2005, Reher and Silvestre 2009, Silvestre and Reher 2014, Tammaru and Kontuly 2011, Trevena, McGhee and Heath 2013, Zavodny 1999, Åslund 2005). One finding that is consistent across a majority of studies suggests that immigrants in a host country tend to ultimately locate in similar destinations as other co-nationals. The literature on these ethnic clusters, often called enclaves, is relatively saturated; however, consensus has not been reached as to whether ethnic segregation is related to the level of integration achieved by immigrants or their residential preferences.

To date, the reasons for and consequences of the formation of ethnic enclaves have been less concrete and even paradoxical. Although ethnic enclaves may ease the process of integration for immigrants by insulating them from discrimination, providing ethnic goods and networks, and possibly connecting them to labor market opportunities, enclaves may also deter the integration process. For example, enclaves may disincentivize or prolong the acquisition of host-country specific skills required to integrate into the labor market (i.e. host-country language or institutional knowledge), or living in an ethnic enclave may isolate immigrants from the native population consequently inhibiting their spatial incorporation (e.g. Borjas 2000).

One consistent shortcoming of the existing literature on ethnic enclaves and residential segregation has been the use of country of origin to measure immigrant communities. While this measure may suffice in certain contexts, such a general measure of similarity may mask the underlying mechanisms driving the residential decisions of immigrants. Namely, country of origin ignores the significant heterogeneity that exists amongst individuals with shared nationality. Therefore, using country of origin misrepresents the relationship between ethnic clusters and immigrant settlement patterns (Westin 2003). Moreover, the concepts of ethnic homophily and internal ethnicity highlight the role of shared identity, culture, language, norms, values, and religion in defining immigrant identities; therefore, residential clusters based on country of origin may actually exert a push force on an immigrant’s settlement decisions if those clusters are mainly comprised of the conflicting subgroups.

We aim to address a gap in our knowledge regarding the residential decisions of immigrants by examining two comparatively disadvantaged nationalities in Sweden, combining post-migration outcomes with unique information pertaining to the individual’s pre-migration experience. More specifically, we examine the internal mobility of a sample of immigrants from Turkey and Iran, arriving in Sweden between 1968 and 1994, and followed until 2001, using the Swedish Longitudinal Immigrant database (SLI). This study intends to build upon the current understanding of country of origin’s impact on immigrants’ settlement patterns by disentangling regional and country of origin effects. Thus, the contribution of this paper is in assessing whether region of origin is a better predictor of residential destination than is country of origin, the more often used measure in existing research. To do this, we will draw on data containing information on the individual’s place of birth (city or town), providing better precision than what has presently been employed to construct potential networks (see e.g., Silvestre and Reher 2014). We are able to examine whether pre-migration patterns of residence are replicated in Sweden immediately upon arrival, and whether these potential networks are paramount factors in determining the residential decisions of immigrants from these groups. Furthermore, the present study improves on the existing literature on Sweden by exploiting category of visa information (i.e., refugee, family reunification, or work) to distinguish between individuals that were exogenously placed through the 1985 refugee settlement policy versus those that had free choice as to where they could settle. This is a limitation to a previous studies using the 1985 settlement policy in Sweden to understand immigrant settlement behavior (Åslund 2005).
The motivation for using region of origin is twofold. First, in ethnically diverse sending countries, especially those with historically conflicting groups, it is not uncommon to see particular regions with larger ethnic clusters. For example, in Turkey and Iran, the Kurdish population is heavily concentrated in the South-Eastern and North-Western regions, respectively, in the area that was historically part of the Kurdish state (Hassan 2007, DiCarlo 2007). Second, individuals from similar regions in the home-country share other important characteristics, separate from ethnic background, that may influence the residential decisions. For example, immigrants from similar home regions potentially have access to the networks of family, friends, and acquaintances established in their pre-migration residential location (McPherson, Smith-Lovin and Cook 2001, Arentze, van den Berg and Timmermans 2012). In addition, ethnic networks may be strengthened through shared experiences in their home countries. By defining enclaves based on region of origin, we intend to mitigate the possibility of clustering individuals from conflicting ethnicities and estimating a more accurate relationship between country of origin and immigrant residential choices. Accordingly, we ask the following questions:

- Does pre-migration residential proximity in Turkey or Iran predict residential proximity in Sweden?
- Is the concentration of immigrants from the same region origin a better predictor of relocation decisions (probability to resettle from initial residential location) upon arrival than country of origin or general immigrant concentration?

**Background**

*Placement policy:*

The Swedish Refugee Placement Policy was enacted in 1985. Prior to 1985, refugees to Sweden applied for asylum once they were already in the country. Often, individuals would remain permanently in the municipality from which they had applied for asylum after receiving a decision. Consequently, the municipalities that received the most applications for asylum were those with large established immigrant populations, thus refugee immigration intensified the concentration of immigrants in certain regions (Äslund 2005). From 1985 until 1991, however, the immigration board took on the responsibility of assigning asylum seekers to an initial municipality of residence. This initiative aimed to randomly distribute refugee immigrants across Swedish municipalities to alleviate administrative and economic pressures on established entry port regions, and to promote immigrant integration. Once immigrants had been assigned to a residential location, they received financial support in the form of welfare payments while participating in Swedish language courses; however, there was no monetary incentive for them to remain in the assigned location since immigrants would retain their welfare transfers regardless of whether they decided to relocate (see Edin, Fredriksson and Äslund 2003 for a detailed description of The Swedish Refugee Placement Policy). As a result, the placement policy exogenously assigned exposed refugees immigrating after 1985 to an initial place of residence, but did not directly impact their subsequent residential locations; therefore, by observing those exposed and unexposed to the policy may further shed light on the push and pull factors driving residential decisions.

*Internal Ethnicity:*

The concept of internal ethnicities highlights the existence of ethnic sub-groups within a country that leads to disparate identities amongst co-nationals (Bozorgmehr 1997, Light and Gold 2000, Light et al. 1993). In a number of ethnically diverse immigrant groups, internal ethnicity is a pivotal dimension dictating the formation of formal and informal networks, and even regional clustering in both the origin and destination countries. Furthermore, internal ethnicities in the destination represent a continuation of an existing paradigm in the country of origin. Minority groups in the country of origin develop different subcultures in relation to the majority group based on their specific historical experiences which in turn impacts the post-migration experiences of that sub-ethnic group (Bozorgmehr 1997, Light et al. 1993).
Some of the most obvious and commonly discussed sources of diversity with nationalities come from religion, language, tribal affiliation, race, and geographic origin, or from a combination of these characteristics. Often, these differences manifest themselves in a tumultuous relationship and violence between the parties in the country of origin (Bozorgmehr 1997). For example, historically in India, there have been many conflicts between the Hindus, Muslims, Sikhs, and Christians. Indian Muslims and Sikhs have used their religious identity to differentiate themselves, whereas Indian Hindus have more heavily relied on regional-linguistic characteristics for identity. As a result, Indian immigrants to the United States are substantially divided based on religion, language, and region of origin (Williams 1988 in Min and Kim 2009). Similarly, the Chinese population is characterized by large internal heterogeneity based on nationality, region of origin, and language. Chinese immigrants from Taiwan, Hong Kong, Vietnam, and other South East Asian countries differ substantially from one another in the language, culture, political ideology, and socioeconomic background (Zhou 2001, Yang 1999, Kwong 1997: in Min and Kim 2009). Min and Kim (2009) argue that these differences directly influence the formation of friendship networks in these diverse national groups. The dynamics of internal ethnicities amongst immigrant groups has been observed in works on ethnic economies. Amongst early Italian, Chinese, Indian, and Japanese immigrants to the United States, province or region of origin has been identified as major determinant of ethnic clustering, as well as the sectors of employment upon arrival (Cinel 1982, Lopreato 1970, Lyman 1986, Light 1972, Kim, Hurh and Fernandez 1989: in Bozorgmehr 1997, Light et al. 1993).

In Sweden today, Turkish and Iranian immigrants make up a substantial share of the immigrant population. Although individuals are administratively grouped into these categories, both national groups are comprised of ethnically heterogeneous populations with rather contentious histories. In Turkey and Iran, internal ethnicities are defined by a combination of religion, ethnicity, and language. Furthermore, in both origin countries there is a relatively high degree of regional ethnic clustering. The characteristics of these immigrant groups provide compelling motivation to investigate their residential dynamics in Sweden (Hassan 2007).

In Turkey, the majority population is identified ethnically as Turks (roughly 75% of the country’s inhabitants), and the rest of the population is comprised of many ethnic groups. In Sweden, immigrants of Turkish nationality are predominately comprised of Turks, Kurds, and Assyrians (cf. Westin 2003). Amongst these groups there have been conflicts between the ethnic Turks on one side, and Kurds and Assyrians on the other; likewise, the relations between Kurds and Assyrians have not been peaceful. Throughout Turkish history, there have been many attempts by the government to stifle the Kurdish and Assyrian movements to promote a homogenous nationalist identity, and as a result, neither ethnic group has been adequately recognized as independent peoples (Öktem 2004, Demir 2012, Gaunt 2013, Eliassi 2013).

As immigrant groups, however, these groups have been able to establish themselves and their ethnic communities (see, e.g., Demir 2012, and Baser 2013, Eliassi 2013, and Gaunt 2010). In Sweden, in particular, Kurds and Assyrians have actively promoted their independent ethnicities by regulating their social and formal networks to include those with similar identities, as well as engaging in political activism (see e.g., Baser 2013, DiCarlo 2007, Eliassi 2013, Gaunt 2010).

Similar to Turkey, Iran has also experienced conflicts between the majority group, Persians, making up roughly 51% of the population, and its multiple minority peoples. The minority population is divided into several ethno-linguistic groups. Separately, the population is also subdivided by religious affiliation with Muslims making up roughly 98%, and Zoroastrian, Jewish, Christian, and Baha’i making up the remaining 2%. Thus, these groups formed their unique identities around their ethnicity and religious affiliations, but also around their native languages that, in some cases, differed from the official Persian language (Hassan 2007, Light et al. 1993, Bozorgmehr 1997).

Historically in Iran, each of these minority groups has faced differing levels of discrimination from the majority population, such as inequalities in employment, education, housing, and development in

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1 Azeris (approximately 24%), Gilaki and Mzandarani (~8%), Kurds (~7%), Arab (~3%), Baloch (~2%), to name a few.
2 Shi’a being 89% and Sunni being 9%
minority dense regions. Majority-minority conflicts further intensified after the Islamic revolution of 1978-1979 as religious intolerance led to the further deterioration of the economic position and security of ethno-linguistic and religious minorities in Iran (Hassan 2007, Eliassi 2013). As a result, these minorities were overrepresented amongst the population that emigrated from the country following the revolution (Light et al. 1993, Bozorgmehr 1997).

Light, Sabagh et al. (1993) and Bozorgmehr (1997) have shown that ethnic minorities from Iran have developed extensive internal economies by establishing themselves in similar industries, conducting business with one another, and maintaining extensive closed social networks. They argue that at first glance this phenomenon can be mistakenly attributed to country of origin networks; however, when investigated further the role of internal ethnicities can be seen as a fundamental catalyst in these network formations.

As suggested by the internal ethnicities narrative, the pre-migration dynamics between majority and minority populations tend to manifest themselves in the destination country. This paradigm can be observed in Turkish and Iranian immigrant populations in several of destination countries, albeit the extent to which these dynamics physically divide individuals is less certain (Baser 2013, Bozorgmehr 1997, Demir 2012, DiCarlo 2007, Gaunt 2010, Graham and Khosravi 1997, Light and Gold 2000, Light et al. 1993, Westin 2003, Eliassi 2013). The internal ethnicities literature provides a potential mechanism impacting residential decisions of Turkish and Iranian immigrants in Sweden.

Analytical Framework:

One theoretical perspective suggests that residing in an ethnic enclave may serve as a transitional strategy for immigrants. According to the spatial assimilation hypothesis, segregation is a preliminary phenomenon that may occur temporarily for immigrant groups as they enter the host country (Massey 1985). The model postulates that due to limited host-country specific skills and labor market resources, immigrants are initially driven to ethnically and culturally homogenous regions in the host country. Immigrants temporarily remain in these communities until they obtain the resources and means to navigate daily life in the host society.

According to the ethnic enclave and spatial assimilation literature, enclaves arise and are maintained as transitional neighborhoods in which economically disadvantaged and socially segregated immigrants may reside until they are able to integrate into host-country society. Inherently, this suggests they exist in response to constraints in immigrant integration. However, both perspectives assume that the ultimate intention of immigrants is to integrate into the larger host society. This disregards the possibility that enclaves flourish due to immigrants’ preference even when spatial assimilation is possible (Logan, Zhang and Alba 2002).

Related to this is the place stratification model (Alba and Logan 1991), which describes segregation as a process reinforced by discrimination from the majority against certain immigrants and minority groups (e.g. through the housing market). According to the model, the privileged majority may see immigrants as undesirable and restrict their residential mobility through legislation or avoidance strategies resulting in ethnic segregation. In this way, powerful natives and other groups can spatially separate themselves from these undesired groups, and the ability of the immigrants to spatially assimilate is inhibited (Charles 2003). This model has two variations: the strong version and the weak version. In the strong version, undesired minorities have fewer possibilities than natives and desired minorities to use their socioeconomic status to internally migrate to more desired areas, and even the most successful minority groups may live in less desired areas than the lower status members of the local majority groups. According to the weaker version, undesired minorities have to achieve a higher socio-economic status than what the natives and desired minorities need to do in order to internally migrate to more desired areas (Logan and Alba 1993). Earlier studies have found support for both versions of the place stratification model, although they may be applied differently depending on the minority groups and neighborhoods (see e.g., Pais, South et al. 2012).

The place stratification model takes a more structural approach in understanding ethnic enclave formation, whereas, the spatial assimilation and ethnic enclave narrative suggest immigrant
preferences as a potential mechanism leading to segregation. Nonetheless, the key linkage and the underlying mechanism driving ethnic concentration can be seen through the lens of ethnic homophily. The homophily principle states that individuals have the tendency to interact and bond with individuals that are similar to them. For immigrant groups, enclaves provide a neighborhood or geographical region in which individuals with shared identity, religion, culture, norms, values, and language may congregate, interact, and support one another. Furthermore, as highlighted in the enclave and spatial assimilation literature, there are potentially positive social and economic externalities associated with residing in these networks. Thus, it is important to consider preferences as driving residential decisions, a dimension that is implicitly overlooked in the ethnic enclave and spatial assimilation framework.

Apart from ethnicity, a strong source of homophily is geographic space; people have in general more ties with the ones nearby than with the ones far away. The main reason is that it usually takes less effort to interact with people living nearby than with people living far away (Chiang and Hsu 2005, McPherson et al. 2001, Liben-Nowell et al. 2005). Accordingly, immigrants may have access to formal and informal regional networks in their home country; moreover, it is through these connections that individuals access the residential markets (see e.g., Chiang and Hsu 2005, Trevena et al. 2013). Besides the existence of potential networks, individuals from similar regions in the home country may share more in common than they share with individuals from other regions. For example, in Turkey and Iran, geographic and ethnic homophily may not be mutually exclusive since ethnic groups are geographically clustered (Baser 2013, DiCarlo 2007, Eliassi 2013, Gaunt 2010, Hassan 2007).

In Swedish context, the idea of preference based segregation has lost traction in the recent ethnic segregation literature and emphasis has been shifted towards a framework of ‘enforced segregation’ (Andersson 2007). This perspective has stressed the importance of social exclusion, white avoidance, white flight, and racism as factors promoting and maintaining ethnic clusters. For example, immigrants would be pushed into clusters due to their inability to obtain housing in predominantly native neighborhoods, or discrimination in the housing market (Andersson 2007, Andersson 2013, Brämå 2008). Although it is important to acknowledge this development in the literature, this perspective is outside the scope of this study. This theoretical approach may shed light on the underlying mechanisms driving immigrants’ decision to relocate; however, we view this process outside the realm of immigrant preference. Following Thomas C. Schelling’s framework in his seminal paper Dynamic Models of Segregation, it is difficult to distinguish between immigrant segregation driven by preference and exclusionary measures imposed by natives. The mere existence of discrimination in the housing market, for example, may coerce immigrants to relocate to areas with co-ethnics regardless of their exposure to discriminatory measures (Schelling 1971).

As such, to adequately understand preferences one must consider the timing of an individual’s decision to settle in an enclave. Immigrants living in an enclave may be characterized by two settlement decision patterns. First, there are the individuals that choose to reside within an immigrant enclave immediately upon arrival in the host-country. This decision is contingent on their autonomy to choose their initial residential location, and whether they have the knowledge as to where established ethnic clusters are located in the host-country. The second type of migrant may initially reside in a location outside an enclave, but eventually migrate within the host-country (secondary migration) to a region with high degrees of ethnic clustering. For this migrant, their choice of an initial municipality may be exogenously assigned through a legislative process, or individuals at first may have imperfect knowledge regarding the residential makeup of the host society. Within each group, however, there are also individuals that choose to leave an enclave after sometime or those that never select to live in an enclave. Within such a paradigm, it is improper to assess immigrants’ residential preferences by their initial settlement decisions because the intention to relocate is not comparable between these types of immigrants. Rather, secondary migration may more accurately reflect preferences after exposure to the host-country institutional and social structure.

If the assumption holds that individuals maintain even a slight preference to interact and reside with individuals similar to them, as postulated in the principles of homophily and internal ethnicities, then, in general, we can expect to see relocation decisions driven by the ethnic composition of their present
environment (Schelling 1971). Furthermore, there is no reason to believe that inter-ethnic tensions and segregation that exist in the country of origin do not manifest themselves in the destination country. We position our analysis at the intersection of homophily and internal ethnicities. Although these perspectives are not popularly discussed in the current literature, we argue that they contribute to understanding the residential decisions of ethnically diverse Turkish and Iranian immigrant populations in Sweden. In doing so, we will provide quantitative evidence suggesting that the current knowledge about ethnic segregation and clustering is misrepresenting a more complex relationship.

Internationally, the spatial assimilation hypothesis has garnered much support. One common finding in the literature suggests that immigrants are most heavily concentrated in metropolitan regions (Iceland and Scopilliti 2008, Zavodny 1999, Park and Iceland 2011, Åslund 2005, Zorlu and Mulder 2008, Iceland and Nelson 2008). It has been argued, however, that greater degrees of assimilation are associated with relocating to less urban areas (Trevena et al. 2013). Other studies supporting this hypothesis argue that the propensity to reside in, or relocate to less immigrant-dense regions is positively associated with certain economic indicators of integration such as level of education, income, occupational status, and home-ownership (Trevena et al. 2013, Iceland and Nelson 2008, Bolt and Van Kempen 2010, Finney and Simpson 2008, South, Crowder and Chavez 2005). Similarly, several studies point to the role of social and cultural integration as determinants of immigrant residential decisions. Common proxies used to capture this process, intermarriage between natives and immigrants, fluency in the host-country language, naturalization, and years since migration, have all shown a positive relationship with the likelihood of residing in or moving to less ethnically segregated communities (Tammaru and Kontuly 2011, Macpherson and Strömgren 2013, Iceland and Nelson 2008, South et al. 2005). Although these findings lend substantial support to the spatial assimilation hypothesis, the theoretical framework has not remained unchallenged. It has been reasoned that measures of immigrant assimilation can only partially explain immigrants’ residential choices (Iceland and Scopilliti 2008, Logan et al. 2002). For example, measures of socio-economic or cultural and social integration are not always associated with individuals residing apart from their co-ethnics. It has also been suggested that immigrants are attracted to regions with established concentrations of immigrants even when socio-economic advancement has been achieved (Bolt and Van Kempen 2010). In some circumstances, it has been shown that immigrants prefer to settle in regions with larger concentrations of other immigrants from the same country of origin.

In the Swedish context, research shows that the drivers of immigrant residential settlement generally conform to those found internationally. In a study looking at immigrants residing in Sweden’s second largest city, Göteborg, Brämå (2008) tracks intra-urban migration between neighborhoods with varying levels of immigrant concentrations. The results suggest that immigrants from all regional groups generally moved to less segregated parts of the city from their ports of entry, but since some groups start in more segregated areas than others, their spatial assimilation process tends to be slower. In another study on the intra-urban mobility of Iraqi and Iranian immigrants living in Stockholm, Macpherson and Strömgren (2013) analyze the relationship between intermarriage and spatial assimilation. The main findings suggest that intermarriage with native Swedes is an important factor determining the mobility of Iraqi and Iranian immigrants away from segregated regions of Stockholm. In addition, the authors’ findings corroborate the expected positive relationship between individual’s education, income, and duration of residence in Sweden and residential mobility. Both of the aforementioned studies closely align with the theoretical expectations as set forth by the spatial assimilation hypothesis; however, these studies do not directly address immigrant preferences or regional characteristics as important mechanisms leading to ethnic segregation.

In a study providing evidence contradicting the spatial assimilation hypothesis, Åslund (2005) investigates the regional factors driving the residential decisions of different immigrant populations in Sweden. The author focused on two particular cohorts, those that immigrated during the period 1981-1983 and those that immigrated during the period 1987-1989. These two cohorts are of particular interest, because the latter was exposed to the “Whole of Sweden” strategy. Thus, since the second cohort was unable to select their initial destination they are an interesting comparison group. The findings suggest that immigrants are attracted to urban municipalities and those with promising economic conditions, such as low unemployment rates and high average earnings; however, the author also argues that population composition also plays an important role. For example, immigrants tend to
initially reside in or relocate to municipalities with large immigrant populations, in particular those from the same country of origin. This process suggests that ethnic enclaves or clusters may be largely driven by immigrants’ preferences to reside in proximity to ethnic kin.

Moreover, the ethnic homophily literature provides context and support for the voluntary segregation hypothesis. A central finding argues that the creation of outgroup social networks in immigrant populations is largely influenced by the cultural, ethnic, and religious tendencies of the ethnic group with which an individual identifies. In many conservative cultures, maintaining networks within the same group are paramount to protecting and sustaining traditions, as well as social status in the community. This behavior has consistently been observed in research on immigrants’ residential preferences (overlapping with the ethnic segregation literature), dating and intermarriage across ethnicities, school choice, and more generally in inter-racial/ethnic friendship formation (Smith, Maas and van Tubergen 2014).

**Data and Methods:**

The Swedish Longitudinal Immigrant database contains individual level information from several Swedish registers and censuses. The subsample used in the study contains all post-immigration economic and demographic information of a randomly selected sample of Turkish and Iranian immigrants present in Sweden between 1968 and 2001, and had immigrated between 1968 and 1991. In addition, we were able to link unique pre-migration information found at the Swedish Immigration Board archives to the subsample. The pre-migration information collected included city of birth, education completed in the home country, and visa status. Thus, we were able to examine to what extent an individual’s pre-migration conditions impacted his or her and post-migration outcomes. Information on ethnicity is lacking in the available datasets; however, the birth locations, we argue, potentially proxies a combination of interesting characteristics such as ethnicity, religion, culture, and informal networks.

In order to create our region of origin variable, we geocoded birth locations for all immigrants in our sample. Figure 1 shows the geographic representation in our sample from Turkey and Iran. Each dot represents a city or town of birth in our dataset. We may have multiple individuals represented by a single dot. As one can see, the sample consists of a representative sample of immigrants from throughout each country.

![Figure 1: Birth places of the Turkish and Iranian immigrants in the dataset.](image)

To create our region of origin variables, we identified neighboring birth locations for each individual, within a bandwidth of 60 km Euclidean distance. That is, for each individual we calculated which other migrants that had been born within 60 km from the individual’s birth location. Thereafter, for each year (1968-2001) we calculated which immigrants that were currently neighbors with each other (on municipality level) in Sweden. Finally, for each individual and year, we calculated the number of immigrant neighbors in Sweden that were also born within 60 km of the individual in the country of origin. The country of origin variable was constructed in the same way, but instead of using a 60 km bandwidth we used anyone in the sample born in the same country as the individual. The reason for
using this measure was to ensure the scaling of the two variables was comparable to one another. This process will underestimate the number of individuals from the same region or country of origin residing in the municipality; however, since the sample is representative of the larger population, it should accurately proxy the true population sizes.

Figure 2 shows an example of the procedure. In figure 2A, five individuals were born within a 60 km radius of individual A. In figure 2B, we can identify one of the individuals in figure 2A was living in the same municipality as individual A at year $t$. Thus, individual A was assigned the value 1 for year $t$ which represents the number of people living in the same municipality in Sweden and that also were born within 60 km in their home country.$^3$

Using these variables, we estimated random effects probit regressions with the outcome being probability to resettle to another municipality from the initial place of residence. We stratify the sample into two groups, the first being those individuals that are exposed to the refugee placement policy, and the second group are those with free settlement choice (see Table 1 for brief description). The methodology employed here is similar to that used in Åslund (2005); however, we use the more precise measure than country of origin and are able to more accurately determine which individuals were assigned to their initial residence location.

Table 1: Subsamples used in empirical analysis

<table>
<thead>
<tr>
<th>Reason for migration (visa category)</th>
<th>Assigned Settlement</th>
<th>Voluntary Settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor migrants (immigrating 1968-2001)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Family reunification (immigrating 1968-2001)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Refugees (immigrating 1968-1984)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Refugees (immigrating 1985-2001)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>No. of individuals</td>
<td>672</td>
<td>2052</td>
</tr>
</tbody>
</table>

The variable of interest was the number of individuals born within a 60 km radius of individual $i$ in the country of origin living in the same municipality in Sweden as individual $i$ (hereafter referred to as ‘regional neighbors’). Additionally, in the final model specification, we controlled for the number of individuals from the same country of origin as individual $i$ that lived in the same municipality as

$^3$ The process was also repeated using 15 and 30 km radii in the home country. These two extra variables were used as robustness checks in the empirical analysis.
individual $i$ at $t$ (hereafter referred to as ‘country neighbors’).\(^4\) The control variables included in the model were income, municipality population, country of birth, sex, years since migration, age, maximum years of education, year fixed effects, population in city of birth, visa category, unemployment rate in the county, and share of population in municipality of residence that is Swedish. Each of the time varying variables was included at $t-1$ so as to ensure that behavior at $t$ was influenced by the previous year’s conditions.

**Results and Discussion:**

Table 2 presents descriptive statistics between the two samples used in the empirical analysis. Between the two samples, the assigned settlement population is slightly older, on average (46.52 years). These individuals also have a lower average income than the other sample; however, this is to be expected as this sample only consists of refugees, while the voluntary settlement also includes labor migrants and family reunification migrants that have lived longer in Sweden. One noteworthy difference between the two groups is the composition based on nationality and sex. Iranians make up a larger portion of assigned immigrants (55.06%) compared to the voluntary settlement group (37.28%). This difference may be driven by the fact that Iranians fleeing the Islamic Revolution in 1979 may have dominated refugee immigration flows to Sweden by 1985 (Hassan 2007, Westin 2003). Additionally, male immigrants comprise a majority of assigned individuals, while they make up a minority of voluntary settlement sample.

Turning to the city of origin characteristics, we see that the dataset consists of individuals from cities of various sizes in Iran and Turkey. This is an important feature of the study sample, as we can be confident that the results are not driven purely by the fact that individuals from large urban centers are overrepresented in either sample. In fact, roughly 13% of individuals in both samples come from rural towns with populations of less than 15,000.

Finally, there are no substantial differences in the Swedish municipality characteristics between the two samples. It may be worth noting that assigned individuals live in municipalities with a slightly larger native population as compared to those with free settlement choice. The reason being, refugees after 1985 were placed in municipalities away from established immigrant ports of entry (Edin et al. 2003, Åslund 2005).

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\(^4\) The correlation between the variables ‘regional neighbors’ and ‘country neighbors’ is roughly .3, thus collinearity should not be of concern.
Table 2: Descriptive statistics of study population.

<table>
<thead>
<tr>
<th>Variable name</th>
<th>Assigned Settlement</th>
<th>Voluntary Settlement</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of individuals</td>
<td>672</td>
<td>2052</td>
</tr>
<tr>
<td>No. of observations</td>
<td>4591</td>
<td>22,045</td>
</tr>
<tr>
<td>Individual characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (mean)</td>
<td>46.52</td>
<td>44.10</td>
</tr>
<tr>
<td>Mean income (SEK)</td>
<td>42,802.6</td>
<td>54,736.36</td>
</tr>
<tr>
<td>Years since migration (mean)</td>
<td>6.06</td>
<td>9.79</td>
</tr>
<tr>
<td>Country of origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turkish</td>
<td>44.94%</td>
<td>62.72%</td>
</tr>
<tr>
<td>Iranian</td>
<td>55.06%</td>
<td>37.28%</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>41.07%</td>
<td>54.72%</td>
</tr>
<tr>
<td>Male</td>
<td>58.93%</td>
<td>45.27%</td>
</tr>
<tr>
<td>Max education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>40.32%</td>
<td>41.72%</td>
</tr>
<tr>
<td>Secondary</td>
<td>24.11%</td>
<td>18.03%</td>
</tr>
<tr>
<td>University</td>
<td>35.57%</td>
<td>40.25%</td>
</tr>
<tr>
<td>Visa category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugee</td>
<td>100%</td>
<td>25.49%</td>
</tr>
<tr>
<td>Family reunification</td>
<td></td>
<td>67.20%</td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td>7.31%</td>
</tr>
<tr>
<td>City of origin characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Population size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 15,000</td>
<td>12.79%</td>
<td>12.57%</td>
</tr>
<tr>
<td>15,000 – 60,000</td>
<td>11.75%</td>
<td>17.25%</td>
</tr>
<tr>
<td>60,000 – 100,000</td>
<td>21.43%</td>
<td>19.93%</td>
</tr>
<tr>
<td>100,000 – 250,000</td>
<td>9.97%</td>
<td>8.25%</td>
</tr>
<tr>
<td>250,000 – 1.5m</td>
<td>14.14%</td>
<td>15.25%</td>
</tr>
<tr>
<td>1.5m – 4.5m</td>
<td>7.45%</td>
<td>7.60%</td>
</tr>
<tr>
<td>More than 4.5m</td>
<td>22.47%</td>
<td>19.15%</td>
</tr>
<tr>
<td>Municipality characteristics in Sweden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Country neighbors’ (1 unit=10 individuals)</td>
<td>9.76</td>
<td>12.72</td>
</tr>
<tr>
<td>‘Regional neighbors’ (1 unit=10 individuals)</td>
<td>2.35</td>
<td>3.00</td>
</tr>
<tr>
<td>Population size of municipality (mean)</td>
<td>215,372.9</td>
<td>277,160</td>
</tr>
<tr>
<td>Unemployment rate (mean)</td>
<td>4.54%</td>
<td>3.14%</td>
</tr>
<tr>
<td>% native Swedish (mean)</td>
<td>87.10%</td>
<td>85.50%</td>
</tr>
</tbody>
</table>

Table 3 presents the regression estimates for the probability of individuals to resettle from their initial place of residence. Model 1 presents estimates for the basic model specification in which only ‘country neighbors’ is included. This specification is similar to the approach used in studies that investigate ethnic clustering on the basis of common country of origin (Pais et al. 2012, Silvestre and Reher 2014, Åslund 2005). Model 2 is the preferred specification that also controls for ‘regional neighbors’ in order to test our hypothesis. The results in model 2 provide evidence suggesting that the use of country of origin as the sole measure of ethnic clustering may misrepresent the true mechanism. Finally, as mentioned above, the sample has been stratified between assigned immigrants (immigrants subjected to the settlement policy) and voluntary immigrants (immigrants that were not subjected to the settlement policy) for both of the aforementioned models.

In model 1, similar to previous studies, we find some evidence that individuals from the same country of origin living in the present municipality are a pull factor (Åslund 2005). Specifically, amongst voluntary migrants, a 1 standard deviation (approximately 110 individual) increase in ‘country
neighbors’ is associated with an 11 percentage point decrease in the predicted probability to resettle from the initial municipality of residence. The effect is statistically insignificant for those subjected to residential assignment. Nonetheless, this result is comparable with those of other studies that find immigrants are attracted to regions with larger representation of other immigrants from the same country of origin (Hierro and Maza 2010, Reher and Silvestre 2009, i.e., Zavodny 1999, Åslund 2005). For example, Åslund (2005) finds that a standard deviation increase in ethnic concentration (individuals from the same country of origin) decreases the probability of resettling by 10 percent.

Model 2 in table 3 expands the previous model to include our ‘regional neighbors’ variable and the percentage of the municipality of Swedish nationality. The estimates suggest that ‘country neighbors’ drive immigrants’ relocation decisions, but in the opposite direction as the previous model. For voluntary immigrants, net of the impact of ‘regional neighbors’, a one standard deviation increase in ‘country neighbors’ is associated with an increase of roughly 11 percentage points in the probability to resettle. The association is even stronger for assigned immigrants with a one standard deviation increase being associated with an increase of roughly 22 percentage points in the probability to resettle. For both populations, once ‘regional neighbors’ are included in the model, there is roughly a 22 percentage point change in the opposite direction from the previous model.\(^5\)

Accordingly, it seems as though both groups are more likely to resettle away from municipalities with a larger representation of co-nationals, while, in both samples, a larger presence of ‘regional neighbors’ decreases the probability of resettlement. A one standard deviation increase (approximately 40 individuals) in ‘regional neighbors’ is associated with roughly a 12 and 20 percentage point decrease in the probability to resettle for voluntary and assigned individuals, respectively. The estimates suggest that proximity in the country of origin matters in terms of the resettlement decisions of Turkish and Iranian immigrants regardless of whether the initial destination was randomly assigned or chosen by the individual. Both groups show that resettlement is negatively associated with the number of ‘regional neighbors’ living in the same municipality; however, the effect is larger for the refugee population immigrating after 1985.

Furthermore, in line with our a priori expectation, family reunification immigrants have a lower predicted probability of relocating as compared to refugees. This is to be expected, as these individuals may have initially settled near family members and been incorporated into existing networks. Additionally, in both models we see that Turkish immigrants consistently have a lower predicted probability of relocating compared to Iranians.

\(^5\) Voluntary migrants in model 1 display a decrease of 11 percentage points in the probability to migrate with a standard deviation increase in ‘country neighbors’.
Table 3: Random effects probit regression estimates (outcome: resettle from initial place of residence in Sweden)

<table>
<thead>
<tr>
<th></th>
<th>Model 1:</th>
<th>Model 2:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Voluntary</td>
<td>Assigned</td>
</tr>
<tr>
<td>Neighborhood</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of 'Country Neighbors'</td>
<td>0.99*</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>(0.00)</td>
<td>(0.01)</td>
</tr>
<tr>
<td>Number of 'Regional Neighbors'</td>
<td>0.97**</td>
<td>0.95**</td>
</tr>
<tr>
<td></td>
<td>(0.01)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iran</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>Turkey</td>
<td>0.83**</td>
<td>0.77**</td>
</tr>
<tr>
<td></td>
<td>(0.05)</td>
<td>(0.07)</td>
</tr>
<tr>
<td>Visa category</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refugee</td>
<td>ref.</td>
<td>ref.</td>
</tr>
<tr>
<td>Family reunification</td>
<td>0.92*</td>
<td>0.92*</td>
</tr>
<tr>
<td></td>
<td>(0.04)</td>
<td>(0.04)</td>
</tr>
<tr>
<td>Labor</td>
<td>1.09</td>
<td>1.07</td>
</tr>
<tr>
<td></td>
<td>(0.08)</td>
<td>(0.08)</td>
</tr>
<tr>
<td>Individuals</td>
<td>2052</td>
<td>672</td>
</tr>
<tr>
<td>Observations</td>
<td>22,045</td>
<td>4591</td>
</tr>
</tbody>
</table>

Exponentiated coefficients above and standard errors in parentheses. ***(*)+* denotes significance at the 1(10)% level. Estimates for birth cohort, sex, time spent in Sweden, period fixed effects, population in home country city, max education, municipality population size (in Sweden), and percentage of municipality population born in Sweden not reported here.

Reflecting on the research questions established at the onset of the paper, the results from the study suggests that the dynamics of immigrant clustering are more nuanced than previously acknowledged. We set out to examine whether region of origin, net of country of origin effects, predicts immigrants’ residential mobility and find evidence supporting this hypothesis. Furthermore, this study challenges the established framework through which ethnic clustering is viewed and offers an alternative method and explanation. We argue that Turkish and Iranian immigrants in Sweden are less mobile in the presence of more ‘regional neighbors’, whereas they are pushed to resettle in the presence of more ‘country neighbors’. We discussed several potential mechanisms driving this relationship, and settle on the ideas of internal ethnicities and ethnic homophily as two lenses through which this paradigm can be viewed.

There are two possible complementary explanations for these finding. First, individuals that were free to choose their initial settlement destination were able to account for a number of factors into their initial decision. Among others, the ethnic make-up of the municipality would have been one such factor (Trevena et al. 2013). This explanation aligns with our findings as voluntary settlers show a smaller impact of ‘country neighbors’ on the probability of individuals to resettle as this group potentially made their initial choice with this in consideration. Similarly, we see that the impact of ‘regional neighbors’ is statistically significant, but smaller for this population as compared to those exposed to the settlement policy (assigned immigrants). The refugee population, on the other hand, would not have had a similar opportunity and would make their decisions to internally migrate based on their present conditions and their acquisition of knowledge of population characteristics in Sweden. Assigned individuals would have had their initial conditions defined exogenously, thus we can expect them to react accordingly in their subsequent residential decision.

The second explanation for these results could be determined by regional ethnic clustering in the country of origin. Refugees immigrated to Sweden due to political instability or possibly persecution by other ethnic groups in the home country. Thus, immigrants from the same country of origin would be inclined to settle near individuals from similar regions based on shared experiences and the
existence of internal ethnicities. In the case of Turkey, immigrants in Sweden of the three conflicting ethnic groups, Turks, Kurds, and Assyrians, predominantly came from separate regions within Turkey (Hassan 2007, Westin 2003, Baser 2013, Eliassi 2013, Gaunt 2010). A similar pattern can be seen for ethnic minorities emigrating from Iran. Furthermore, as postulated by the internal ethnicities narrative, strong ethnic and religious identities divided these sub-groups in the country of origin, and continue to manifest themselves in Sweden today (Bozorgmehr 1997, Light et al. 1993, Baser 2013, Eliassi 2013, Gaunt 2010). Large geographically separated diasporas have developed in regions of Sweden, and their ability to integrate with the host country population (native and immigrant) is largely influenced by their ethnic identities (DiCarlo 2007).

Admittedly, these results are potentially driven by family networks; however, we believe the results are too large to be driven solely by immediate-family ties. More realistically, one may argue that larger family networks (i.e., cousin ties) drive the results; however, this explanation would align with our posited theoretical approach as distant familial ties and ties based on geographical origin are encapsulated in the more refined measure. Furthermore, we are unable to identify distant family ties in the data available and controlling for individuals with family-tie visa status will to some extent eliminates this confounder.

Robustness check:

We use a 60 km regional radius in the home country, and realize that this is a relatively arbitrary measure of regional aggregation; however, no matter what disaggregated level one uses would be subject to this criticism. As a result, we estimated additional models using different regional measures (i.e., 15 km and 30 km in the home country). When we replace 15 km and 30 km ‘regional neighbors’ in the place of 60 km ‘regional neighbors’ in the model, we see that the relationship, although smaller in magnitude, remains robust in each of the specifications. Immigrants in our sample display a lower probability of resettlement in the presence of more ‘regional neighbors’, while they exhibit an increased probability of resettling in the presence of more ‘country neighbors’.6

Conclusion:

In this paper, we argue that the current understanding of immigrants’ residential preferences and ethnic clustering is missing a critical dimension. Using unique pre- and post-migration data of Turkish and Iranian immigrants in Sweden, we attempt to show that country of origin, the commonly used measure in the literature as the level at which ethnic clustering is evaluated, hides substantial intricacies related to individuals’ residential choice. In particular, we argue that immigrants, especially those from countries with diverse and potentially conflicting populations, may not identify with other individuals purely based on shared national origin. Furthermore, we find evidence that there exists a less aggregated regional mechanism driving individual residential preferences.

Although it is impossible with the data available to accurately identify the mechanisms driving this relationship, we suggest the principles of homophily, internal ethnicities, and the intersection of the two as possible explanations. These lenses provide a framework through which meaningful regional networks in the home country may influence individuals in a destination country (Light et al. 1993, McPherson et al. 2001). Moreover, as evidenced from previous studies, internal ethnicities play a major role in the post-migration experiences of Turkish and Iranian immigrants (Baser 2013, Bozorgmehr 1997, Demir 2012, DiCarlo 2007, Eliassi 2013, Gaunt 2010, Smith et al. 2014). In these circumstances, individuals’ perception of their own ethnicity often transcends their identification with their national group. As such, clustering individuals based on country of origin overlooks this dynamic and its importance in the process of immigrant segregation.

The results presented above raise do not represent causal effects; however, they provide evidence that beyond what the existing literature has been able to produce. the further question as to whether the use of country of origin in the existing literature is capturing a different effect than has been considered. It is possible that they may be purely driven by a process region of origin colocation.

6 Estimates from the robustness checks are available upon request.
This paper would benefit greatly from a subsequent analysis regarding the location of residence following the initial move. This analysis would allow us to further test whether the ‘regional neighbors’ pull individuals into similar municipalities of residence.
Work Cited:


