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Ethnic Enclaves and Immigrant Self-employment: A Neighborhood Analysis of Enclave Size and Quality

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Ethnic enclaves and immigrant self-employment

- a neighborhood analysis of enclave size and quality

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Abstract

We explore the effects of neighborhood-level ethnic enclaves on the propensity of immigrants to use business ownership as a vehicle to transcend from labor market outsiders to insiders. We exploit an exogenously partitioned grid of geocoded 1-by-1 km squares to approximate neighborhoods, and match it with Swedish full-population data from 2011-2012 to study immigrants from the Middle East. We demonstrate a robust tendency for people to leave non-employment for self-employment if many members of the neighborhood ethnic diaspora are business owners, while we observe weak effects emanating from business ownership in other groups. Net of these effects, the overall scale of the enclave, measured by local concentration of co-ethnic peers, negatively influences the propensity to become self-employed. The results are consistent with the argument that it is not the scale, but the quality of local ethnic enclaves that influence labor market outcomes for immigrants.

JEL: P25, L26, J15

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 has received significant attention in previous research (Edin et al., 2003, Damm 2009, 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.

Conceptually, the role of ethnic enclaves in influencing labor market outcomes of immigrants is 'open-ended'. There are plausible arguments holding that ethnic enclaves may produce positive as well as negative labor market outcomes, and the literature has not reached consensus on this matter. 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 cause immigrants to maintain an undesirable social and institutional 'distance' to natives. Then the ethnic enclave may become "an economic stranglehold" by excluding immigrants from outside alternatives, or by making it challenging for them to acquire necessary skills, such as language proficiency, that are necessary for labor market integration (Borjas, 2000, p. 93). Whether and how ethnic enclaves influence labor market outcomes is thus an empirical issue, and the research thus far has provided inconclusive results (Cutler and Glaeser 1997, Cutler et al., 2008).

Using full population Swedish geo-coded micro data, we contribute empirically to the question of how local ethnic enclaves influence labor market outcomes of immigrants who are not employed. We ask whether and how residency in an ethnic enclave affects the probability that an immigrant transcends from being a labor market 'outsider' to becoming an 'insider' by establishing an own active firm. To this end, we undertake a micro-econometric analysis to identify Middle Eastern immigrants' likelihood to switch from non-employment to self-employment with respect to the size and the qualitative characteristics of the ethnic enclave in which they live. Middle Easterners display high unemployment rates, and also constitute the largest non-European minority in Sweden—a share

that is still growing fast[1]. We capture the *size* of the enclave by measuring Middle Eastern concentration at the neighborhood level, holding population density constant. For the *quality* of the ethnic enclave, we measure the degree of business ownership among the Middle Eastern peers that live in the same neighborhood. While the importance of size of the ethnic enclave is much emphasized in research, empirical studies that address the quality of the ethnic enclave in terms of a related outcome is limited (Cutler et al., 2008). Therefore, we aim at discriminating between sheer size effects and effects that arise from residing in an ethnic enclave that is denser in entrepreneurship. We argue that the local density of business owners signals the 'quality' of the ethnic enclave in terms of networks, but also attitudes to entrepreneurship, role model effects, and other social interaction mechanisms.

We find robust empirical evidence consistent with the idea that the qualitative characteristics of an ethnic enclave is of main importance for the probability that immigrants transcend from non-employment to self-employment. Non-employed immigrants from the Middle East are more likely to become self-employed if they live in an ethnic enclave with a high density of other Middle Easterners that are business owners. Net of this effect, we find no evidence of a positive ethnic enclave effect originating from its sheer size; on the contrary, the fraction of residents in the enclave that are from the Middle East has a negative influence on the probability that a Middle Eastern immigrant in the enclave becomes self-employed. A further finding is that these effects indeed appear to be largely bounded within ethnic groups. The density of business owners in other ethnic groups has no robust influence on the probability that an immigrant transcends from non-employment to self-employment. The results broadly hold up when looking at a wider spatial scale (local labor market), although the statistical, as well as economic, significance of the estimated parameters are lower than at the level of sub-city ethnic enclaves.

Our results support the argument that it is the qualitative characteristics of the enclave, rather than its scale, that matters. 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 is perhaps able to transmit more relevant

[1] Given the high level of disaggregation of our micro data do not contain exact information on country of origin for integrity reasons. Instead, we have access to a functionally defined regional category rather than exact countries of origin. Although there is ethnic and religious heterogeneity among the Middle Eastern countries, the social distance between them is sufficiently small, and their distance to the native population is sufficiently similar to be studied in the context of ethnic enclaves.

information and knowledge about self-employment in ethnic social networks. This is also in line with Borjas (1992, 1995) idea of 'ethnic capital'.[2]

2. BACKGROUND AND MOTIVATION

2.1 Background

Many countries have seen increasing inflows of immigrants in recent decades (Castles and Miller 2009, Özden et al., 2011, UN 2015). In the EU, the number of people residing in a member state while being citizens of a non-member state was 20.7 million in early 2016, representing 4.1 % of the EU-28 population (Eurostat 2017).[3] The recent turbulence in the Middle East, particularly in Syria, has resulted in a sharp rise in refugee asylum seekers. In 2016 alone, a full 1.2 million people sought asylum in the EU 28.[4] In these western economies, labor market integration of the newly arrived ranks as one of the biggest challenges for immigrants, as well as for their host countries. The experience from many OECD countries is that labor market integration of immigrants is far from satisfactory (Nannestad 2009, Jean et al., 2010). The gap in employment rates between immigrants and natives is significant (OECD 2006).

A survey of the literature shows that there are indeed numerous explanations for this gap. Among those, we see 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 availability of jobs with low entry barriers. Many of these factors operate simultaneously, and create a classic *insider-outsider problem* (Lindbeck and Snower 1988). Further, the institutional structure of a country is also linked to the insider-outsider problem. For instance, 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).

In view of these obstacles, self-employment is often described as a rational response of immigrants (Clark and Drinkwater 2000). If labor market conditions is preventing the members of minorities

[2] Borjas argues that the overall human capital gained by an ethnic group in a local area will exert an influence on individual members of the ethnic group in that area. For the United States, he 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.

[3] http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics
[4] http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=migr_asyappctza&lang=en

from being wage-employed, or strictly pushes 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-employment a more attractive option (see Moore, 1983).

Self-employment is a potential vehicle for immigrants to circumvent institutional and social barriers, and can strengthen labor market integration in two ways most relevant to our empirical context. First, immigrants' self-employment reduces their unemployment, and therefore their reliance on financial resources from income security systems (Hammarstedt 2001). Second, immigrant employers are more likely to hire workers from their own ethnic group, which implies a multiplier effect (Åslund et al., 2014). The presence of immigrant businesses could hence also increase the employment rate of immigrants who are themselves uninterested in business ownership. With rising immigration combined with rigid labor market conditions, it should come as no surprise that the potential of immigrant entrepreneurship has spurred a strong interest in questions regarding the drivers of immigrant self-employment among both researchers and policy makers. A key issue concerns the influence that the ethnic composition of the local area in which immigrants live have on self-employment among immigrants.

Several studies analyze how the self-employment propensity of immigrants is influenced by living in an ethnic enclave. The results of this voluminous literature are mixed (Le 1999). Some studies find positive effects of ethnic enclaves on self-employment (Borjas 1986, Le 2000, Toussaint-Comeau 2008), whereas other find negative effects (Clark and Drinkwater 2002, Aguilera 2009, Yuengert 1995, Clark and Drinkwater 2010). Whether it is the sheer size of an ethnic enclave—i.e. the magnitude of concentration of local ethnic peers—or perhaps the quality of the ethnic enclave that matters (Cutler et al., 2008). In this context, the quality of the ethnic enclave should manifest itself in the overall entrepreneurship rates, entrepreneurial behavior and attitudes within and among the peers of an enclave (see e.g. Andersson and Hammarstedt 2015).

Discriminating between size and quality effects of ethnic enclaves is interesting for several reasons. For example, evidence in favor of ethnic concentration *as such* 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 the enclave. For example, for an immigrant that wants to run a business designed to cater to other immigrants in the neighborhood ethnic enclave, the size of the enclave would measure the potential market. Also, availability of ethnic labor would facilitate such a venture, as working for the shop would require familiarity with its potential consumers. Public policy could then focus on ensuring that local and national regulations do not hinder self-

employment and entrepreneurial intentions. However, if any effects of living in an ethnic enclave do not originate from sheer size, but rather from 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 & Larsson, 2016), such as motivation for- and knowledge of the practice of entrepreneurship. If an enclave already has a high degree of self-employment, then residents of the enclave, we argue, are more likely to gain motivation and information through social interactions with their ethnic peers, which may stimulate a decision to leave non-employment for self-employment. The presence of such feedback, or network, effects makes a policy prescription more challenging, but also suggests that the returns to a successful policy would be greater. Then, 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. In the literature on social interaction, this indirect effect is known as the 'social multiplier' (Glaeser et al., 2003). Under strong local cohesion, social multipliers can cause multiple equilibria (Scheinkman, 2007), with dynamic local entrepreneurship cultures at one plausible extreme, but perhaps with criminal no-go zones at another, depending on the qualitative contents of local networks and the outcome variable in question.

2.2 Contribution

We investigate the relevance of residency in an enclave for the the probability of leaving the state of non-employment for self-employment. Our specific goal is to assess the role of sheer concentration of ethnic peers, and the quality of the enclave, respectively. To this end, we employ full-population individual-level data of immigrants from the Middle East. Being the largest non-European immigrant group in Sweden with high unemployment and low earnings we consider it an ideal population to study. In terms of research question and broad empirical design, our paper is akin to many previous papers, particularly Andersson and Hammarstedt (2015) who analyze self-employment among Middle Eastern immigrants in Sweden. They 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. Our analysis is different from this analysis, and most others, in several respects.

First, we use longitudinal data to identify immigrants who *switch* from non-employment to self-employment, and analyze how ethnic enclaves influence the likelihood of a change in labor market status. Not only is this set-up closer to *the* policy challenge of immigration: the ways in which immigrants can enter the labor market. But the longitudinal setup also alleviates issues of sorting. In

principle, self-employment implies a certain degree of footlooseness (Pflueger and Süedekum 2007), since the self-employed may choose locations more freely than employees. This raises the possibility that a statistical association between ethnic enclaves and the probability of being self-employed could reflect that self-employed move to certain areas, rather than an effect of the environment itself [5]. Hence, studying the stock of entrepreneurs is plagued by stronger issues of sorting. By focusing on immigrants that leave non-employment for entrepreneurship, we estimate parameters based on an observed active choice to *switch* to self-employment which reduces issues of sorting. To further deal with issues of identifying effects of enclaves, we use the richness of the micro-level data to control for several confounding factors motivated by theory as well as the general empirical literature on self-employment. At the level of individual immigrants, we control for factors such as age, gender, family status and schooling. At the neighborhood level, i.e. the level at which we identify enclaves, we control for general population density and the mean wage income of residents. We also enter similar variables describing the wider region.

Second, compared to many previous papers (e.g. Andersson and Hammarstedt 2012, Clark and Drinkwater 2002), we employ a more geographically detailed definition of neighborhoods. The place of residence of everyone in our data is geo-coded. The geo-coding allows for exogenous partitioning of Sweden into a grid of 1 km^2 cells, that we refer to as neighborhoods. We can therefore identify ethnic enclaves *within* administratively defined areas. In our view, this setup is close 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.

Third, we employ an empirical design that allows us to assess the relative importance of size effects and the quality effects. We construct three main enclave variables and estimate their influence on transcending from non-employment to self-employment in a common empirical setting: (i) We include the fraction of enclave residents of similar ethnic origin (i.e. that have migrated from the Middle East), which is a variable aimed at capturing the genera ethnic enclave effects. That is, it is our measure of the size of the ethnic enclave, expressed as the local density of people from the same ethnic group (immigrants from countries in the Middle East). (ii) To capture feedback effects from local co-ethnic business owners, we compute the fraction of immigrants from the Middle East in the ethnic enclave that are already self-employed. We refer to this variable as *ethnic entrepreneurs*, and argue that it proxies the qualitative aspect of the enclave that relates to self-employment outcome. 3) We compute the fraction of the residents in the enclave that come from *other* ethnic groups that

[5] Admittedly, this is a smaller problem in studies that analyze regions as opposed to neighborhoods

are business owners. By including this variable jointly with the ethnic entrepreneurs variable, we assess whether any identified feedback effects primarily operate within or across ethnic groups.

Fourth, we define these three variables not only at the sub-city neighborhood level, but also at the broader regional level. We hence empirically examine whether any 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 ultimately an empirical question whether the effects are bound to the local sub-city residential area, or if effects transcend to cover a wider geographic area. This variable also gives a more direct interpretation to the neighborhood-level variables, which may otherwise proxy regional averages.

Fifth, although our empirical analysis focuses on immigrants from the Middle East, we consistently estimate our models for native Swedes (defined as people born in the country) as a reference point. In this way, we empirically assess if immigrants are a 'special' case, or if the influence of the characteristics of their local residential area (in this case ethnic enclaves) follows a similar logic as they do for natives.

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

As argued in the introduction, the expected net effect of ethnic enclaves in influencing labor market outcomes of immigrants is conceptually ambiguous. There are plausible arguments in favor of positive as well as negative effects. For example, residency in an ethnic enclave could stimulate social networks between ethnic peers that provide valuable resources for immigrants, such as information about job opportunities. On the other hand, residency in an enclave can imply that immigrants maintain social and institutional 'distance' to their host country, worsening integration and labor market outcomes. This conceptual ambiguity holds in the context of self-employment as well, but we will here outline two broad arguments suggesting that residency in an ethnic enclave could stimulate self-employment; effects from the *size* of the ethnic enclave and the *quality* of it measured in terms of rate of entrepreneurship within the enclave.

3.1 Enclave size

The size of an ethnic enclave effect suggests that geographic concentration of immigrants with similar ethnic origins stimulate immigrant entrepreneurship by improving supply- and demand-side conditions. On the supply-side, immigrant entrepreneurs in ethnic enclaves may experience good prospects to find potential employees. There are several reasons for this. For example, co-ethnics may prefer to work together with ethnic peers that 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 of origin, making employment opportunities in firms owned by an ethnic peer an alternative (Andersson and Hammarstedt 2015). There is also research pointing to that immigrant business 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. We briefly discussed above how discrimination in the labor market, or institutional constraints that impose labor market frictions on immigrants may prevent them from being wage-employed, and make self-employment an attractive alternative. A similar type of 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*. For example, 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. Although it is forbidden by law to discriminate against individuals of ethnic minorities in capital markets of many western countries, there are many empirical papers that show a higher likelihood of credit denial for immigrants (see Blanchard et al., 2008 for an extensive review)[6]. In a situation where the immigrants are prevented to start a business, availability of financial capital in their ethnic network would facilitate the undertaking of the decision to start a business. Several papers discuss how immigrants obtain the necessary financial capital via their ethnic and family networks (Bruderl and Preisendörfer 1998, Fairlie 2012; Bates 1997).

On the demand-side, one argument is that immigrants may face discrimination in the product markets (Parker 2009). For example, 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 disparity would imply the sorting of high skill immigrants into wage employment while the low skill immigrants would prefer entrepreneurship. Size of the ethnic consumers directly relate to such 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 demands of the enclave (Light 1972, Aldrich et al., 1985). Given that an immigrant sells a good or service targeted to other immigrants, the effect of ethnic demand in local market should be even higher. There are plenty of examples of business that could be stimulated by such demand effects, for example 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.[8] Arguably, immigrant labor would be more familiar both with the nature of the goods and products provided by the ethnic business they work for, but also, they would have a higher ability to cater to the immigrant

[6] A causal claim is difficult make in this matter. However, Parker (2009) argues that some of these papers use the same set of variables as the banks use when they decide whether to grant a loan or deny.
[7] This is technically under the assumption that the products and services sold by the two groups are indifferentiable
[8]Entrepreneurship is often described as *"an activity that involves the discovery, evaluation and exploitation of opportunities to introduce new goods and services, ways of organizing markets, processes and raw materials"* (Shane, 2003:4).

consumers. This dual effect from the size of an ethnic enclave may then increase the likelihood of an ethnic venture.[9]

3.2 Enclave quality

The basic idea behind the quality of the ethnic enclave is that the effects from an enclave doesn't only relate to its scale, but also to its nature (Cutler et al., 2008). Per this view, ethnic enclaves matter because there is low *social distance* between immigrants of similar ethnic origin, and that they take part in networks of low friction e.g. to transfer knowledge, information, attitudes and ideas. Proponents of this view argue that it is not the mere existence of enclaves that matters, but the 'quality' of the contents that the social networks can spread. This argument resonates with Borjas' (1992, 1995) idea of ethnic capital. He argues that social networks are based on ethnic group similarity, and uses the outcomes of the ethnic group as a measure of its ethnic capital. As the quality of the local ethnic environment increases, so does the ethnic capital and consequently the quality of the 'contents' that spreads among group members. In the context of entrepreneurship and self-employment, the influence that an ethnic enclave has on the probability that an immigrant become self-employed depends, according to this perspective, on the entrepreneurial behavior of ethnic peers in the enclave. If many of the peers in the ethnic enclave are entrepreneurs, they can be role models and transfer information, skills and attitudes related to business ownership.

The effect of social interactions within an ethnic network is easy to motivate in the context of entrepreneurship and self-employment. A robust finding from the voluminous literature on self-employment and entrepreneurship suggest that it requires skills, know-how, information and motivation. The literature also points to that entrepreneurs accumulate and access such resources (directly or indirectly) though social networks and social interactions (Bosma et al., 2012, Minniti 2005, Klyver et al., 2007, Andersson and Larsson 2016, Giannetti and Simonov 2009). Much of the necessary resources for self-employment are thus likely to be made available to immigrants through their social networks to 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 can transfer or transmit useful resources that can stimulate self-employment, and ii) the density of immigrant

[9]Such effects could also be stimulated by the supply-side effect coming from that the ethnic enclave provide good access by local availability of ethnic peers as potential employees.

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. Several articles, using the role model hypothesis, try to explain the differences in self-employment rates between blacks and other ethnic groups (Hout and Rosen, 2000; Walstad and Kourilsky, 1998). Similarly, culture has a role in determining the likelihood of self-employment among the peers of an ethnic group. The argument is 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 Siks have higher likelihood to be self-employed than their Christian counterparts. Dissemination of cultural values, likewise, should be linked to the density of peers in locality. Given that self-employment is accepted, and even glorified among a certain ethnic group, the effects should manifest itself in higher likelihood for self-employment. Such effect should be more prominent in entrepreneurial enclaves than non-entrepreneurial enclaves – holding the size constant.

In summary, the size of an enclave may create effects due to the extent of demand for immigrants' businesses, and labor supply that they can tap on. The larger the ethnic enclave, the larger the potential supply- and demand-side benefits. Meanwhile, the quality of the ethnic enclave creates effects related to the knowledge and information that can be disseminated across the peers of an ethnic enclave due to the nature of the social interactions. It should still be recognized that the two effects are not mutually exclusive. Both can operate concurrently. The subsequent empirical analyses are designed to assess the respective empirical relevance of each effect.

4. DATA AND EMPIRICAL MODEL

4.1 Data

We employ audited, full-population register data for Sweden 2011-2012 that include detailed information at the level of individuals, such as years of formal education, labor market status, gender, age, income and family status. We make use of a geocoded location identifier that assigns everyone's place of residence to 1 km^2 squares in a grid that covers the whole country. We refer to these squares as *neighborhoods*.[10] The setup allows us to identify sub-city clustering of individuals of similar ethnic origin at a fine spatial resolution. Large spatial aggregates, such as whole cities or regions, conceal clustering and enclaves at the sub-city scale. Second, the area and location of the squares are exogenously determined, which means that that they are unaffected by social or economic conditions of any kind. This alleviates issues of endogeneity with regards to geographic delineation, and implies that the analysis builds on comparable spatial units in terms of size and the underlying principles of delineation.

We select individuals that reside in Sweden but who were born in the Middle-East.[11] This is the largest non-European immigrant group in Sweden, and it has historically suffered from low earnings and high-rates of unemployment. The data are delivered at this level of aggregation for integrity reasons. Given that 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, we are interested in working-age individuals who live in what may be meaningfully termed ethnic enclaves. The population we study is aged 20-64, and live in neighborhoods of at least 500 people per km^2, where 5% or more immigrated from the Middle East, i.e. at the very least 25 other people in the neighborhood. Finally, we only analyze individuals who are not employed in 2011. In all, the population in the relevant age interval with complete information and geocoding comprises 240,759 individuals in 2011, out of which 171,995 lived in ethnic enclaves. Out of this population, 91,849, or 53%, were reported as not engaged in either employment or business ownership at the end of the year. 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.

[10] Not to be confused with a functional or perceived definition of a neighborhood.
[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.

Our empirical model exploits variation across sub-city ethnic enclaves, to identify how their characteristics relate to entry into self-employment by previously non-employed residents. As a frame of reference, we also estimate an identically specified model for individuals born in Sweden.

4.2 Empirical model and variables

We model Middle Eastern immigrants' decisions to switch from non-employment to self-employment. We set up a Logit model to estimate the influence that residency in an ethnic enclave has on the probability that an individual leaves non-employment for self-employment between years 2011 (*t*-1) and 2012 (*t*). Formally, the baseline empirical model is given by:

$$\Pr\left(E_{i,t}=1\middle|\mathbf{x_{i,t-1}}\right)=\frac{\exp\left(\mathbf{x'_{i,t-1}\Gamma}\right)}{1+\exp\left(\mathbf{x'_{i,t-1}\Gamma}\right)} \tag{1}$$

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

where $E_{i,t}$ 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 of sole proprietorship or ownership of an incorporated business. **I** is a vector of individual characteristics of a given immigrant, **Z** a vector of ethnic enclave characteristics, **Ω** a vector of other neighborhood characteristics and **R** a vector of characteristics of the region in which the neighborhood is located. Our focus is on the influence of the variables in **Z**.

Ethnic enclave variables and other neighborhood characteristics

Z is a vector of three variables. The first is the fraction of residents in the enclave that share a similar ethnic origin (i.e. come from the Middle East). This variable is aimed at capturing the general ethnic enclave effect. That is, it is our measure of the size of the ethnic enclave, expressed as the local density of people from the same ethnic group (immigrants from countries in the Middle East). The second variable is the fraction of immigrants from the Middle East in the neighborhood that are already entrepreneurs. We call this 'ethnic entrepreneurs'. This variable is intended to capture the effect of enclave quality. 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 at the same time as the ethnic entrepreneurs, we can assess whether any effects primarily operate *within* ethnic groups in an enclave, such that immigrants from the Middle East are primarily influenced by what

other Middle Easterners in the enclave do, or if they are similarly influenced by residents of the enclave that do not share their ethnic origin.

In addition to the three variables that account for ethnic enclave characteristics of the neighborhood, we also include two general characteristics. We include the total number of residents. This is a 'catch-all' variable, capturing local agglomeration effects and characteristics of the built environment. Another desirable quality of keeping population density constant, is that changes in our fraction variables may be interpreted as size effects. 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

I contains a number of basic characteristics that are commonly used in the literature: age, gender, and level of education. In addition, 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. In our robustness test, we further control for length of the spell of non-employment and previous entrepreneurial experience; both variables measured since 1991.

The model also includes the log of wage income of an immigrant in 2011 (t-1). Although all the immigrants in the sample are formally registered as non-employed, that refers to their labor market status in the month of November in the given year. An income above zero, then means that even if they were non-employed in November, they have had some contact with the labor market during the year (either before or after the month of November). The expected influence of this variable is ambiguous. One could argue that immigrants are less likely to become self-employed if they have been employed before because they build up contacts that can be used to find a new job. On the other hand, one could also argue that they are more likely to become self-employed because they have useful labor market experience they can capitalize on as entrepreneurs.

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. These control variables are motivated for at least two reasons. First, 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. Second, many entrepreneurs operate from home (cf. Mason et al., 2011), and people who live in single-family houses to presumably be more prone to starting new businesses. Home owners 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 and on residential types per neighborhood (i.e. whether dwellings are owned or not). 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

In addition to variables defined at the individual level and at the level of neighborhoods, the empirical model also includes variables defined at the level of the local labor market region. These variables are identical to the variable of interest at the neighborhood level. That is, we include fraction of residents from the Middle East, ethnic entrepreneurs as well as entrepreneurs without Middle East as ethnic origin, and population size.

The motivation for including the regional level is twofold. First, it allows us to assess how local the enclave and network effects are, in the sense that we can empirically examine whether the enclave and the network effect 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 are bound to the local sub-city residential area, or if effects transcends to cover a wider geographic area. Second, by including regional level characteristics, we exploit variation 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.

All variables are summarized for the Middle Eastern and native populations in tables A1 and A2 respectively. It is notable that the populations are comparable on most variables, including startup frequency. However, members of the non-employed immigrant population is much more likely to be married and to live with children. They also have lower levels of education on average, and lower recorded incomes during t-1, indicating that they are likely further away from the labor market, compared to the native non-employed population.

5. RESULTS

5.1 Ethnic enclave and self-employed – a description of cities in Sweden

The general sub-city ethnic enclave phenomenon in Sweden is illustrated in Figures 1 and 2 that present the fraction Middle Eastern residents per neighborhoods of 1-by-1 km^2.[12] Figure 1 shows the situation in the Stockholm labor market region whereas Figure 2 presents the same picture for Gothenburg and Malmö, respectively.

In Stockholm, we see a clear concentration of Middle East 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. Hence, we can identify several areas which by most standards fall in the category of ethnic enclave. The situation in Gothenburg and Malmö is similar, though there are fewer enclaves. The situations in these second-tier cities are presented in figure 2.

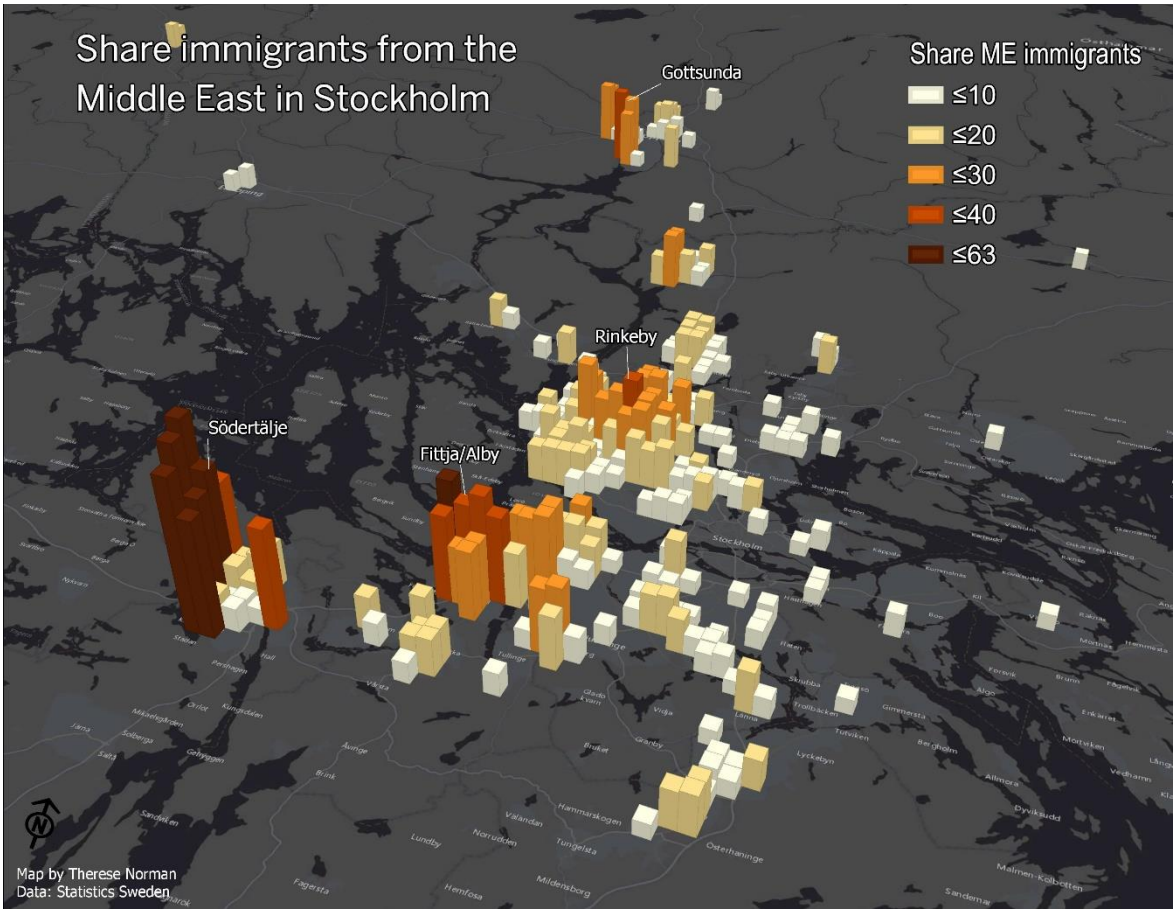

Figure 1. *Share of immigrants from the Middle East in the Stockholm labor market region 2011.*

[12] These sub-city areas also qualify the restriction of a total number of resident of at least 500 people and a minimum of 5 % of the population being immigrants from the Middle East (see section 3.1).

Figure 2. *Share of immigrants from the Middle East in Göteborg and Malmö labor market region 2011.*

5.2 Estimation results

Table 1 presents the results in log-odds from estimation of the baseline model in equation 1. The table contains one model with only the variables of interest, and one model with the control variables described above. The two-model procedure provides a rough indication of the degree of sorting, i.e. how much of the raw correlations that are explained by the tendency of individuals of certain observable characteristics to sort themselves into similar neighborhoods. The first two columns present the results for non-employed Middle Easterners. Columns 3-4 present the results for the population of non-employed natives. Below we comment on the controlled regressions, i.e. models 2 and 4 (although the immigrant figures are remarkably similar). The variables of main interest—i.e. the neighborhood enclave variables—are presented along with their standardized coefficients.

Starting with the variables of main interest, i.e. the ethnic enclave characteristics, we see that the fraction of residents that are immigrants from the Middle East has a negative effect on the probability that an immigrant from the Middle East transcends from non-employment to self-employment. On the other hand, the fraction of ethnic peers in the same enclave that are already established

entrepreneurs has a positive influence on self-employment. In quantitative terms, these effects are meaningful. Keeping other variables at their mean values, a one percentage point increase in the local concentration of ethnic entrepreneurs is on average associated with a 5% increase in the probability that a non-employed member of the group starts their own business. The effect of a one standard deviation change is 16%. Looking at the same variables defined at the level of labor market regions, we see a qualitatively similar result, though the ethnic residential share variable is here statistically insignificant. Moreover, the local density of entrepreneurs from other ethnic groups is not statistically distinguishable from zero, either at the neighborhood level and at the level of the wider local labor market region.

This implies that we find no evidence in favor of a positive *general* ethnic enclave effect on the probability that an outsider immigrant becomes self-employed. In fact, we observe a negative effect. We instead find evidence favoring the qualitative characteristics of the enclave. Entrepreneurial behavior of people in the same neighborhood and region appear to have a modest effect at best if they do not share the same ethnic origin. Immigrants from the Middle East are not unique in this respect. We find corresponding—indeed stronger—results for native Swedes. For Swedish outsiders, however, there is a robust positive effect of residing in a neighborhood with a high share of ethnic Swedes.

Looking at the control variables, we see that in most cases they have the expected sign. Being older, 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. For Swedes, however, this association is slightly negative. For the immigrant group neighborhood population and mean wage in the neighborhood is indistinguishable from zero, whereas they are positive for native Swedes. While Swedes with higher levels of education are more likely than the reference group to become self-employed, this is not true for the Middle Eastern group. These differences in results could be explained by that immigrants may find it difficult to use their education in their new country of residence, for example because of issues of perceived validity, and that they are less responsive to general economic conditions than natives because of general 'outsider' issues.[13] Also, for the type of ventures they are engaged in, formal education may not be relevant. Further, adding individual characteristics does very little to the neighborhood estimates for Middle Eastern immigrants, although it changes the effects at the neighborhood level to a much greater degree for natives.

[13]One could also argue that the insignificant effect of education is due to that self-employment is a "second-best" option for immigrants, and that those with longer education are more likely to find regular wage employment. This raises the opportunity cost for self-employment, which reduces the influence of education on self-employment.

Table 1. Determinants of immigrant self-employment, baseline models

	(1)	(2)	(3)	(4)
	ME	**ME**	**Swedes**	**Swedes**
Neighborhood-level (1 km^2 squares) variables				
Entrepreneurship share (other ethnic groups)	1.038*	1.037	1.023***	1.012**
	(0.022)	(0.033)	(0.004)	(0.005)
Standardized coefficient	**1.06**	**1.06**	**1.07**	**1.03**
Entrepreneurship share (own ethic group)	1.051***	1.049***	1.179***	1.091***
	(0.010)	(0.011)	(0.005)	(0.008)
Standardized coefficient	**1.16**	**1.15**	**1.54**	**1.26**
Resident share (own ethnic group)	0.993***	0.991***	1.005***	1.009***
	(0.002)	(0.003)	(0.001)	(0.001)
Standardized coefficient	**0.92**	**0.90**	**1.07**	**1.15**
Mean wage (ln)		0.983		1.200*
		(0.265)		(0.119)
Population density (ln)		0.984		1.148***
		(0.057)		(0.016)
Individual-level variables				
Age		1.129***		1.266***
		(0.024)		(0.008)
Age squared		0.998***		0.998***
		(0.000)		(0.000)
Male (1= yes)		3.004***		2.126***
		(0.197)		(0.050)
Married (1= yes)		1.726***		1.678***
		(0.149)		(0.054)
Children in residence (1= yes)		1.596***		1.342***
		(0.160)		(0.045)
Single household (1= yes)		1.231*		0.900***
		(0.155)		(0.033)
Neighborhood tenure		1.013**		0.988***
		(0.006)		(0.002)
Education level: high school		1.305***		1.556***
		(0.090)		(0.057)
Education level: college		1.066		2.046***
		(0.078)		(0.080)
Education level: PhD/lic.		0.529		1.674***
		(0.311)		(0.224)
Wage income (ln)		1.081***		1.132***
		(0.012)		(0.005)
Region-level variables				
Size in terms of population (ln)		1.046		1.049**
		(0.052)		(0.020)
Entrepreneurship share (other ethnic groups)		0.950		1.055**
		(0.058)		(0.024)
Entrepreneurship share (own ethic group)		1.052*		1.006
		(0.032)		(0.020)
Resident share (own ethnic group)		1.036		0.991**
		(0.033)		(0.004)
Constant	0.010***	0.000***	0.004***	0.000***
	(0.001)	(0.000)	(0.000)	(0.000)
Observations	91,849	91,849	523,862	523,862
Pseudo R^2	0.01	0.05	0.03	0.10

Note**:** Robust standard errors in parentheses. The table reports odds-ratios from a Logit model (see equation 1).
*** p<0.01, ** p<0.05, * p<0.1

In Appendix Table A3, we present two variations on the baseline models where we add first, length of the non-employment spell, and second, a dummy indicating previous self-employment experiences. Both variables are measured since 1991, i.e. over the past two decades. The reason why these variables are not included in our preferred model is that they are likely endogenous. If there are feedback effects present at the neighborhood level then those effects are likely to affect the length of the spell, as well as any entrepreneurial behavior in the past. In that sense, the results presented in models 6 and 8 may be thought about as very conservative.

While the effect of having been an outsider for a long time has a powerful negative effect on the probability of becoming self-employed, it does not at all decrease our estimated effects in models 2 and 4. Previous entrepreneurial experience, however, has a substantial effect on the probability of transitioning to self-employment, and cuts the effect in half of having other co-ethnic entrepreneurs in the neighborhood. Nevertheless, the qualitative results remain. The effect of past entrepreneurial experience implies that neighborhoods where many transition from non-employment to self-employment have many people going in and out of self-employment over time. Such high churn in self-employment is consistent with many of the arguments we make above (e.g. effects of local attitudes or role models). However, this result does caution that the effect on survival may be weaker or nonexistent, which is beyond the scope of our analysis, and a promising avenue for future research.

5. SUMMARY AND CONCLUSIONS

Many countries in Europe have experienced rising immigration and the public debate has intensified over which factors that may allow 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 residency in an ethnic enclave, 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, 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 that can 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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APPENDIX

Table A1. Descriptive statistics for the Middle Eastern group

	Mean	St.dev.	Min	Max
Startup	0.013	0.11	0	1
Neighborhood-level variables				
Entrepreneurship share (other ethnic groups)	3.45	1.48	0.64	13.28
Entrepreneurship share (own ethic group)	6.12	2.92	0	29.09
Resident share (own ethnic group)	19.53	11.76	5.00	63.20
Mean wage (ln)	7.71	0.18	6.88	8.55
Population density (ln)	7.79	0.60	6.22	9.36
Individual-level variables				
Age	38.99	12.22	20	64
Male (1= yes)	0.47	0.50	0	1
Married (1= yes)	0.62	0.49	0	1
Children in residence (1= yes)	0.58	0.49	0	1
Single household (1= yes)	0.27	0.44	0	1
Neighborhood tenure	6.10	5.51	1	21
Length of non-employment spell	6.62	4.47	1	21
Education level: high school	0.28	0.45	0	1
Education level: college	0.27	0.44	0	1
Education level: PhD	0.005	0.07	0	1
Wage income (hundreds SEK, ln)	1.06	2.20	0	8.14
Size in terms of population (ln)	12.86	1.15	9.05	14.09
Region-level variables				
Entrepreneurship share (other ethnic groups)	6.99	0.83	4.78	11.71
Entrepreneurship share (own ethic group)	7.38	1.05	5.36	16.89
Resident share (own ethnic group)	5.52	1.53	1.03	8.90
Previous entrepreneurial experience	0.08	0.27	0	1

N=91,849

Table A2. Descriptive statistics for the Swedish group

	Mean	St.dev.	Min	Max
Startup	0.016	0.13	0	1
Neighborhood-level variables				
Entrepreneurship share (other ethnic groups)	5.42	2.86	0	33.33
Entrepreneurship share (own ethic group)	5.09	2.61	0.60	20.12
Resident share (own ethnic group)	76.22	15.54	14.79	97.96
Mean wage (ln)	7.89	0.24	6.76	8.99
Population density (ln)	7.56	0.81	6.22	9.69
Individual-level variables				
Age	38.23	15.63	20	64
Male (1= yes)	0.48	0.50	0	1
Married (1= yes)	0.18	0.38	0	1
Children in residence (1= yes)	0.27	0.45	0	1
Single household (1= yes)	0.53	0.50	0	1
Education level: high school	7.76	6.70	1	21
Education level: college	8.47	5.41	1	21
Education level: PhD	0.44	0.50	0	1
Length of non-employment spell	0.33	0.47	0	1
Years of formal schooling	0.003	0.06	0	1
Wage income (hundreds SEK, ln)	2.34	2.83	0	8.15
Region-level variables				
Size in terms of population (ln)	12.41	1.32	7.96	14.09
Entrepreneurship share (other ethnic groups)	5.57	0.91	3.19	13.83
Entrepreneurship share (own ethic group)	7.29	1.07	4.90	13.65
Resident share (own ethnic group)	80.11	6.37	55.85	94.23
Previous entrepreneurial experience	0.08	0.27	0	1

N=523,862

Table A3. Adding length of non-employment spell and previous entrepreneurial experience.

	(5)	(6)	(7)	(8)
	ME	**ME**	**Swedes**	**Swedes**
Neighborhood-level variables				
Entrepreneurship share (other ethnic groups)	1.032	1.030	1.012**	1.011**
	(0.032)	(0.033)	(0.005)	(0.005)
Standardized coefficient	**1.05**	**1.05**	**1.03**	**1.03**
Entrepreneurship share (own ethic group)	1.053***	1.029***	1.082***	1.047***
	(0.011)	(0.011)	(0.008)	(0.008)
Standardized coefficient	**1.16**	**1.09**	**1.23**	**1.13**
Resident share (own ethnic group)	0.990***	0.992**	1.009***	1.008***
	(0.003)	(0.003)	(0.001)	(0.001)
Standardized coefficient	**0.89**	**0.91**	**1.15**	**1.13**
Mean wage (ln)	1.003	0.957	1.179*	1.152
	(0.268)	(0.255)	(0.115)	(0.113)
Population density (ln)	0.992	0.999	1.150***	1.114***
	(0.057)	(0.058)	(0.016)	(0.016)
Individual-level variables				
Age	1.144***	1.080***	1.417***	1.224***
	(0.024)	(0.023)	(0.010)	(0.009)
Age squared	0.998***	0.999***	0.996***	0.998***
	(0.000)	(0.000)	(0.000)	(0.000)
Male (1= yes)	2.868***	2.295***	1.977***	1.543***
	(0.185)	(0.154)	(0.046)	(0.038)
Married (1= yes)	1.577***	1.630***	1.607***	1.471***
	(0.138)	(0.137)	(0.052)	(0.048)
Children in residence (1= yes)	1.644***	1.565***	1.272***	1.170***
	(0.164)	(0.157)	(0.043)	(0.040)
Single household (1= yes)	1.251*	1.226	0.919**	0.934*
	(0.158)	(0.153)	(0.034)	(0.034)
Neighborhood tenure	1.040***	1.007	0.993***	1.002
	(0.007)	(0.006)	(0.002)	(0.002)
Length of non-employment spell	0.920***	0.931***	0.895***	0.945***
	(0.009)	(0.009)	(0.002)	(0.003)
Education level: high school	1.325***	1.212***	1.390***	1.396***
	(0.091)	(0.084)	(0.051)	(0.052)
Education level: college	1.026	1.131*	1.801***	1.809***
	(0.075)	(0.084)	(0.070)	(0.071)
Education level: PhD/lic.	0.507	0.673	1.487***	1.829***
	(0.298)	(0.400)	(0.194)	(0.248)
Wage income (ln)	1.072***	1.060***	1.298***	1.205***
	(0.013)	(0.012)	(0.007)	(0.006)
Region-level variables				
Size in terms of population (ln)	1.065	1.044	1.048**	1.028
	(0.053)	(0.052)	(0.020)	(0.020)
Entrepreneurship share (other ethnic groups)	0.938	0.950	1.049**	1.056**
	(0.057)	(0.058)	(0.024)	(0.025)
Entrepreneurship share (own ethic group)	1.042	1.048	1.012	0.999
	(0.032)	(0.034)	(0.021)	(0.021)
Resident share (own ethnic group)	1.032	1.036	0.993*	0.989***
	(0.032)	(0.033)	(0.004)	(0.004)
Previous entrepreneurial experience		6.931***		8.843***
		(0.484)		(0.241)
Constant	0.000***	0.001***	0.000***	0.000***
	(0.000)	(0.002)	(0.000)	(0.000)
Observations	91,849	91,849	523,862	523,862
Pseudo R2	0.06	0.11	0.12	0.19

Note**:** Robust standard errors in parentheses. The table reports odds-ratios from a Logit model (see equation 1).
*** p<0.01, ** p<0.05, * p<0.1