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Ethnic Enclaves and Self-employment among Middle Eastern Immigrants in Sweden – Ethnic Capital or Enclave Size?

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Abstract

We employ geocoded data to explore the effects of ethnic enclaves in Swedish cities on the propensity of Middle Eastern immigrants to use business ownership as a vehicle to transcend from labor market outsiders to insiders. We demonstrate a robust tendency for immigrants to leave non-employment for self-employment if many co-ethnic peers in the enclave are business owners, while we observe weak effects emanating from business owners in other groups. Net of these effects, overall enclave size, measured by the local concentration of co-ethnic peers, has a negative influence on the propensity for an outsider to become self-employed.

JEL: R1, R12, L26

Keywords: Ethnic enclave, segregation, immigrant entrepreneurship, self-employment, labor market sorting, integration

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1. Introduction

Immigrants with similar ethnic and cultural backgrounds tend to sort themselves into similar residential neighborhoods within cities (Musterd 2005; Bartel 1989; Bauer et al., 2002; Borjas, 1995, 2000). The terms *ethnic enclaves* or *neighborhood diasporas* are often used to describe this phenomenon. Effects of living in an ethnic enclave on immigrants' labor market outcomes have received significant attention in previous research (Edin et al., 2003, Damm 2009, 2014 Portes and Zhou 1993). Whether and how ethnic enclaves influence various labor market outcomes for their residents is a scientific inquiry with important policy implications. For example, knowledge of how the residential location of immigrants is linked to their labor market integration can aid the development of refugee placement programs, labor market integration policies, as well as city planning. Consequently, such effects are widely debated among policy makers and politicians in most western countries.

An ethnic enclave effect on labor market outcomes implies an influence of the characteristics of the neighborhood in which an immigrant lives, over and above his or her personal characteristics. That is, an immigrant living in an ethnic enclave will have a different labor market outcome compared to an otherwise identical immigrant living elsewhere. A basic premise in the literature on ethnic enclave effects is thus that 'place matters', beyond non-random sorting of immigrants with different types of human capital.¹ The presumed cause of such effects is typically the existence of social interactions

¹The argument that place matters beyond sorting is shared with the wider literature on neighborhood effects (Durlauf 2004) as well as the literature on agglomeration economies (Duranton and Puga 2004). Sorting refers to that immigrants with certain characteristics that influence their labor market outcomes may choose to cluster in certain locations. The outcome is in this case a strong correlation place and labor market outcomes, but this may not need to be driven by a genuine effect of place. Instead, it may reflect that certain places attract certain characteristics that influence their labor market outcome (cf. Combes et al 2008).

whereby decisions, behaviors as well as norms of individuals are influenced by neighbors in the local environment (Ioannides 2013, Durlauf 2004, Sampson et al 2002).

Conceptually, the direction of the effect of residency in an ethnic enclave on the labor market outcomes of immigrants is ‘open-ended’. On the one hand, residency in an ethnic enclave may provide valuable resources for immigrants by way of peer-effects and social networks, e.g. information about job opportunities, employee referral, or knowledge of the job application process. On the other hand, living in an enclave can result in that immigrants maintain an undesirable social and institutional ‘distance’ to natives. In this case, the ethnic enclave may become “an economic stranglehold” by excluding immigrants from outside alternatives, or by making it challenging to acquire skills necessary for labor market integration (Borjas, 2000, p. 93). The empirical literature has not reached consensus on this matter (Cutler and Glaeser 1997, Cutler et al., 2008).

One reason for the inconclusive results may be that labor market outcomes are contingent upon characteristics of the enclave. Borjas (1992, 1995) introduces the idea of ethnic capital. He argues that social networks are based on ethnic group similarity and suggests that the average outcome of the ethnic group reflects the quality of the ‘contents’ that diffuse among group members. As the quality of the local ethnic environment increases, so does the content of its ethnic capital. In other words, residency in an ethnic enclave may boost the prospects of finding a job if many ethnic peers are already employed, for instance because of local density of positive role models, information about job opportunities and social networks to potential employers and so on. An opposite effect may be at work if many ethnic peers are unemployed.

In this paper, we investigate these issues in the context of self-employment among immigrants in Sweden with residency in ethnic enclaves. Using Swedish geo-coded individual-level data on over 90,000 Middle Eastern immigrants who live in ethnic enclaves in Swedish cities, we analyze how different characteristics of ethnic enclaves affect the probability that an immigrant transcends from being a labor market ‘outsider’ to becoming an ‘insider’ by establishing an own active firm. We conduct an econometric analysis of how the probability of switching from non-employment to self-employment differs between Middle Eastern immigrants that live in ethnic enclaves of different characteristics. Middle Eastern immigrants display high unemployment rates, and constitute the largest non-European minority in Sweden—a share that is still growing fast.² The proportion of self-employed is still relatively high among some of the groups who have migrated from countries in the Middle East (Aldén and Hammarstedt 2017).

Our empirical analysis focuses on the influence of two main characteristics of ethnic enclaves: (i) the size of the enclave, measured as the proportion of the residents who are Middle Eastern immigrants, and (ii) the density of co-ethnic entrepreneurs, measured as the fraction of the Middle Eastern immigrants in the enclave who are established business owners. *Enclave size* reflects overall supply- and demand-side conditions for immigrant entrepreneurs. For instance, a significant concentration of immigrants may create local demand for specific types of services (restaurants, grocery stores, medical services etc.) that in turn stimulate immigrant businesses (Light 1972, Aldrich et al., 1985). Likewise, it

²Immigration to Sweden is not a recent phenomenon. The country has received substantial number of labor immigrants between the second world war and the 70’s as a result of high labor demand both in manufacturing and in services. Following the structural changes in the economy, the decline of industrial growth implied a decline in labor demand for immigrants, which consequently led to significant changes in the compositions of the immigrants coming to Sweden (Bevelander, 2004). Late 20th century and the 21st century immigration to Sweden is largely dominated by refugee migration. First in the 90s following the Yugoslavian War, then the 2006 Iraq War, and more recently the Syrian Civil war dictated rapid expansion in refugee intake (Henrekson et al. 2019).

is well established that immigrant businesses tend to employ immigrant workers (Åslund et al., 2014), and a local concentration of immigrants imply a local labor pool that may boost immigrant entrepreneurship. The density of ethnic entrepreneurs is aimed at capturing the idea of *ethnic capital*. We argue that the local density of ethnic entrepreneurs in an enclave is an indicator of the ethnic capital of relevance for self-employment. For example, it reflects the local density of knowledge and information about the practice of entrepreneurship that may spread in local social networks, as well as the potential for role model effects, and other social interaction mechanisms (cf. Andersson and Larsson 2016, Minniti 2005, Bosma et al. 2012).

We find empirical evidence in favor of the idea that the influence of residency in an ethnic enclave on labor market outcomes depends on the characteristics of the enclave.

Specifically, our results suggest that is the qualitative characteristics of an ethnic enclave, rather than its size, that is of importance for the probability that immigrants transcend from non-employment to self-employment. Immigrants who live in an ethnic enclave with a high density of other co-ethnic business owners are more likely to become self-employed. This effect appears to be largely bounded within ethnic groups. The density of business ownership in other ethnic groups within the enclave has no robust influence on the probability that an immigrant transcends from non-employment to self-employment. Net of these effects, we find a small negative effect associated with enclave size. These results hold after accounting for sorting by controlling for ample individual characteristics of immigrants, such as age, education, gender, family status, neighborhood tenure and prior labor market status, as well as restricting the analysis to immigrants who recently arrived in Sweden.

The findings are consistent with the argument that there are within-ethnic group feedback effects in immigrant self-employment, emanating from the ethnic peers in the enclave who are already business owners. An ethnic environment dense in entrepreneurship may for instance contain a greater density of role models or have greater potential to transmit more relevant information and knowledge about self-employment in ethnic social networks. This is in line with Borjas (1992, 1995) idea of ‘ethnic capital’; the influence of ethnic enclaves on labor market outcomes of an immigrant depends on the labor market outcomes of ethnic peers in the enclave.³

The paper contributes to the broad literature that links economic and socio-economic outcomes to conditions in individuals’ local environments (Chetty et al., 2014, Connor 2018, Goodwin-White 2016)⁴ as well as to the literature on immigrant entrepreneurship (Aliaga-Isla and Rialp 2013, Andersson and Hammarstedt 2015, Kerr and Kerr 2016). With respect to the former literature we contribute with an analysis that, rather than comparing outcomes of immigrants in ethnic enclaves with immigrants in other environments, puts focus on how two different characteristics of ethnic enclaves in cities, size and ethnic capital, influence labor market outcomes (in this case self-employment). With respect to the latter literature, the results in the extant literature that focuses on the role of ethnic enclaves for immigrant self-employment are mixed (Le 1999). Some studies find positive effects (Borjas 1986, Le 2000, Toussaint-Comeau 2008), whereas others find negative effects (Clark and Drinkwater 2002, Aguilera 2009, Yuengert 1995, Clark and Drinkwater 2010). Our paper adds with new empirical evidence that points to the

³For the United States, Borjas studies several outcomes—educational attainment, occupational standing and earnings—of children and finds that they are affected not only by their parents’ education, occupational prestige or earnings but also by the average education or earnings of their corresponding ethnic group.

⁴Recent contributions in this vein for Sweden shows that being raised in immigrant-dense neighborhoods has a negative effect on the probability of engaging in higher education, but no effect on earnings, unemployment and social assistance (see e.g. Neuman 2016).

importance of accounting for the qualitative characteristics of ethnic enclaves to understand under what circumstances they influence immigrant self-employment.

The rest of the paper is organized as follows: Section 2 presents previous literature. Section 3 presents the data and the empirical model. Section 4 presents results and additional tests for robustness. Section 5 concludes.

2. Ethnic enclaves and self-employment – conceptual arguments and previous research

In the majority of western economies, including Sweden, there is a significant gap in employment rates between immigrants and natives (OECD 2006).⁵ There are numerous explanations for this gap; e.g. lack of language skills, verifiability and compatibility of formal education, lack of social networks, knowledge of labor markets and institutions (Bates 2011), labor market discrimination (Arai and Skogman Thourise 2009, Carlsson and Rooth 2007), and unavailability of jobs with low entry barriers.⁶

In view of these obstacles, self-employment is often described as a rational response of immigrants (Clark and Drinkwater 2000). If labor market conditions prevent the members of minorities from being wage-employed, or strictly push them to low-wage jobs, immigrants may be more attracted to the self-employment option (Parker, 2009, p. 165). There may also occur discrimination in the labor market where the minority members are getting paid less than their native counterparts for similar jobs, which may make self-

⁵ Recent analyses also point out that the employment gap is larger in countries where collective bargaining agreements cover a larger share of the labor market, such as in Sweden (Bergh, 2017).

⁶ Likewise, the absence of citizenship is argued to contribute the challenges in the labor market. Bevelander and Pendakur (2012) find an association between the ease of acquiring citizenship and probability of employment in the case of Sweden, particularly for the non-EU and non-North American immigrants.

employment a more attractive option (Moore, 1983). For Sweden, Hammarstedt (2006) argues that the difference between an immigrant's predicted earnings in self-employment relative to wage-employment has a strong influence on an immigrant's self-employment decision.

2.1 The influence of characteristics of ethnic enclaves on self-employment

Many immigrants as well as refugees cluster in so-called ethnic enclaves in their new countries of residence. The existing literature provides mixed evidence concerning how residency in an ethnic enclave influences the labor market outcomes of immigrants.

Residency in an ethnic enclave can have both positive and negative effects on self-employment propensity. Two main characteristics of ethnic enclaves may exert a positive influence on self-employment. First, the size of the enclave and second, the density of co-ethnic business owners. Below we discuss why these characteristics matter, the underlying mechanisms as well as results of prior literature.

2.1.1 *Enclave size*

The size of an ethnic enclave may stimulate immigrant entrepreneurship by improving supply- and demand-side conditions. On the supply-side, immigrant entrepreneurs in large ethnic enclaves may experience good prospects to find potential employees. Co-ethnics may prefer to work together with ethnic peers who are entrepreneurs, e.g. because of ethnic solidarity and trust. The entrepreneurs as well as the employees could benefit from trust and solidarity as it may mean long duration of employer-employee ties (Aguilera 2003, Waldinger 1986), as well as higher wages (Yoon 1997). Moreover, there is also a potential *push-effect*. Immigrants may find it difficult to enter the wider labor market in

their new country, making employment opportunities in firms owned by an ethnic peer an alternative (Andersson and Hammarstedt 2015). By the way of an experimental study performed in Sweden, Carlsson and Rooth (2007) find evidence for recruitment discrimination against men with an Arabic sounding name, although the discrimination accounts for less than one sixth of the native-immigrant employment gap. There is also some evidence that immigrant businesses in ethnic enclaves may use workers among family and relatives as cheaper labor (Sahin et al., 2007).

Another supply-side issue concerns availability of finances. Similar to discrimination in the labor market, discrimination may exist in capital markets. Parker (2009) argues that discrimination in capital markets may not necessarily happen based on ethnicity, but rather appear in the form of *statistical discrimination*. Many immigrants start a business in service sector branches with high failure rates. Banks may penalize service sector startups on this basis and deny loans or give smaller loans. The outcome may then mimic ethnic discrimination. Likewise, Aldén and Hammarstedt (2016) argue that entrepreneurs from countries outside Europe, find it difficult to get bank loans granted and experience discrimination by banks, customers and suppliers. Several papers discuss how immigrants obtain the necessary financial capital via their ethnic and family networks to deal with such constraints (Bruderl and Preisendörfer 1998, Fairlie 2012; Bates 1997). Such networks may be more developed if immigrants live in larger ethnic enclaves with a high density of co-ethnic peers.

On the demand-side, immigrants may face discrimination in the product markets (Parker 2009). Borjas and Bronars (1989) show that different sub-populations of consumers may have stronger/weaker preference for the race of the seller, dictating a disparity between the

income levels of immigrants and natives. They argue that such a disparity would imply sorting of high-skill immigrants into wage employment while low-skilled immigrants would prefer entrepreneurship. Size of the ethnic consumers directly relate to that mechanism. If natives have a stronger preference for native sellers, immigrants would be incentivized to start their business in local markets with high share of immigrants to mitigate this constraint.⁷

Furthermore, there is in principle a consensus that immigrants in ethnic enclaves have an advantage when it comes to knowledge and information of products and services that fulfill specific demand from within the enclave (Light 1972, Aldrich et al. 1985, Evans 1989). Given that an immigrant sells a good or service targeted to other immigrants, the effect of ethnic demand in the local market should be even higher. There are plenty of examples of businesses that could be stimulated by such demand effects, e.g. food products and restaurants (Light 1972), medical and health services (Zhou 2004) as well as immigration assistance (Aldrich and Waldinger 1990). The basis for the demand-effect is that ethnic enclaves are likely to stimulate the development of entrepreneurial opportunities in businesses that serve specific needs or demands of residents of ethnic enclaves. Against this backdrop, we formulate the following hypothesis:

H1: The size of an ethnic enclave has a positive effect on immigrant self-employment.

2.1.2 Co-ethnic established business owners – ethnic capital

⁷ This is technically under the assumption that the products and services sold by the two groups are indifferenciable

The effects of living in an ethnic enclave on self-employment may depend on its qualitative characteristic (Cutler et al., 2008). Borjas' (1992, 1995) introduces the idea of ethnic capital. The basic argument is that ethnic enclaves matter because of low *social distance* between immigrants of similar ethnic origin. Therefore, ethnic enclaves foster social networks between their members and those networks can diffuse behaviors, information, knowledge as well as norms. What matters for the effect on labor market outcomes is thus what kind of information, behaviors and norms that are transmitted in the networks. Borjas argues that the outcome of the ethnic group at large is a measure of its ethnic capital, which may be understood as the quality of the 'contents' that spread among group members with respect to a certain outcome. If many of the peers in the ethnic enclave are entrepreneurs, they may act as role models, or transfer information, skills and attitudes related to business ownership. That is, with regards to self-employment, the 'quality' of the contents that is transmitted in social networks is related to the density of established co-ethnic business owners in the enclave.

A robust finding from the voluminous literature on self-employment and entrepreneurship suggests that it requires skills, know-how, information and motivation. The literature also points to that entrepreneurs accumulate and access such resources (directly or indirectly) through social networks and social interactions (Bosma et al., 2012, Minniti 2005, Klyver et al., 2007, Andersson and Larsson 2016, Giannetti and Simonov 2009, Westlund et al., 2014). Much of the necessary resources for self-employment are thus likely to be made available to immigrants through social networks shared with other immigrants, often of the same ethnic group (Portes 1995). Elfring and Hulsink (2003, p.49) claim for example that *"a network is one of the most powerful assets any person can possess: it provides access to power, information, knowledge and capital as well as other networks"*.

An ethnic enclave in which many immigrants are self-employed is from this perspective advantageous for self-employment for two reasons: i) the ethnic enclave facilitates a local density of social networks, and therefore the likelihood of encountering useful social interactions that transmit useful resources that can stimulate self-employment, and ii) the density of immigrant entrepreneurs can inspire others to take a step into self-employment on its own merits, e.g. through imitation.

This kind of argument links up to the idea of role models and inculcation of positive attitudes. The role model hypothesis has been applied to explain the differences in self-employment rates between blacks and other ethnic groups (Hout and Rosen, 2000; Walstad and Kourilsky, 1998), and there an argument that business ownership is more accepted and rewarded in certain cultures than others (Rafiq, 1992). For example, Clark and Drinkwater (2000) shows that Muslims, Hindus, and Sikhs are more likely to be self-employed than their Christian counterparts. Dissemination of cultural values, likewise, should be linked to the density of peers in locality. If self-employment is more encouraged in a certain ethnic group, then the effects should manifest itself in higher likelihood for self-employment. Such effects should be more prominent in entrepreneurial enclaves than non-entrepreneurial enclaves – holding the size constant. We formulate the following hypothesis:

H2: The local density of co-ethnic business owners in an ethnic enclave has a positive influence on immigrant self-employment.

2.2 The relevance of the two types of characteristics

Discriminating between enclave size and enclave capital effects is interesting for several reasons. For example, evidence in favor of ethnic concentration as a stimulant for immigrant entrepreneurship would support the argument that when immigrants cannot sort themselves into wage employment, they can still capitalize on business opportunities and resources generated by basic supply-demand mechanisms within ethnic enclaves. Public policy could then focus on ensuring that local and national regulations do not hinder self-employment and entrepreneurial intentions.

But if effects of ethnic enclaves instead primarily depend on feedback effects from some specific aspect of the enclave, then a policy prescription would be less straightforward. In this case, the ethnic enclave matters to the extent that social interactions between the residents in an enclave can mitigate frictions related to the dissemination of ‘contents’ that are pertinent for the decision to engage in entrepreneurship (cf. Andersson and Larsson, 2016), such as motivation for- and knowledge of the practice of entrepreneurship. The presence of such feedback, or network, effects makes a policy prescription challenging, but also suggests that the returns to a successful policy would be greater. A policy that manages to stimulate immigrants to leave unemployment for self-employment will have a two-pronged effect in the enclave; i.e. a direct effect on those subject to the policy, and an indirect effect on other enclave residents through social interaction (see e.g. Glaeser et al. 2003).

3. DATA AND EMPIRICAL MODEL

3.1 Data

We employ audited, full-population register data for Sweden 2011-2012 that include detailed information on individuals, such as years of formal education, labor market status, gender, age, income and family status. The selection of the period allows us to investigate the Middle Eastern population prior to the Syrian crisis, yet sufficiently long after the migration peak prior to this crisis for ethnic enclaves to be formed.⁸

The key feature of the data is that a geocoded location identifier assigns everyone's place of residence to 1 km² squares ("neighborhoods") in a grid that covers the whole country. The geocoding allows us to measure characteristics of the immediate neighborhood in which an individual resides. Compared to many previous papers (e.g. Andersson and Hammarstedt 2015, Clark and Drinkwater 2002, Ohlsson et al. 2012), we thus employ a more geographically detailed definition of neighborhoods.⁹ A main advantage of this is that we can avoid using large spatial aggregates, such as whole cities or regions, and instead measure and assess concentration of immigrants at a fine spatial level. We argue that this set-up comes closer to the original conceptual, as well as empirical, notion of ethnic enclaves, i.e. as a phenomenon related to rather geographically restricted residential areas of high co-ethnic concentration within cities, such as Chinatowns, Little Indias and Germantowns.¹⁰

⁸ In 2006, following the Iraq War.

⁹ Andersson and Hammarstedt (2015) study the influence that ethnic enclaves have on the probability that an immigrant is self-employed and identify ethnic enclave effects by exploiting variation across municipalities in Sweden with regards to the concentration of immigrants from the same ethnic group. Ohlsson et al. (2012) explore the determinants of self-employment among immigrants in Sweden in 2007 and assess the role of regional business and public regulatory frameworks, captured by the features of whole labor market areas.

¹⁰ Another advantage is that the positioning as well as the size of the squares are exogenously determined. This reduces issues of endogeneity that arise in many dataset using administrative spatial delineations, because such delineations are often drawn with respect to social and/or economic conditions.

Our main interest is on immigrants from the Middle East. Technically, such individuals are identified in the data as individuals that reside in Sweden but were born in the Middle-East. Given the level of geographical aggregation, the data do not include information on the specific country of birth for integrity reasons. We only know whether the individuals were born in any of the countries belonging to Middle East. In the data, these countries are Saudi Arabia, Yemen, Oman, Syria, Oman, United Arab Emirates, Qatar, Bahrain, Kuwait, Lebanon, Israel, Palestine, Egypt, Jordan, Iraq and Iran. Since there is some within-group heterogeneity in terms of languages as well as culture, the aggregation is not ideal. However, we know from previous research that the groups within this broader aggregation are themselves highly clustered (e.g. Hårsman, 2006).

To get relevant estimates of the influence that characteristics of an immigrant neighborhood have on the probability that a Middle Eastern immigrant becomes self-employed, we focus our analysis on working-age individuals (age 20-64) who live in 1 km squares that satisfy the following conditions:

- total number of residents of at least 500 people
- at least 5 % of the total number of residents are immigrants from the Middle East.

This implies that all immigrants in our data live in neighborhoods in which there is at least 25 people from the Middle East, and these constitute at least 5 % of the residents, which is a non-negligible fraction of the total number of residents. Our empirical analyses thus focus on Middle Eastern immigrants who live in neighborhoods that can be termed ‘ethnic enclaves’. Another restriction is that we only analyze Middle Eastern immigrants who are not employed in 2011. We are interested in the influence on how characteristics of an ethnic

enclave influence the probability that an immigrant transcends from non-employment to self-employment.

The total number of Middle Eastern immigrants in working age (20-64) in Sweden in 2011 in the data is 240,759 individuals. About 71% of these (171,995) lived in ethnic enclaves given the criteria above, i.e. they live in a 1 km square with at least 500 people of which at least 5 % are immigrants from the Middle East. Out of this population, 53% (91,849) were reported as not engaged in either employment or business ownership in 2011. As a point of reference, the non-employed share of individuals born in Sweden in the same age interval and living in neighborhoods with a local density of at least 500 persons was 20% in 2011.

3.2 Empirical model and variables

Our empirical model exploits variations across immigrants in different ethnic enclaves to identify how enclave characteristics influence the probability that a Middle Eastern immigrant transcends from non-employment to self-employment. We set up a Logit model to estimate whether the probability to switch from non-employment to self-employment between years 2011 ($t-1$) and 2012 (t) differs between Middle Eastern immigrants that live in ethnic enclaves with different characteristics:

$$\Pr(E_{i,t} = 1 | \mathbf{x}_{i,t-1}) = \frac{\exp(\mathbf{x}'_{i,t-1} \Gamma)}{1 + \exp(\mathbf{x}'_{i,t-1} \Gamma)} \quad (1)$$

$$\mathbf{x}'_{i,t-1} \Gamma = \alpha + \underbrace{\mathbf{I}'_{i,t-1} \boldsymbol{\beta}}_{\text{Individual}} + \underbrace{\mathbf{Z}'_{i,t-1} \boldsymbol{\gamma}}_{\text{Enclave}} + \underbrace{\boldsymbol{\Omega}'_{i,t-1} \boldsymbol{\theta}}_{\text{Neighborhood}} + \underbrace{\mathbf{R}'_{i,t-1} \boldsymbol{\sigma}}_{\text{Region}} + \varepsilon_{i,t}$$

$E_{i,t}$ is a dummy variable equal to 1 if immigrant i switched from non-employment to self-employment between years $t-1$ and t . Self-employment is identified based on information on sole proprietorship or ownership of an incorporated business. \mathbf{I} is a vector of individual characteristics of a given immigrant, \mathbf{Z} a vector of ethnic enclave characteristics, $\mathbf{\Omega}$ a vector of other neighborhood characteristics and \mathbf{R} a vector of characteristics of the wider region in which the neighborhood is located.

Ethnic enclave variables and other neighborhood characteristics

\mathbf{Z} is a vector of three variables. The first is the fraction of residents in the neighborhood (1km squares) that come from the Middle East, and our restrictions on the data imply that the minimum value of this fraction is 5%.¹¹ It aims to test our first hypothesis (H1) and is motivated by the potential supply- and demand-side effects discussed previously. The second variable is the fraction of immigrants from the Middle East in the neighborhood that are already entrepreneurs. This variable tests our second hypothesis (H2) and is intended to capture the effect of ethnic capital, such as local availability of ethnic role models and local density of information and knowledge of the practice of running a business.¹² Third, we also compute the fraction of the residents in the enclave that come from other ethnic groups and who are self-employed. By including this variable together with the former one, we can assess whether the enclave effects primarily operate *within* or *between* ethnic groups.

¹¹ The middle east includes the following countries: Saudi Arabia, Yemen, Oman, Syria, Oman, United Arab Emirates, Qatar, Bahrain, Kuwait, Lebanon, Israel, Palestine, Egypt, Jordan, Iraq and Iran.

¹² Note that the individuals subject to analysis are not counted as part of the self-employed share, that is the variable of interest. We focus on the probability that a non-employed immigrant in time $t-1$ becomes self-employed in time t and if they are self-employed at time $t-1$, they are not counted as “not employed”. The share is computed using the density, excluding the individual him/herself, to obtain a measure that describes the share of *other immigrants* who are self-employed in $t-1$.

We further include the total number of residents in the neighborhood. This is a ‘catch-all’ variable, capturing effects of overall population density and characteristics of the built environment. We also include the mean wage of employed residents in the neighborhood to proxy for the general level of wealth in a neighborhood.

Individual immigrant characteristics

To alleviate issues of sorting, **I** contain several characteristics commonly used in the literature on the determinants of self-employment (see e.g. Bates 1995, Hammarstedt 2001, Andersson and Larsson 2016): age, gender, and level of education. We also control for neighborhood tenure (measured in years since 1991), i.e. how long the immigrant has been living in the neighborhood. We expect that the longer neighborhood tenure, the more time the immigrant has had to develop social networks that can facilitate self-employment. We further control for length of the spell of non-employment and previous entrepreneurial experience.

The model also includes the log of wage income of an immigrant in 2011 ($t-1$). Although the population is registered as non-employed, that refers to their status in November of the given year. A positive income implies some contact with the labor market during the year.

Further, we include two categorical controls for life-cycle related factors: whether an individual is married (including partnership), and whether the individual has children living at home. The literature on the marriage premium generally finds that marriage has implications for the “division of labor”, resulting in higher earnings for self-employed men (Hundley 2000). If married people tend to sort themselves to similar neighborhoods and are more prone to running their own firms, this nuisance will result in biased coefficients

in the absence of this control. Further, many entrepreneurs operate from home (cf. Mason et al., 2011). Homeowners are also likely to have greater possibilities to finance a start-up since they can use their ownership of a house (or apartment) as collateral to fund their businesses through mortgage. Unfortunately, we lack data on home ownership. However, previous research shows that home ownership is strongly associated with being married and having children (Feijten and Mulder 2005, Mulder and Wagner 1998, Clark and Dieleman 1996). We also believe that some of this effect will be indirectly captured by the mean wage of the neighborhood as specified above.

Regional level characteristics

The labor market region variables are identical to the neighborhood level variables of interest. That is, we include fraction of residents from the Middle East, fraction of Middle Easterners that are entrepreneurs as well as that fraction of entrepreneurs among region residents that are not from the Middle East. In addition, we include total population size of the region.

By including the regional level, we can examine whether any enclave or network effects appear to primarily operate at the sub-city residential scale or at the level of the wider region. Although a fine spatial scale is motivated conceptually, it is an empirical question whether the effects really are bound to the local sub-city residential area. Further, by including regional level characteristics, we exploit variations across enclaves while holding broad characteristics of the regions to which the enclaves belong constant. This allows us to better isolate the influence that the size and qualitative characteristics of enclaves play in influencing self-employment of immigrants.

Descriptives and empirical illustration of ethnic enclave phenomena in Sweden

Table 1 summarizes all the variables that are included in the empirical analysis. It presents mean, standard deviation as well as minimum and maximum of all variables. About 1.3% of all non-employed Middle Eastern immigrants residing in ethnic enclave became self-employed in 2012. This is a fraction that is roughly comparable to the fraction that pertains to the Swedish population at large. Looking at individual characteristics we see that, on average, Middle Eastern immigrants in ethnic enclaves are about 40 years old, among half are men, the majority (62%) are married and have children (58%), and 27% live in single households. They have rather low levels of education, with 28% having a registered high school degree and 27% having a college degree. On average, Middle Eastern immigrants living in ethnic enclaves in Sweden has been non-employed for 6.6 years and have lived in the same neighborhood for about 6 years. Since the table only reports data for immigrants that were registered as non-employed in the end of 2011 it is not surprising that the mean wage is low, just a couple of hundred SEK. Nevertheless, it illustrates that some of those registered as non-employed in the data by the end of 2011 have had some contact with the labor market earlier in the year. Also, only about 8% of the immigrants have had previous experience of self-employment.

[TABLE 1 HERE]

Turning to neighborhood characteristics it is clear that there are sub-city areas (or neighborhoods) in Sweden in which Middle Eastern immigrants constitute a very large fraction of the total population. The maximum value of the fraction of residents that are Middle Easterners is over 60%. By definition, the minimum value is 5%. On average, the fraction of residents that are Middle Easterners amounts to almost 20 %, verifying that

most Middle Eastern immigrants in our data do reside in areas that can be termed ethnic enclaves. As an example, Figure 1 illustrates sub-city ethnic enclave phenomenon in the city of Stockholm. We see a clear concentration of Middle Eastern immigrants at the sub-city level. Four areas stand out; Södertälje, Fittja/Alby, Rinkeby and Gottsunda. In many neighborhoods in these areas, the fraction of the residents that are immigrants from the Middle East is 30 percent or higher.

[FIGURE 1 HERE]

Table 1 also shows that the average the fraction of Middle Eastern immigrants that are self-employed is about 6 %, but this fraction ranges from 0% to almost 30%. That is, among the different ethnic enclaves in the data, there are significant variations in terms of the local density of immigrants that are entrepreneurs in the form of business owners. Looking at the fraction of entrepreneurs among residents that are not from the Middle East, it is on average substantially lower compared to Middle Easterners, and ranges from 0.6% to about 13%. Among the residents in the neighborhoods in our study, self-employment is thus on average more common among Middle Eastern immigrants. This difference is also present at the level of the wider region.

4. RESULTS

Table 2 presents the results in log-odds from an estimation of the baseline model in equation 1. All standard errors are robust. The table contains three alternative specifications. The first only include the neighborhood variables of main interest, that is fraction of residents that are Middle Easterners (enclave size) and the fraction of self-employed (enclave quality). This specification also includes the fraction of self-employed

among others (non-Middle Easterners). The second specification adds individual- and region-level controls as well as mean wage and overall population density at the neighborhood level. The third specification adds a dummy which is one whether an individual has had previous entrepreneurial experience. The idea of presenting the different specifications in this way is that it provides a rough indication of the degree of sorting, i.e. how much of the raw correlations that are explained by a tendency of entrepreneurial immigrants with certain observable characteristics to sort themselves into similar neighborhoods, as well as the degree to which results are due to other observable characteristics of neighborhoods and region.

It is clear from the table that our first hypothesis (H1) is not supported. The fraction of residents in the neighborhood that are immigrants from the Middle East has in fact a small negative effect on the probability that an immigrant from the Middle East transcends from non-employment to self-employment. The log-odds is less than one. We do on the other hand find support for our second hypothesis (H2). The local density of co-ethnic peers that are entrepreneurs, i.e. the fraction of Middle Eastern immigrants that are business owners, has a positive influence on self-employment. It is statistically significant and larger than one in all specifications. The estimated effect in (model 2), implies that a one percentage point increase in the local concentration of ethnic entrepreneurs is on average associated with a 5% increase in the log odds that a non-employed member of the group starts their own business. The effect of a one standard deviation change in the local concentration is 16%. On average, a one standard deviation change in local entrepreneurial intensity is associated with about a 0.1 standard deviation change in the log odds of becoming self-employed.

[TABLE 2 HERE]

Looking at the other variables, we see that self-employed among others than Middle Eastern immigrants have no statistically significant effect on the probability that a Middle Eastern immigrant becomes self-employed. The behavior of ethnic peers in an enclave seem to have a stronger influence than the behavior of non-Ethnic peers in the neighborhood. We also see that the region-level variables are all statistically insignificant, suggesting that it is indeed the local neighborhood environment that matters.

Turning to the influence of individual characteristics we see that being in the age interval 20-49, male, married and having children, respectively, is positively associated with the probability of transcending from non-employment to self-employment. For the Middle Eastern group, having resided longer in the same ethnic enclave is also associated with a higher probability of becoming self-employed. This is consistent with the idea that longer neighborhood tenure implies stronger local social networks that can stimulate self-employment. However, the effect of neighborhood tenure is statistically insignificant when controlling for previous self-employment. This suggests that immigrants with longer neighborhood tenure tend to have previous self-employment experience. Having a formally recognized high-school education is associated with a higher probability of becoming self-employed, but higher levels of education does not seem to matter.

To probe the robustness of our main results, Table 3 presents three variations of the fully specified model (column 3 in Table 2). First, we test the probability to become wage employed as an alternative outcome. We run this specification to see whether transcending to regular employment is driven by similar factors as transcending to self-employment.

The second model is our main specification, which presents the results for switches from non-employment to self-employment, but we drop all Middle Eastern immigrants who become regular wage employees in 2012. In this way, the reference group is Middle Eastern immigrants that remain non-employed, and our estimates will not be influenced by immigrants who become regular wage employees in 2012. Third, we restrict the data to recent immigrants. To do so we restrict the sample to immigrants who spent five years or less in Sweden. The motivation for this is that immigrants who recently arrived and settle in an ethnic enclave have shorter employment and spatial sorting history. By focusing on this group of immigrants, we thus alleviate issues associated with employment and location history in Sweden. The results from these three different models are presented in Table 3. All specifications include the control variables in model 3 in Table 2¹³.

[TABLE 3 HERE]

Looking first at the results for becoming a regular wage employee (column 1), we see that the likelihood of becoming an employee is also positively associated with the fraction of Middle Easterners that are established entrepreneurs. At the same time, the influence of enclave size (fraction of residents who migrated from the Middle East) has a negative influence. This result implies that becoming a regular wage employee seems to be driven by factors similar in nature to those driving self-employment. The positive effects from self-employed Middle Eastern immigrants is in turn consistent with the finding that immigrant entrepreneurs are more likely to hire workers from their own ethnic group (see

¹³ Further robustness check was done by adding an additional specification that include region dummies. The results remain robust.

e.g. Åslund et al., 2014). These results provide a motivation to exclude immigrants who become regular wage employees in 2012.

Excluding immigrants who become regular wage employees does not alter the results for self-employment. As can be seen in model 2 in Table 3, the positive influence of enclave quality, or in other words share of ethnic entrepreneurs, and the negative effect of enclave size remains stable, and the effects are both statistically and economically significant. Our baseline results are thus not distorted by the fact that Middle Eastern immigrants who become regular wage employees constitute part of the reference group in our main specification.

Model 3 restricts the data to Middle Eastern immigrants who have been in Sweden five years or less. Our baseline results hold up in this specification as well. The negative effect of enclave size and positive effect of enclave quality in terms of density of established entrepreneurs remain robust. The robustness tests also confirm that it is the entrepreneurial behavior of other Middle Easterners that matter rather than the overall entrepreneurial behavior in the neighborhood. We conclude that our baseline results are robust.¹⁴

Taken together, these results suggest that it is the qualitative characteristics, rather than sheer size of the ethnic enclave that matters for the probability that an immigrant transcends from non-employment to self-employment. Immigrants in ethnic enclaves are

¹⁴In addition, we also tested our main specification with different cut-offs for the fraction of the population that are immigrants from the Middle-East. In our baseline models, ethnic enclaves are defined as 1 km squares of at least 500 residents of which at least 5 % are immigrants from the Middle East. Although the 5 % threshold is reasonable in a Swedish context, it is a low minimum threshold in relation to ethnic enclaves such as 'Chinatowns' in US cities. To probe the results, we re-ran the baseline model with 10, 20 and 40 % cutoffs with regards to the minimum fraction of residents that are from the Middle-East. While the number of observations falls sharply when higher thresholds are used, the results are robust. These additional results are available from the authors upon request.

more likely to become self-employed if they live in an enclave with a higher density of co-ethnic business owners. This result is robust to many ways of accounting for sorting; it holds even after controlling for ample characteristics of individual immigrants. Also, it holds when controlling for previous self-employment experience, as well as when restricting the sample to recent immigrants. These restrictions and controls reduce the risk that the results are driven by immigrants with certain traits or characteristics sorting themselves to enclaves with high density of self-employment, or that this density correlates with other characteristics like neighborhood size or mean wages. The result is consistent with the idea that ethnic enclaves can foster positive labor market outcomes if the ethnic social networks can feed behaviors, information, knowledge or norms that is relevant for a given labor market outcome. In the context of self-employment, the local density of co-ethnic peers that are business owners seem to be one factor that imply that an enclave can feed positive outcomes pertaining to self-employment.

The result that the size of an ethnic enclave has a negative effect on self-employment may be explained by the argument that ethnic enclaves with a high density of immigrants may become “an economic stranglehold” and exclude immigrants from outside alternatives, or by making it more challenging to acquire skills or come into contact with the labor market (Borjas 2000, p. 93). The coefficient for the size of an ethnic enclave could be argued to capture the net effect of a possible positive force stemming from supply- and demand-side conditions and a possible negative effect coming from the alternative argument of exclusion. Therefore, one possible interpretation of this result is that it suggests that the negative effect related to exclusion outweigh potential positive effect from supply- and demand-side conditions in our empirical context.

The finding that it is indeed the behaviors of co-ethnic peers in the enclave that matter, rather than the behavior of others, is consistent with the argument that within-group effects are stronger than between-group effects. It resonates with the arguments that ethnic enclaves foster ethnic social networks and corresponding social interaction effects because the social distance between ethnic peers is lower. It also reinforces the argument that the influence of residency in an ethnic enclave depends on the group outcome of ethnic peers.

Last but not the least, our results also suggest that the isolated effects from ethnic enclaves seem to operate at small spatial scales within cities. It seems to be neighborhood-level characteristics that matter, rather than the characteristics of the wider city or region. This is consistent with the argument that social interaction effects operate over at spatial scales much finer than whole cities or regions (see e.g. Andersson and Larsson 2016). The unit of analysis, therefore, is important for the understanding of how mechanisms related to social networks and peer effects operate. It may be necessary to use data at rather fine spatial levels to capture the role played by the characteristics of the immediate local environment of immigrants in influencing their labor market outcomes.

5. SUMMARY AND CONCLUSIONS

Many countries in Europe have experienced rising immigration and the public debate has intensified over which factors that may influence immigrants to become integrated in their new countries of residence. Self-employment is typically advanced as a vehicle for immigrants to enter the labor market, but also as a force that may create jobs for other immigrants.

In this paper, we have studied whether the propensity of immigrants to become self-employed is influenced by characteristics of the ethnic enclave in which they live, i.e. a local geographic area with high concentration of ethnic peers. The tendency of immigrants to spatially cluster in their new country of residence is well established, but there is disagreement among policy makers as well as researchers as to whether and how this clustering influences labor market outcomes. We have studied these issues in the context of self-employment among non-employed immigrants from the Middle East in Sweden.

We exploit variance across sub-city areas, all with at least 5 % concentration of co-ethnics, and test whether it is the overall concentration of co-ethnics that matter, or whether it is qualitative characteristics of ethnic enclaves that is of importance. We demonstrate a robust tendency for people to leave non-employment for entrepreneurship if many local members of the local diaspora are business owners. Entrepreneurial behaviors of others, i.e. people from other ethnic groups (including native Swedes), does not seem to matter. Keeping these effects constant, there is a negative effect of the fraction co-ethnic residents at the sub-city scale on immigrants' propensities to become self-employed.

Our results provide some support for policy to target network facilitation among successful, and potentially successful immigrants, within enclaves. For the self-employment outcome, our findings are consistent with the presence of some degree of feedback between peers of an ethnic network. Immigrants appear to be significantly less stimulated by people that are not ethnic peers. Such ethnic network effects suggest that policy could consider putting efforts in pushing successful examples that can be role models for other in the enclave.

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