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Let's Stick Together: Labor Market Effects from Immigrant Neighborhood Clustering

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Abstract: We investigate if there are positive economic effects for individuals residing in ethnic neighborhoods, in particular if the likelihood of labor market participation among foreign born is affected by residentially aggregating with other people from the same region. We also examine to what extent the income level among foreign born who has a job is affected by the extent to which they congregate in ethnic enclaves. We use Swedish micro-level data for the time period 2007 to 2015 and run a Heckman estimation for the population overall, for immigrants, but also for four distinct immigration groups: those from poor and middle-income countries in Africa or Asia, from Former Yugoslavia, and from the Middle East. We control for personal and neighborhood characteristics, as well as work place characteristics. The results suggest that there may be positive effects from ethnic concentration, but only if the group makes up a significant share of the population in that neighborhood.

Keywords: Labor market participation, foreign born, immigration, clustering effects, income levels

JEL: J15, J31, R23

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Introduction

The spatial division of cities into neighborhoods or districts may very well be one of the few universal features of urban life from ancient cities to contemporary urban areas (Kearns and Parkinson, 2001; Smith, 2010). Much of urban life and organization is structured by and around neighborhoods and as a result they have received a lot of attention on the part of urban sociologists (Chaskin, 1997; Hoyt, 1939; Park, 1915; Sampson, 2012; Small, 2009; Wilson, 2012). The neighborhood is the physically embedded social construct through which urban residents experience the defining characteristics of city-living: dense social networks and face-to-face encounters.

Neighborhoods are the settings for social interactions among residents, interactions which are not limited to family members or close friends (Glass, 2013; Suttles, 1972). Broadly speaking, social interactions arise when individuals or households directly, rather than indirectly through markets, affect each other's decisions, preferences, information sets and outcomes. A neighborhood can therefore be understood to be physically proximate, spatially embedded, overlapping social networks linking individuals, and these networks can exert a strong influence on the choices, behaviors, well-being and productivity of the individuals embedded in them (Sampson et al., 2002). Of course, the intensity and quality of the interactions among the members of a neighborhood can and do vary, and in one extreme a neighborhood can be nothing more than a spatially delineated residential area.

Neighborhood contexts are important determinants of both individual-level performance and quality of life outcomes (Sampson, 2019). This claim is supported by three related but distinct bodies of research. There is a large literature on the "contextual effects" whereby the socio-economic characteristics of a neighborhood affect individuals' social, economic and health outcomes (Bischoff, 2011; Mellander et al., 2017; Morenoff et al., 2001; Reardon & Rothwell & Massey, 2015; Sampson, Raudenbush, & Earls, 1997). There is also a

considerable body of literature extending across the social sciences relating to the role of social interaction in determining individual behavior (“network effects”). This literature informs us that individual decision-making across a wide range of activities is significantly influenced by the behavior of and information exchange with those with whom they have frequent contact. The networks in which an individual is imbedded in facilitate access to information as well as to social and physical capital (Inkpen and Tsang, 1992). As a result, the composition of the groups with whom individuals work and live with plays an important role in determining individual outcomes and life chances (Christakis & Fowler, 2007; Durlauf, 2004; Easley & Kleinberg, 2010; Ioannides & Loury, 2004; Manski, 2000). Urban economists, economic geographers and regional scientists have, for the past three decades, paid a lot of attention to how cities, understood to be spatially bounded social agglomerations, facilitate learning, matching of skills and construction of economic niches (Duranton & Puga, 2004; Glaeser & Scheinkman, 2000; Rauch, 1993).

A major assumption underpinning these various analyses is that individuals, and the social groups they form, are differentiated with respect to how effectively they can benefit from network effects and how much they can learn through the social networks in which they are embedded (Granovetter, 1973). It can therefore be expected that residential neighborhoods are among the most important of socio-economic settings for different types of social networks, (“neighborhood effects”), having in common the exchange of information, which affect the economic prospects of individual residing in them. An individual’s ability to find a job matching her skills can be considerably affected by her social connections and information flows in her residential neighborhood (Galster, Booza and Cutsinger, 2008). This is particularly the case in “ethnic enclaves.”

An *ethnic enclave* refers to a neighborhood with a high level of ethnic concentration, physical of cultural identity, organizational manifestations of group solidarity, and economic

activity (Abrahamson, 1996). Ethnic enclaves historically have been migrant's entry points into a new society and labor market (Massey, 1999). The social networks (systems of interpersonal relations) developed in migrant neighborhoods allow the residents of such neighborhoods to exchange resources and knowledge (Munshi, 2016). Ethnic enclaves can themselves be the source and location of jobs for migrants working in businesses owned by co-ethnics (Portes, 1995). There has been considerable debate as to the economic effects, and long-term consequences, of residing in ethnic enclaves (Edin, Fredriksson and Aslund, 2003; Musterd et al., 2008; Portes and Janssen, 1992; Sanders and Nee, 1987; Waldinger, 1993).

An individual's likelihood of getting employed may be a function of the individuals with whom they share spatial and social milieus with, and in the case of urban migrants it is easy to hypothesize that living among people with the same foreign-born background may facilitate getting access to labor market networks and finding a job. However, given that first generation foreign-born individuals (in many countries) are over-represented in low-paid service class jobs, it can also be hypothesized that once employed, this job may be a lower paid job than what would have been the case if the individuals wouldn't have gotten access to it via his own immigration group (proxied by the share foreign-born from the same regions in the neighborhood and in the municipality). This is the concern of ethnic enclaves serving not as economic escalators but as employment and poverty traps (Duncan and Waldorf, 2009). This debate is of interest not only to economic geographers, urban economists and urban sociologists, but to policy-makers as well—the presence and growth of ethnic enclaves having become a matter of political controversy and mobilization.

Questions and Plan of the Paper

The decisions of individuals who share spatial and social milieus are likely to be interdependent, and thus the econometric identification of “neighborhood effects” poses intricate data and estimation difficulties (Ioannides & Topa, 2010). To fully discern the relative

importance of residential neighborhood effects it is necessary to utilize spatially fine-grained data on individuals' economic performance, their socio-economic characteristics, places of residence and work, as well as information on those other individuals with whom they closely reside in a residential neighborhood. It is also necessary to delineate neighborhoods in a non-arbitrary manner, a task long-recognized as very challenging by urban sociologists (Sampson, 2012).

To investigate the effect of ethnic neighborhoods in facilitating entry into the job market, and to explore the concern that such a path into employment can track individuals into low-wage jobs, we avail ourselves of Swedish fine-grained micro-data. Statistics Sweden collects register micro-data for all individuals and all establishments (defined as physical locations where paid work occurs) on a yearly basis. The data are geocoded to a very fine geographical level and come with information about both individual and workplace characteristics. In other words, one can follow each individual based on both residential location and workplace location and include individual characteristics in terms of income, education, occupation, etc. Individual-level economic performance is captured through their income, which includes both wages and income accrued from other economic activities. Specifically, the income variable also captures wage incomes from self-employment.

The Swedish data identifies four immigration groups in Sweden that make up a significant share of the foreign-born from outside the European Union. The immigration groups covered come from the Middle East, low and middle-income African countries, and low and middle-income Asian countries. (Due to confidentiality safeguards, we are not able to track the exact country of origin. For the exact list of countries in each group see the Appendix) We also include immigrants from former Yugoslavia, a relatively large immigration group in Sweden. The dataset covers all individuals in these immigration groups for the age group 20-65 and covers the years 2007-2015. Many of the Yugoslavia immigrants came to Sweden during the

Yugoslav wars in the 1990s; in recent years Sweden has experienced an increased share of immigrants from the Middle East, Africa and Asia.

We map the distribution of the four immigration groups across neighborhoods and municipalities in Sweden. We also avail ourselves of the spatial unit *Small Area for Market Statistics*, identified by Statistics Sweden, which are intended to delineate the boundaries of “neighborhoods” as (residential) areas by taking into account data on household income, housing type and demographics. We are able to track individuals’ labor market participation, and in the case that they are employed we can also map their income levels (from employment or self-employment). The data is geographically geo-coded and comes with information about the individual, the neighborhood he or she lives in, as well as firm characteristics (in case of an employment). Based on this, we are able to follow each individual, the likelihood of being employed, as well as work income and relate it to the residential location and as well as workplace location and their characteristics and on top of that add individual characteristics in terms of foreign-born background, time in Sweden, occupation, etc. Individual-level productivity is captured through their *income* (which includes both wages and income from self-employment but no transfers).

We ask the following specific questions:

1. Is a foreign-born individual who live in a neighborhood with a large share of individuals from the same country/region more likely to be employed?
2. Is a foreign-born individual who is employed and live in a neighborhood with a large share of individuals from the same country/region more likely to have a low-paid occupation?

Data and Places

Neighborhoods and Workplaces

To capture neighborhood effects on the likelihood of being employed as well as on income level, we focus on the characteristics of the residential neighborhood and of the

workplace. For the residential neighborhood level, we employ the *Small Area for Market Statistics* (SAMS). The SAMS definition was established by Statistics Sweden in 1994 as an attempt to define neighborhoods based on common characteristics such as household income, type of housing and demographic profiles (Statistics Sweden, 2005). There are approximately 9,200 SAMS areas in the country. While SAMS are approximately the equivalent to the U.S. Census' "tracts" they are explicitly constructed so as to identify neighborhoods based on similarities in incomes, housing types and demographics. However, Amcoff (2012) has questioned to what extent SAMS captures true neighborhoods noting the large areal variability they exhibit with SAMS being significantly smaller geographical units in Gothenburg and Uppsala than in e.g. Stockholm and Falun. Another cause for concern is that municipalities use different criteria for homogeneity, which implies that SAMS should be compared with care across municipalities. In this work, the latter should not be an issue, since our neighborhood definition primarily involves the "within municipality" context.

We identify characteristics of the physical workplace (an "establishment") for the individuals who are employed. Further, we account for a general accessibility of employment opportunities in each municipality (approximately the equivalent to a U.S. county) so that we also take into consideration employment opportunities in nearby municipalities, but we discount the value of those employment opportunities with the commute time (for a detailed description of the accessibility calculation see Appendix).

Migrant Groups

The focus of the analysis is on four distinct immigration groups:

- (1) Middle East: Individuals from the Middle East—a group which has been increasing over the latest years due to the war in Syria. In this group, we also find individuals from Iran and Iraq.

- (2) Africa: Individuals from low and middle-income countries in Africa. This group of migrants is considered to have the most difficulty entering the labor market.
- (3) Asia: Individuals from low and middle-income countries in Asia (excluding China and Japan). The origin countries that are over-represented in this group are Afghanistan and Pakistan.
- (4) Former Yugoslavia: These are individuals from former Yugoslavia who primarily came to Sweden during the 1990s.

These four groups make up some of the biggest immigration groups in Sweden. Taken together, they made up 8.9 percent of the national population (aged 20-65) in the year 2015. The largest group in this study is from the Middle East (5.0 percent) followed by African low- and middle-income countries (1.4 percent), Former Yugoslavia (1.2 percent), and Asian low and middle-income countries (1.2 percent). Immigration from the Middle East had the largest increase during the time period we study, and went from 3.6 percent in 2007 to 5.0 percent in 2015. The African low- and middle-income also increased from 0.7 percent to 1.4 percent during the same time period, which percentage-wise was the fastest increase. (Some of the other large immigration groups into Sweden come from the other Nordic countries (2.3 percent in the year 2015), and other EU countries (3.5 percent in 2015).

Variables

We use longitudinal micro-level data from Statistics Sweden (*MONA: Microdata-ON-line-Access*). This is a register database which covers every individual and every establishment in the country. Our analysis covers the time period 2007 to 2015 and includes foreign-born individuals from the selected regions between 20 and 65 years old. The data includes those who participate in the labor force but also those who currently stand outside. The panel is unbalanced to the extent that some individuals may come to or leave Sweden in the middle the time period. In principle every legal resident of Sweden is included in MONA, which implies

that illegal immigrants are excluded from our dataset. We track each individual including their employment status as well as their current income level. Income in this case is only income from employment and self-employment, while other transfers are excluded. Table 1 lists the variables used in the study reported on here.

(Table 1 about here)

The four immigration groups—from the Middle East, low and middle-income countries in Africa and Asia, and from former Yugoslavia—differ in the likelihood of being employed as well as in income levels. Table 2 illustrates some basic differences in terms of employment and income but also in terms of the kind of neighborhood these individuals live in on average (the values represent averages for the time period in our study 2007-2015). We also include information for Sweden-born individuals for comparative purposes. Starting with employment rates, approximately 80 percent of the native-borns were employed during our studies time period. The results for the four immigration groups are significantly lower. The least likely to be employed were individuals from low- and middle-income countries in Africa (40 percent), followed by the Middle East (49 percent), Asia (54 percent), and thereafter Former Yugoslavia (65 percent). This is also reflected by the employment and self-employment incomes. Looking at the average neighborhood characteristics, the four immigration groups were more likely to live among other individuals that are first- or second-generation immigrants, with numbers ranging from 35-50 percent, which could be compared to 18.6 percent for native Swedes. For Swedes, the employment rate in the neighborhood was 77.7 percent on average, compared to 61-67 percent for the immigration groups. Based on these numbers, individuals from low- and middle-income countries in Africa may be considered the most disadvantaged, followed by individuals from the Middle East, while e.g. individuals from Yugoslavia tend to be in a more advantaged situation.

(Table 2 about here)

Results

For the regression estimations we use a two-stage sample selection model (Heckman, 1979), where the first step estimates the probability of being employed, and the second step estimates the income level from work and self-employment among those employed. Heckman regression allow for the correction of selection bias, given that the individuals with incomes may not be representative for the whole immigration group, but only for a specific sub-group with specific characteristics within this sample (those with enough skills and an ability of finding an employment).

In step 1 (the probit regression) the likelihood of being employed is estimated based on individual and residential characteristics (see column 1 in each regression result table). In step 2, the income regression (column 2), the explanatory variables include individual and residential characteristics but also workplace characteristics. The dependent variable income in step 2 is expressed in natural logarithmic form. In column 3, we show the marginal effects from step 2 (the income regression) and run an OLS regression for the same step for robustness checks (column 4). We run these estimations for each of your four foreign-born groups: Middle East, Africa, Asia and Former Yugoslavia, and present them one at a time, before summarizing the overall results. In each of the regressions, our primary variable of interest is “Share in SAMS from same group”, which is related to our two main research questions:

1. Is a foreign-born individual who live in a neighborhood with a large share of individuals from the same country/region more likely to be employed?
2. Is a foreign-born individual who is employed and live in a neighborhood with a large share of individuals from the same country/region more likely to have a low-paid occupation?

We first consider the results for the immigration group with a background from the Middle East. The results are illustrated in Table 3.

(Table 3 about here)

Starting with the main variable of interest—“share in SAMS from same group”—we see that if an individual is from the Middle East and lives in a neighborhood where individuals from the Middle East make up a larger share of the residents, this context increases the probability of employment. Furthermore, for those that are employed they are also likely to have a higher income level from work or self-employment if they live in neighborhood where they make up a larger share. This would suggest that for immigrants with a background from the Middle East there are most likely positive effects from living together. There is also a similar positive effect from living among other immigrants (first or second-generation immigrants in SAMS) both when it comes to the likelihood of being employed and the income level among those that are employed.

At the individual level, factors such as education, age, and family situation tend to matter for the likelihood of being employed as well as for the income level. Additionally, the longer individuals have been in Sweden, the more likely they are to have an employment. At the residential level, we note that the two most important factors in determining the probability of employment and the income level are the share of the labor force in the neighborhood that are integrated in the labor market (“share employed in SAMS”) and the average income level in the neighborhood (“average income in SAMS”). While positive and significant, access to employment, is relatively weak in this context.

Interestingly enough, there is a positive relation between what is Sweden are known as “no-go-to zones” neighborhoods and the probability of being employed and income levels. These no-go-to zones were identified by the police as the most marginalized neighborhoods in the country in a report from the Swedish Police in 2017 (The Swedish Police, 2017) with severe socio-economic challenges and significantly higher crime rates. While these neighborhoods are known for economic and social exclusion, they may also come with positive network effects since individuals from the Middle East in general makes up a larger share of the population in

these neighborhoods. This may lead to positive network effects, despite economic and social issues in general. For individuals who are employed, however, we find negative results from working together with individuals who originated in the same region, as well as working with individuals who are foreign-born in general. Workplace diversity positively related to income outcomes. Next, we examine the situation for immigrants coming into Sweden from African low and middle-income countries (see Table 4).

(Table 4 about here)

The variable “share own group in SAMS” is used to determine whether or not it is positive or negative for the probability of being employed, as well as for the income level in the case of employment. For immigrants from African low and middle-income countries, we find that it is positively related in both cases. It is also an advantage to live in a neighborhood where a larger share of the population consists of first or second-generation immigrants. At the individual level and workplace level (in the case of an employment), the results for the African group are also very similar to the ones obtained for the Middle East group. Interestingly, the year dummy is negative for the probability of being employed in both cases, which suggests that controlling for individual and residential characteristics, the probability of being employed decreased over time. A difference between the Middle Eastern and African group is year is positively related to income in the first case, while it is negative and significant in the latter, suggesting that those with an African background that work actually are earning less over time.

Table 5 presents the results for the case of immigrants with a background in a low or middle-income Asian country. For the individuals from Asia we find a different pattern than for the other two groups. In this case, the “share in SAMS from same group” is actually negatively related, both for the probability of being employed as well as for the income level, to live among a larger share of individuals with the same immigration background. However, we still find positive results from living with a larger share of individuals who are first or

second-generation immigrants. There is also a strong and positive relation between the share in the neighborhood who are employed and the probability for individuals in this group to also be employed and having a higher income. In this case, opposite the results for the earlier two groups, it is not negative to live in a neighborhood where a larger share of the population has an education shorter than 9 years. However, this is a relatively weak relation. The results for the individual and workplace (in case of an employment) characteristics in this case are very similar to the results for the immigration groups from the Middle East and Africa. Education, age, gender, and family situation are in general significantly related to both dependent variables (probability of being employed and income level). For those who are employed, income is positively related to working with individuals with more education, but negatively related to working with individuals from the same immigration group, other foreign-born or in establishments with a more diverse workforce.

(Table 5 about here)

For immigrants from the former Yugoslavia we find a somewhat divergent result as the “share in SAMS from same group” is not significantly related to the likelihood of being employed, and it is negatively related to the actual income level in case of an employment (see table 6). The positive results from living with first and second-generation immigrants are positive and significant as is the case for the other three groups. In general, this immigration group differs a bit from the other three group in the sense that these individuals have a European origin and may culturally be relatively more similar to Sweden. Further, the locational pattern across Swedish municipalities is more similar to those who are native-born with a clear over-representation in larger, urban areas, which is less the case for the other three groups. For the other residential level variables, we find that, again, living among more people that work, also increases the likelihood of being employed and having a higher income level. While the average income level in the neighborhood only is weakly related to the likelihood of being

employed, it is relatively stronger in the relation to the income level in case of an employment. For the individual and workplace variables, we find rather consistent results with the other three groups. Education, age, gender and family situation matter. In case of an employment, working with other individuals from the same region or other foreign-born tend to be negatively related to the income level, while working with individuals who on average are more educated is positive. As for the other migrant groups, workplace diversity is negatively related to income levels among the individuals from Former Yugoslavia who are employed.

(Table 6 about here)

Taken together, we find positive relations with the likelihood of being employed if one lives among individuals from the same region if one is from the Middle East or Africa, while the results is the opposite for Asia. One reason why Asia stands out may be that the region consists of a rather diverse set of countries in two different income groups, which may have an effect on the results for Asia in this case. We therefore re-run the regressions and split the Asian immigration group into two different groups: low-income and middle-income. We also do the same for Africa as a robustness check. The results are presented in Table 7. (We only illustrate the results for the variable “share in SAMS from same group”. Full tables for low-income countries in Asia and Africa are provided in Appendixes A3 and A4. All other results are available from the authors upon request.)

(Table 7 about here)

When we split up the groups based on income levels in the countries of origin, we find a clear difference in the results. In the case of immigrants from middle-income countries—both in Asia and in Africa—there is in principle no significant results for living together with one’s one group in relation to the probability of employment or income levels. We only find a weak, negative relation for the first stage regression for the middle-income Asian group. The pattern is clearer for individuals from low-income countries. However, the differences in the signs of

the coefficients still remain, where the relations are positive in the case of individuals from low-income African countries and negative in the case of individuals from low-income Asian countries. Based on this, we therefore drop the individuals from the middle-income Asian and African countries and only include individuals from the low-income countries in the remaining analysis. Another alternative explanation behind the negative relations for individuals from Asian countries may be that this group is significantly smaller compared to the other immigration groups. This could imply that they are too few to actually reach a threshold level where the share of the population in the neighborhood (SAMS) is large enough to actually have some sort of impact. Further, it may be so small that it is considered a minority group even in neighborhoods where they make up a relatively larger share. Figure 1 illustrates the distribution of the share each immigration group makes up across SAMS during the time period of our analysis:

(Figure 1 about here)

While the vast majority of the SAMS have a share of each immigration group below 1 per cent, there are a number of SAMS where immigrants from Africa, Middle East and Former Yugoslavia make up a significant share of the population. This is however not the case for immigrants from Asian low-income countries. This group constantly makes up a smaller share of the population compared to the other three groups. To examine the importance of a threshold level for positive effects from living with one's own group, we re-run all regressions for individuals from low-income countries in Africa, the Middle East, and from Former Yugoslavia, but this time we only include those who live in neighborhoods (SAMS) where their population share makes up 1 percent or less. The results are shown in Table 8. (For the Middle East the number of observations decreases to 11,303, for Africa to 74,382 and for Former Yugoslavia to 81,344 – all for the same time period 2007-2015. The full results from

the regressions are available from the authors upon request.) We also include the results from low-income Asian individuals (the same as in Table 7) for comparison reasons.

(Table 8 about here)

We redid the estimations without the threshold level. For individuals from the Middle East, we see that as a threshold level is set it is now actually negative for the probability of being employed if the individual lives with a relatively large share of his or her own group. When no threshold level was set, the relation was positive. The earlier positive results in relation to income levels have now become insignificant. In the case of individuals from low-income countries in Africa the earlier positive sign for the probability of being employed if one lives with a larger share of the own group, has now becomes negative. Also in this case, all results for income levels have become insignificant—results that were positive when no threshold level was set. Only in the case of individuals from Former Yugoslavia we still find a positive and significant relation between the likelihood of being employed and the share of the own group in the neighborhood. The results for income levels are, however, also insignificant in this case.

Discussion and Conclusions

The process of migration has historically been facilitated by the presence in the host country of communities which welcome newcomers (from the same country, region, city or village) and provide them with psychological, social and cultural support (Baci, 2012; Manning 2012). The spatial manifestations of these host communities have been, and continue to be, neighborhoods (Sanders, 2011). Migrant neighborhoods (often referred to as “ethnic enclaves”) provide various forms of economic support to newcomers, including information about, and referrals to, the local labor market (Munshi, 2016). This type of information, often flowing through informal sources and social connections, has long been recognized as a crucial component of an individual’s successful search for employment (Rees, 1966; Munshi, 2014).

A large literature in sociology concerns the implications of immigrants' residing in ethnic enclaves for their economic well-being. More specifically, the "enclave thesis" (Portes and Manning, 1986; Portes and Jensen, 1989) states that these neighborhoods serve as sources of information about the labor market and as labor market which migrants can more easily access. However previous research concerning the effects of residing in an enclave (which is a form of the more general "neighborhood effect") on immigrants' economic outcomes has produced mixed conclusions as to whether enclave effects are positive or negative (Howell, 2018; Munshi, 2011; Xie and Gough, 2011). A particular concern is whether ethnic enclaves become "employment traps", restricting, rather than facilitating, resident's matching in the labor market (Graham and Sharkey, 2013; Patel and Vella, 2013; Quillian, 2012; Sharkey, 2016).

In the present discussion we have sought to contribute to the literature by drawing on the rich longitudinal and micro-level Swedish data, covering the period 2007 to 2015, which allows for an investigation of neighborhood effects at the individual level. We are thus able to compare the economic outcomes of immigrants working in ethnic enclaves with those of individuals not residing in such neighborhoods. We considered two questions: (1) is a foreign-born individual who live in a neighborhood with a large share of individuals from the same country/region more likely to be employed?; (2) is a foreign-born individual who is employed and live in a neighborhood with a large share of individuals from the same country/region more likely to have a low-paid occupation? Our results suggest that there are positive effects from living in neighborhoods where the own group makes up a larger share of the population, and that this in general increases the likelihood of being employed, as well as (in case of being employed) having a higher income level. We found different patterns for individuals who came from low and middle-income countries, with results indicating that there is a threshold level

for a group to get such positive results, in other words, they need to be many enough to benefit from being close to one another.

We also find a positive and significant relation between an individual residing in neighborhood with a larger share of first- and second-generation immigrants, and having a job and a higher income on the other, for all four immigration groups. This would suggest that there may be positive effects for immigration groups to live among other immigration groups in order to find a job and get a better income. However, this effect should be weighed against the importance of living in neighborhoods with a larger share of employed, which positively affects the likelihood of being employed and having a higher income.

All four immigration groups included in the present study have higher rates of unemployment than individuals born in Sweden, and in some cases the rates are much higher. From a policy perspective this would suggest that it can be an advantage for immigrants to live with individuals with the same immigration background as well as living among other immigrants, under the condition that these are integrated on the labor market. However, sharing workplace with one's own group or with other immigrants have the opposite effect. This could be a result of that the workplace may be one of the few places where foreign-born individuals get a chance to learn the language properly, which in turn may open up other and better job opportunities in the labor market.

These results make us believe that immigrants who live in neighborhoods where they make up a larger share of the population is positive for both the likelihood of getting a job and for the income level. However, in order to get such positive effects, the group needs to be large enough to actually create such effects. Our results are not entirely consistent with those reported in Musterd et al. (2008) who find that despite initial benefits for own-group concentrations over the long-term these benefits are overwhelmed by negative neighborhood effects. There may be many reasons for those differences. To start with, we correct for a possible selection bias via

our Heckman estimation. Musterd et al. (2008) only focus on the three biggest regions in Sweden (Stockholm, Gothenburg and Malmö), while we cover the whole country. While these three regions were home for most immigrants during the time period they study (1995-2002) there has since then been a tendency to locate refugees in less urban areas. Musterd et al. (2008) also study refugee groups that made up some of the largest shares at that point in time. Since then, there has been a significant increase of immigration from the Middle East and from Africa, groups that we include in our study.

The results presented here, as well as prior research, tell us that under certain circumstances there are advantages for migrants to concentrate. At first glance this would seem to be somewhat inconsistent with a very prevalent theme in the urban studies literature, namely the advantages of diversity—cultural, ethnic, organizational, institutional and economic—for individual level productivity. Recent work shows, for the United States in the 19th and early 20th century, that county-level population diversity, brought about by in-county migration, had long-lasting effects on county-level economic development (Rodríguez-Pose and von Berlepsch, 2018). A promising area for further work is to bring more nuanced considerations of diversity—such as fractionalization (a measure of the number of different groups within a population) and polarization (the relative size of groups within a population)—to the examination of neighborhood effects.

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Table 1: Descriptive Statistics

Variable	Description
Individual level:	
Employment	1=employed, 0=not employed
Income (ln)	Annual Total Income. This is the total wage from work incl. self-employment and business activities*.
Education	1=less than 9 years 2=9-10 years 3=10-11 years 4=11-12 years 5=12-13 years 6=13-15 years 7=doctoral degree
Less than 9 years of edu	1=if less than 9 year, 0=others
Age (and age ²)	Age
Gender	0=male; 1=female
Marital status	1=married 0=not married
Children under 18	1=if children in the household under the age of 18, 0=others
Single parent	1=if single parent, 0=others
Single mother	1=if single mother, 0=others
Service class dummy	1=if employed with a service class job, 0=others
Working class dummy	1=if employed with a working-class job, 0=others
Residential level:	
Share in SAMS from same group	The share of the individuals in the neighborhood that origin from the same country/region
First or second generation immigrants in SAMS	The share of the individuals in the neighborhood that are first- or second-generation immigrants
Share employed in SAMS	The share of the individuals in the SAMS that are employed
Share less than 9 years of edu	The share of the individuals in the SAMS that have an education shorter than 9 years.
Average income in SAMS	This is the average income for the individuals in the SAMS (for income definition, see above)
No-go-to zone postal code	This is a dummy if the residential location is in a postal code defined as no-go-to zone (the most disadvantaged neighborhoods)
Workplace level:	
Share in WP from same group	The share of the employees in the workplace that origin from the same country/region
Share Foreign-born	The share of the employees in the workplace that are foreign-born
Average Education in WP	The average education level in the workplace (for levels, see education above).
Workplace diversity	A Hirfindahl Index for the diversity of employee native origins in the workplace.
Workplace location diversity	A Hirfindahl Index for the diversity of employee native origins in the municipality where the workplace is located.
Access to Employment (ln)	This is a measure for accessibility to employment**. This variable is logged in the analysis.

*1 USD is approximately equivalent to 10 Swedish Kronor. We also add a control variable for year. **For accessibility calculations, see Appendix A1.

Table 2: Immigration Group Descriptive Statistics (Individuals Aged 20-65)

	Middle East	Africa	Asia	Former Yugoslavia	Native Swedes
Share employed*	49.1%	40.3%	53.6%	65.0%	80.6%
Income	124,171	98,992	152,445	173,596	253,271
Share first and second generation immigrants in SAMS	47.2%	50.5%	35.5%	40.6%	18.6%
Share employed in SAMS	64.7%	60.9%	69.4%	66.6%	77.7%

*Not being employed does not necessarily equal unemployment, since a share of this group would consist of college students.

Table 3: Results for Migrants from the Middle East

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
Individual level:				
Education	0.078** (0.001)	0.062** (0.002)	0.026** (0.002)	0.030** (0.001)
Less than 9 years of edu	-0.248** (0.004)	-0.082** (0.007)	0.037** (0.007)	0.043** (0.004)
Age	0.121** (0.001)	0.118** (0.003)	0.061** (0.003)	0.064** (0.001)
Age Square	-0.001** (0.8.1e-06)	-0.001** (0.00003)	-0.0006** (0.00003)	-0.0007** (8.86e-06)
Gender	-0.117** (0.003)	-0.206** (0.004)	-0.152** (0.004)	-0.158** (0.003)
Time in Sweden	0.0001** (0.4.95e-06)	0.00005** (0.5.72e-06)	-0.00002** (0.5.72e-06)	-9.87e-06** (4.58e-06)
Marital status	0.434** (0.007)	0.427** (0.011)	0.222** (0.011)	0.245** (0.006)
Children under 18	0.090** (0.003)	0.038** (0.003)	0.080** (0.003)	-0.074** (0.002)
Single parent	-0.092** (0.011)	-0.026* (0.011)	0.018* (0.011)	0.012 (0.010)
Single mother	-0.148** (0.012)	-0.112** (0.012)	-0.041** (0.012)	-0.044** (0.011)
Interaction Gender Married	-0.322** (0.004)	-0.318** (0.008)	-0.167** (0.008)	-0.180** (0.004)
Service class dummy	-	-0.279** (0.003)	-0.279** (0.003)	-0.278** (0.003)
Working class dummy	-	-0.140** (0.003)	-0.140** (0.003)	-0.142** (0.003)
Residential level:				
Share in SAMS from same group	0.508** (0.016)	0.372** (0.021)	0.135** (0.021)	0.148** (0.017)
First- or second-generation immigrants in SAMS	0.902** (0.013)	0.574** (0.024)	0.153** (0.024)	0.169** (0.013)
Share employed in SAMS	2.077** (0.018)	1.094** (0.053)	0.123** (0.053)	0.033 (0.018)
Share less than 9 years of edu	-1.196** (0.042)	-0.611** (0.055)	-0.052** (0.055)	-0.031 (0.044)
Average income in SAMS	2.52e-06** (3.83e-08)	2.29e-06** (5.55e-08)	0.1.11e-06** (5.55e-08)	1.47e-06** (3.22e-08)
No-go-to zone postal code	0.016** (0.003)	0.027** (0.004)	0.020** (0.004)	0.018** (0.003)
Ln Access to Employment	0.029** (0.001)	0.008** (0.002)	-0.006** (0.002)	-0.006** (0.001)
Workplace level:				
Share in WP from same group	-	-0.313** (0.011)	-0.313** (0.011)	-0.315** (0.011)
Share Foreign-born	-	-0.382** (0.011)	-0.382** (0.011)	-0.381** (0.011)
Average Education in WP	-	0.006** (0.001)	0.006** (0.001)	0.007** (0.001)

Workplace diversity	-	-0.302** (0.007)	-0.302** (0.007)	-0.301** (0.007)
Workplace location diversity	-	-0.129** (0.016)	-0.129** (0.016)	-0.137** (0.016)
Year	-0.031** (0.0004)	0.016** (0.001)	0.031** (0.001)	0.029** (0.0004)
N	1,781,540	769,190	769,190	769,190
Sample Selection Lambda	-	0.690**	-	-
Wald Chi 2	114,461**	-	-	-
R2	-	-	-	0.172

Table 4: Results for Migrants from Africa (Low and Middle-Income Countries)

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
Individual level:				
Education	0.081** (0.002)	0.037** (0.003)	0.016** (0.003)	0.018** (0.002)
Less than 9 years of edu	-0.483** (0.007)	-0.146** (0.022)	-0.016** (0.022)	-0.014* (0.007)
Age	0.094** (0.001)	0.087** (0.004)	0.062** (0.004)	0.064** (0.001)
Age Square	-0.001** (0.00001)	-0.0009** (0.00004)	-0.0005** (0.00004)	-0.0006** (0.00002)
Gender	-0.008 (0.006)	-0.113** (0.006)	-0.111** (0.006)	-0.112** (0.006)
Time in Sweden	0.0001** (0.00001)	0.00008** (0.00001)	0.00003** (0.00001)	0.00004** (7.53e-06)
Marital status	0.150** (0.013)	0.173** (0.013)	0.134** (0.013)	0.137** (0.012)
Children under 18	0.247** (0.005)	-0.018 (0.010)	-0.083** (0.010)	-0.075** (0.004)
Single parent	-0.005** (0.016)	-0.052** (0.012)	0.051** (0.012)	0.052** (0.012)
Single mother	-0.346** (0.017)	-0.204** (0.019)	-0.111** (0.019)	-0.124** (0.013)
Interaction Gender Married	-0.189** (0.008)	-0.136** (0.010)	-0.086** (0.010)	-0.091** (0.007)
Service class dummy	-	-0.215** (0.004)	-0.215** (0.004)	-0.216** (0.005)
Working class dummy	-	-0.026** (0.006)	-0.026** (0.006)	-0.027** (0.006)
Residential level:				
Share in SAMS from same group	0.641** (0.051)	0.404** (0.053)	0.236** (0.053)	0.259** (0.046)
First- or second-generation immigrants in SAMS	1.480** (0.022)	0.696** (0.060)	0.308** (0.060)	0.031** (0.020)
Share employed in SAMS	2.577** (0.039)	0.990** (0.111)	0.315** (0.111)	0.330** (0.035)
Share less than 9 years of edu	-2.392** (0.089)	-1.136** (0.124)	-0.509** (0.124)	-0.562** (0.080)
Average income in SAMS	1.40e-07** (9.03e-08)	7.35e-07** (7.27e-08)	6.98e-07** (7.27e-08)	7.66e-07** (06.95e-08)
No-go-to zone postal code	-0.098** (0.007)	-0.023** (0.007)	0.003** (0.007)	-0.005** (0.006)
Ln Access to Employment	0.065** (0.003)	0.028** (0.004)	0.011** (0.004)	0.016** (0.003)
Workplace level:				
Share in WP from same group	-	-0.234** (0.020)	-0.234** (0.020)	-0.232** (0.020)
Share Foreign-born	-	-0.439** (0.017)	-0.439** (0.017)	-0.440** (0.018)
Average Education in WP	-	0.008** (0.003)	0.009** (0.003)	0.009** (0.003)
Workplace diversity	-	-0.278**	-0.278**	-0.280**

			(0.016)	(0.016)	(0.016)
Workplace diversity	location	-	-0.110**	-0.110**	-0.113**
			(0.032)	(0.032)	(0.032)
Year		-0.028**	-0.017**	0.024**	0.023**
		(0.001)	(0.001)	(0.001)	(0.0008)
N		343,974	158,120	158,120	158,120
Sample Selection Lambda		-	0.364**	-	-
Wald Chi 2		20,849**	-	-	-
R2		-	-	-	0.157

Table 5: Results for Migrants from Asia (Low and Middle-Income Countries)

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
Individual level:				
Education	0.011** (0.002)	0.007** (0.002)	0.001** (0.002)	0.002 (0.002)
Less than 9 years of edu	-0.284** (0.007)	-0.180** (0.017)	-0.030** (0.017)	-0.036** (0.007)
Age	0.134** (0.001)	0.128** (0.007)	0.059** (0.007)	0.060** (0.001)
Age Square	-0.002** (0.00002)	-0.001** (0.00008)	-0.0006** (0.00008)	-0.0006** (0.00001)
Gender	-0.175** (0.006)	-0.301** (0.011)	-0.212** (0.011)	-0.017** (0.006)
Time in Sweden	0.0002** (0.00001)	0.0009** (0.00001)	0.00003** (0.00001)	-8.75e-06 (0.00001)
Marital status	0.336** (0.015)	0.284** (0.022)	0.112** (0.022)	0.136** (0.013)
Children under 18	0.135** (0.005)	-0.050** (0.008)	-0.119** (0.008)	-0.111 (0.004)
Single parent	-0.123** (0.026)	-0.020 (0.025)	0.043** (0.025)	0.036 (0.021)
Single mother	-0.035** (0.027)	0.001 (0.026)	0.019** (0.026)	0.019 (0.022)
Interaction Gender Married	-0.235** (0.009)	-0.188 (0.014)	-0.067** (0.014)	-0.082** (0.007)
Service class dummy	-	-0.260** (0.005)	-0.260** (0.005)	-0.261** (0.005)
Working class dummy	-	-0.082** (0.006)	-0.082** (0.006)	-0.083** (0.006)
Residential level:				
Share in SAMS from same group	-2.448** (0.101)	-1.566** (0.179)	-0.312** (0.179)	-0.241** (0.098)
First- or second-generation immigrants in SAMS	0.796** (0.022)	0.624** (0.051)	0.216** (0.051)	0.208** (0.022)
Share employed in SAMS	2.636** (0.034)	1.535** (0.154)	0.185** (0.154)	0.142** (0.033)
Share less than 9 years of edu	0.273** (0.080)	0.266** (0.088)	0.126** (0.088)	0.081 (0.077)
Average income in SAMS	1.76e-07** (1.76e-07)	9.83e-07** (6.65e-08)	8.93e-07 ** (6.65e-08)	9.75e-07** (5.79e-08)
No-go-to zone postal code	0.058** (0.009)	-0.054** (0.010)	-0.024** (0.010)	-0.026** (0.008)
Ln Access to Employment	0.014** (0.002)	0.013** (0.003)	0.005** (0.003)	0.005* (0.002)
Workplace level:				
Share in WP from same group	-	-0.366** (0.017)	-0.366** (0.017)	-0.367** (0.017)
Share Foreign-born	-	-0.432** (0.016)	-0.432** (0.016)	-0.432** (0.016)
Average Education in WP	-	0.007** (0.0025)	0.007** (0.0025)	0.007** (0.003)
Workplace diversity	-	-0.383**	-0.383**	-0.382**

			(0.014)	(0.014)	(0.014)
Workplace diversity	location	-	0.038	0.038	0.022
			(0.031)	(0.031)	(0.031)
Year		0.009**	0.023**	0.028**	0.027**
		(0.001)	(0.001)	(0.001)	(0.0008)
N		423,968	207,101	207,101	207,101
Sample Selection Lambda		-	0.794**	-	-
Wald Chi 2		32,284**	-	-	-
R2		-	-	-	0.164

Table 6: Results for Migrants from Former Yugoslavia

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
Individual level:				
Education	0.115** (0.002)	0.035** (0.002)	0.019** (0.002)	0.021** (0.001)
Less than 9 years of edu	-0.307** (0.008)	-0.046** (0.009)	-0.0004** (0.009)	0.008** (0.006)
Age	0.188** (0.001)	0.104** (0.003)	0.077** (0.003)	0.078** (0.001)
Age Square	-0.002** (0.00004)	-0.001** (0.00004)	-0.0008** (0.00004)	-0.0008** (0.00001)
Gender	-0.072** (0.006)	-0.171** (0.004)	0.160** (0.004)	-0.161** (0.004)
Time in Sweden	0.0001** (0.000002)	0.00002* (9.07e-06)	1.27e-06** (9.07e-06)	4.66e-06 (8.63e-06)
Marital status	0.564** (0.013)	0.206** (0.011)	0.125** (0.011)	0.139** (0.007)
Children under 18	0.090** (0.005)	-0.082** (0.003)	-0.095** (0.003)	-0.090** (0.003)
Single parent	-0.154** (0.025)	-0.006** (0.015)	0.016** (0.015)	0.011** (0.014)
Single mother	-0.159** (0.027)	-0.019** (0.017)	0.005** (0.017)	0.005** (0.016)
Interaction Gender Married	-0.246** (0.008)	-0.118** (0.006)	-0.084** (0.006)	-0.090** (0.005)
Service class dummy	-	-0.222** (0.003)	-0.222** (0.003)	-0.222** (0.003)
Working class dummy	-	-0.067** (0.004)	-0.067** (0.004)	-0.068** (0.004)
Residential level:				
Share in SAMS from same group	0.033 (0.057)	-0.109** (0.034)	-0.114** (0.034)	-0.111** (0.034)
First- or second-generation immigrants in SAMS	0.896** (0.025)	0.245** (0.021)	0.119** (0.021)	0.127** (0.016)
Share employed in SAMS	2.620** (0.044)	0.301** (0.051)	-0.068** (0.051)	-0.068* (0.027)
Share less than 9 years of edu	-0.546** (0.082)	-0.185** (0.054)	-0.108** (0.054)	-0.093 (0.052)
Average income in SAMS	2.51e-07* (1.00e-07)	1.10e-06** (5.65e-08)	1.07e-06** (5.65e-08)	1.13e-06** (5.50e-08)
No-go-to zone postal code	-0.020** (0.007)	-0.014** (0.005)	-0.011** (0.005)	-0.005** (0.005)
Ln Access to Employment	-0.035** (0.003)	0.005** (0.002)	0.010** (0.002)	0.009** (0.002)
Workplace level:				
Share in WP from same group	-	-0.282** (0.014)	0.282** (0.014)	-0.282** (0.014)
Share Foreign-born	-	-0.383** (0.013)	0.383** (0.013)	-0.384** (0.013)
Average Education in WP	-	0.006** (0.002)	0.006** (0.002)	0.006** (0.002)
Workplace diversity	-	-0.237**	-0.237**	-0.238**

			(0.011)	(0.011)	(0.011)
Workplace diversity	location	-	-0.092**	-0.092**	-0.099**
			(0.022)	(0.022)	(0.022)
Year		-0.014**	0.026**	0.028**	0.028**
		(0.0009)	(0.0006)	(0.0006)	(0.001)
N		468,594	292,757	292,757	292,757
Sample Selection Lambda		-	0.255**	-	-
Wald Chi 2		44,637**	-	-	-
R2		-	-	-	0.168

Table 7: Results for Share in SAMS from Same Group – Low and Middle-Income Countries

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
<i>Africa Results</i>				
Low Income	0.646** (0.054)	0.334** (0.054)	0.196** (0.054)	0.215** (0.047)
Middle Income	0.474 (0.728)	-0.191 (1.247)	0.363 (1.247)	0.525 (0.680)
<i>Asia Results</i>				
Low Income:	-1.580** (0.127)	-0.781** (0.190)	-0.238** (0.190)	-0.193** (0.139)
Middle Income	-0.602* (0.276)	0.043 (0.297)	0.430 (0.297)	0.535* (0.237)

Table 8: Results using threshold levels

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
<i>Asia Results</i>				
Share in SAMS from same group	-1.580** (0.127)	-0.781** (0.190)	-0.238** (0.190)	-0.193** (0.139)
<i>Middle East without threshold level</i>				
Share in SAMS from same group	0.508** (0.016)	0.372** (0.021)	0.135** (0.021)	0.148** (0.017)
<i>Middle East with threshold level</i>				
Share in SAMS from same group	-20.980** (6.626)	-11.778 (8.765)	4.853 (8.765)	3.181 (6.201)
<i>Africa without threshold level</i>				
Share in SAMS from same group	0.646** (0.054)	0.334** (0.054)	0.196** (0.054)	0.215** (0.047)
<i>Africa with threshold level</i>				
Share in SAMS from same group	-10.599** (2.113)	-0.585 (2.080)	2.953 (2.080)	2.717 (1.806)
<i>Former Yugoslavia without threshold level</i>				
Share in SAMS from same group	0.033** (0.057)	-0.109** (0.034)	-0.114** (0.034)	-0.111** (0.034)
<i>Former Yugoslavia with threshold level</i>				
Share in SAMS from same group	6.417** (2.085)	1.417 (1.219)	0.419 (1.219)	0.410 (1.159)

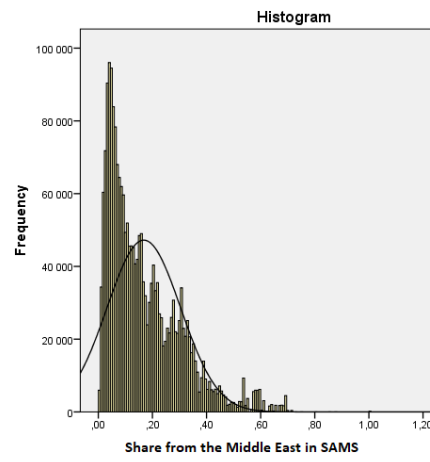
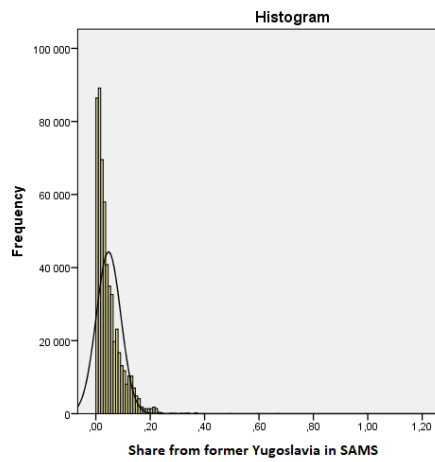
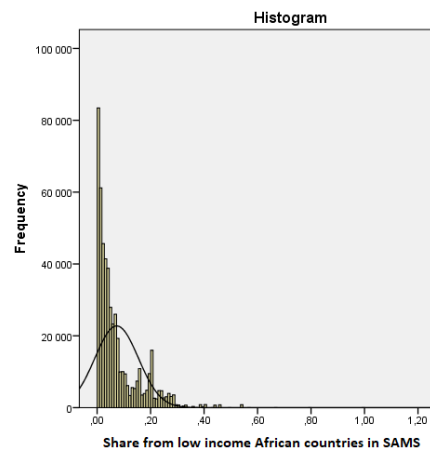
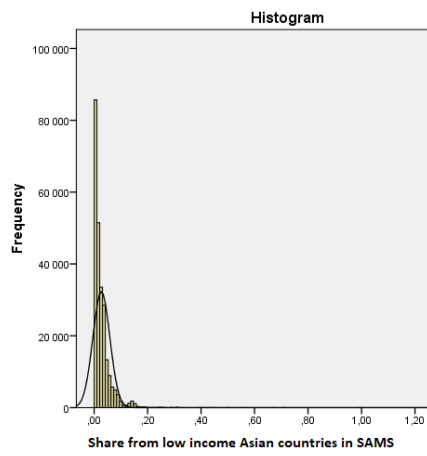


Figure 1: Distribution of shares that each group makes up of total population in SAMS

Appendixes.

A1: Accessibility Methodology

To estimate the employment accessibility we define it as follows: Each municipality (i) offers access to a Y, where

$$Y \in \{No\ of\ Employees\}$$

But there is also an access to Y in the closely located municipalities (j). This is the case for all municipalities in the set N $\{1, \dots, n\}$. The total Y in municipality i is defined as follows:

$$A_i^Y = Y_i f(c_{ii}) + Y_j f(c_{ij}) + \dots + Y_n f(c_{in})$$

where $f(c)$ is a distance decay function to determining how the accessibility value is influenced by the related cost of reaching these employment opportunities. Johansson et al. (2003) approximate this specific relationship by an exponential function:

$$f(c_{ij}) = \exp\{-\lambda t_{ij}\}$$

where t_{ij} is the time distance between municipality i and j. λ is a time-sensitivity parameter that determines how the accessibility changes in t. λ has been estimated by Johansson et al. (2003) and reflects the implicit value of daily time use.

When we combine the two equations we get the Y accessibility in municipality i is defined as follows:

$$A_i^Y = \sum_{j=1}^{290} Y_j \exp\{-\lambda t_{ij}\}$$

In this analysis we will thereby account not only for the employment opportunities in the residential municipality, but also the employment opportunities that are accessible in other municipalities, but we discount the values of those by the time it would take to get there.

A2: Region of origin

Region	Included countries
Africa	
Africa, low income ^a	Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Congo, Republic of the, Equatorial Guinea, Eritrea, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Senegal, Sierra Leone, Somalia, South Sudan, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe
Africa, middle income ^a	Algeria Angola Botswana Cabo Verde, Cameroon, Cote d'Ivoire Djibouti, Gabon, Lesotho, Libya, Mauritius, Morocco, Namibia, Nigeria, Sao Tome and Principe, Seychelles, South Africa, Tunisia
Asia	
Asia, low-income ^a	Afghanistan, Bangladesh, Cambodia, Kyrgyzstan, Laos, Myanmar, Nepal, North Korea, Tajikistan, Uzbekistan, Pakistan, Vietnam, Sikkim
Asia, middle-income ^a	Armenia, Azerbaijan, Bhutan, Philippines, Georgia, India, Indonesia, Kazakhstan, China, Malaysia, Mongolia, Sri Lanka, Thailand, Turkmenistan, Malay Federation, Maldives, East Timor
Middle East	Bahrain, Egypt, United Arab Emirates, Iraq, Iran, Yemen, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey

^a based on the definition by the World bank

A3: Low-Income African Countries

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
Individual level:				
Education	0.092** (0.002)	0.039** (0.004)	0.019** (0.004)	0.022** (0.002)
Less than 9 years of edu	-0.467** (0.008)	-0.117** (0.021)	-0.015** (0.021)	-0.013 (0.007)
Age	0.096** (0.001)	0.084** (0.004)	0.063** (0.004)	0.065** (0.001)
Age Square	-0.001** (0.00002)	-0.0008** (0.00004)	-0.0006** (0.00004)	-0.0006** (0.00002)
Gender	-0.010 (0.007)	-0.113** (0.006)	-0.111** (0.006)	-0.123** (0.006)
Time in Sweden	0.0002** (0.00001)	0.00007** (0.00001)	0.00003** (0.00001)	0.00004** (7.63e-06)
Marital status	0.129** (0.014)	0.158** (0.012)	0.130** (0.012)	0.133** (0.011)
Children under 18	0.250** (0.005)	-0.028 (0.010)	-0.081 (0.010)	-0.074** (0.004)
Single parent	0.003** (0.016)	0.046** (0.012)	0.045** (0.012)	0.046** (0.012)
Single mother	-0.353** (0.017)	-0.188** (0.019)	-0.110** (0.019)	-0.121** (0.013)
Interaction Gender Married	-0.175** (0.009)	-0.121** (0.010)	-0.083** (0.010)	-0.087** (0.007)
Service class dummy	-	-0.205** (0.005)	-0.205** (0.005)	-0.206** (0.005)
Working class dummy	-	-0.022** (0.006)	-0.022** (0.006)	-0.023** (0.006)
Residential level:				
Share in SAMS from same group	0.646** (0.054)	0.334** (0.054)	0.196** (0.054)	0.215** (0.047)
First- or second-generation immigrants in SAMS	1.549** (0.023)	0.642** (0.062)	0.311** (0.062)	0.341** (0.020)
Share employed in SAMS	2.552** (0.041)	0.852** (0.110)	0.306** (0.110)	0.320** (0.037)
Share less than 9 years of edu	-2.599** (0.094)	-1.062** (0.130)	-0.506** (0.130)	-1.552** (0.083)
Average income in SAMS	1.46e-07 (9.54e-08)	7.07e-07** (7.49e-08)	6.75e-07** (7.49e-08)	7.33e-07** (7.25e-08)
No-go-to zone postal code	-0.106** (0.007)	-0.026** (0.007)	-0.003** (0.007)	-0.009 (0.006)
Ln Access to Employment	0.062** (0.003)	0.024** (0.004)	0.010** (0.004)	0.011** (0.002)
Workplace level:				
Share in WP from same group	-	-0.209** (0.020)	-0.209** (0.020)	-0.205** (0.020)
Share Foreign-born	-	-0.431** (0.018)	-0.431** (0.018)	-0.433** (0.018)
Average Education in WP	-	0.006*	0.006*	0.007**

		(0.003)	(0.003)	(0.003)
Workplace diversity	-	-0.268**	-0.268**	-0.270*
		(0.016)	(0.016)	(0.016)
Workplace location	-	-0.131**	-0.131**	-0.132**
diversity		(0.033)	(0.033)	(0.033)
Year	-0.029**	0.019**	0.025**	0.010**
	(0.001)	(0.001)	(0.001)	(0.002)
N	407,819	146,019	146,019	146,019
Sample Selection Lambda	-	0.295**	-	-
Wald Chi 2	19,385**	-	-	-
R2	-	-	-	0.158

A4: Low-Income Asian Countries

Variable	Column 1 First Stage (Employment)	Column 2 Second Stage (Ln Income)	Column 3 Marginal Effect	Column 4 OLS Regression
Individual level:				
Education	0.019** (0.002)	0.009** (0.003)	0.003** (0.003)	0.004 (0.002)
Less than 9 years of edu	-0.284** (0.012)	-0.109** (0.023)	-0.009** (0.023)	-0.015 (0.007)
Age	0.157** (0.002)	0.120** (0.011)	0.065** (0.011)	0.067** (0.002)
Age Square	-0.002** (0.00003)	-0.001** (0.0001)	-0.0007** (0.00001)	-0.0007** (0.00002)
Gender	-0.036** (0.010)	-0.164** (0.011)	-0.151** (0.011)	-0.153** (0.010)
Time in Sweden	0.0002** (0.00002)	0.00003 (0.00002)	-0.00003 (0.00002)	0.00002 (0.00002)
Marital status	0.740** (0.020)	0.423** (0.052)	0.166** (0.052)	0.194** (0.019)
Children under 18	0.137** (0.007)	-0.023** (0.011)	-0.070** (0.011)	-0.064 (0.007)
Single parent	-0.184** (0.032)	-0.027 (0.033)	0.038 (0.033)	0.028 (0.030)
Single mother	-0.113** (0.034)	0.091** (0.036)	-0.051** (0.036)	-0.050 (0.033)
Interaction Gender Married	-0.531** (0.013)	-0.308** (0.037)	-0.125** (0.037)	-0.141** (0.013)
Service class dummy	-	-0.290** (0.008)	-0.290** (0.008)	-0.290** (0.008)
Working class dummy	-	-0.139** (0.010)	-0.139** (0.010)	-0.139** (0.010)
Residential level:				
Share in SAMS from same group	-1.580** (0.127)	-0.781** (0.190)	-0.238** (0.190)	-0.193** (0.139)
First- or second-generation immigrants in SAMS	0.564** (0.033)	0.373** (0.055)	0.179** (0.055)	0.175** (0.034)
Share employed in SAMS	2.771** (0.053)	1.165** (0.212)	0.212** (0.212)	0.195** (0.053)
Share less than 9 years of edu	1.406** (0.112)	0.890** (0.163)	0.416** (0.163)	0.383 (0.116)
Average income in SAMS	-5.39e-09 (1.20e-07)	1.10e-06** (1.10e-07)	1.10e-06** (1.10e-07)	1.16e-06** (1.09e-07)
No-go-to zone postal code	-0.023** (0.011)	-0.038** (0.012)	-0.030** (0.012)	-0.030** (0.011)
Ln Access to Employment	0.040** (0.004)	0.015** (0.006)	0.002** (0.006)	0.030* (0.001)
Workplace level:				
Share in WP from same group	-	-0.416** (0.027)	-0.416** (0.027)	-0.418** (0.027)
Share Foreign-born	-	-0.418** (0.024)	-0.418** (0.024)	-0.417** (0.023)
Average Education in WP	-	0.002	0.002	0.002

			(0.004)	(0.004)	(0.004)
Workplace diversity	-	-0.335**	(0.023)	0.335**	-0.333**
			(0.023)	(0.023)	(0.023)
Workplace location	-	0.029	(0.052)	0.029	0.009
diversity			(0.052)	(0.052)	(0.052)
Year	0.003*	0.031**	(0.001)	0.030**	0.030**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
N	189,168	83,178	83,178	83,178	83,178
Sample Selection Lambda	-	0.511**	-	-	-
Wald Chi 2	12,765**	-	-	-	-
R2	-	-	-	-	0.161