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When are ghettos bad? Lessons from immigrant segregation in the United States

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Abstract

Recent studies provide conflicting evidence on the connection between ethnic or racial neighborhood segregation and outcomes. Some studies find that residence in an enclave is beneficial, some reach the opposite conclusion, and still others imply that any relationship is small. One hypothesis is that studies differ because the impact of segregation varies across groups, perhaps because its impact is more benign for better-educated groups. This paper presents new evidence on this hypothesis using data on first-generation immigrants in the United States. We confront the endogenous selection into residential enclaves and find that selection into enclave neighborhoods is on balance negative. Correcting for this selection produces positive mean effects of segregation, and a positive correlation between group average human capital and the impact of segregation.

1. Introduction

Over the past decade, social scientists have devoted a considerable amount of effort to identifying the effect of neighborhood-level factors on individual outcomes. The continued interest in identifying "neighborhood effects" reflects their potential importance to public policy, the econometric difficulties associated with identifying such effects in non-experimental data, and the inconclusive—indeed, sometimes contradictory—findings reported in literature to date.[1]

This paper uses Census public-use and restricted-access microdata to study the impact of one neighborhood-level characteristic, ethnic concentration, on the educational and labor market outcomes of young immigrants in the United States. The outcomes considered include the English-speaking ability of youth, school attendance for youth aged 16–18, the logarithm of earnings, and the likelihood of being neither employed nor in school, which we refer to as idleness.

Previous studies of ethnic or racial concentration have found varying results. Cutler and Glaeser (1997) find significant negative relationships between segregation and outcomes for African-Americans in 1990. Later studies have found either no association or a reversed relationship, using earlier data on African-Americans (Collins and Margo, 2000) or quasi-experimental evidence on immigrants in Sweden (Edin et al., 2003).

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[1] For a recent review of the literature on neighborhood effects, see Ellen and Turner (1997) and Vigdor (2006).

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One goal of this paper is to potentially reconcile these disparate findings, by examining whether the impact of ethnic or racial concentration on outcomes depends on the average human capital of the group in question. Such a relationship is consistent with Borjas (1995) study of ethnic capital, and has been found in historical data on immigrants in the United States (Cutler et al., 2005).

Beyond reporting the impact of ethnic concentration in simple OLS specifications, we pursue several strategies for addressing the concern of endogenous selection into neighborhoods. First, we use MSA and ethnic group fixed effects, implying that systematic variation across groups or across metropolitan areas are not used to identify effects of interest. Our models effectively compare ethnic communities that are more concentrated relative to the MSA-level average than is typical for their group to those that are less concentrated.

Second, we instrument for neighborhood concentration using an imputed variable, equal to the concentration level predicted using the distribution of individuals by occupation across tracts in an MSA, and the distribution of immigrant group members across occupations nationwide. Concentration is predicted to be high when a tract houses a large number of individuals working in occupations typical of the immigrant group in question. While this instrument is a strong predictor of neighborhood concentration, results reported below raise concerns that it may also be correlated with unobserved determinants of the outcomes in question.

Our third strategy involves substituting metropolitan-level average concentration measures, in the form of segregation indices, for potentially endogenous neighborhood-level characteristics. This strategy follows the logic of previous studies of neighborhood-level impacts on individual behavior and labor market outcomes (Evans et al., 1992; Cutler and Glaeser, 1997). It produces consistent estimates of neighborhood-level effects under the assumption that individuals endogenously sort within metropolitan areas but not across them. To address this concern, our fourth strategy introduces an instrument for the segregation indices, the mean number of years since immigration for group members in a particular MSA. More recently arrived groups tend to be less segregated. We control directly for an individual's years since immigration, which should directly capture any assimilation effects. We also control for average group age and education level in the second stage regression.[2]

Results point towards a relationship between segregation and outcomes that can reconcile some earlier findings. The results are consistent with a pattern of negative selection into enclave neighborhoods, which obscures a positive mean impact of ethnic concentration on immigrant outcomes. This mean impact, in turn, obscures important variation in the effect of concentration: measured directly or with segregation indices, concentration tends to have more beneficial effects for groups with higher levels of average human capital (Borjas, 1995; Edin et al., 2003; Cutler et al., 2005).

While our motivation to study immigrant ghettos in the United States clearly relates to a desire to understand the mechanisms underlying ethnic and racial concentration effects more generally, we should also note that there is a compelling specific reason to study this population at this time. As Fig. 1 indicates, immigrant segregation has been rising in the United States since the mid-twentieth century. Cutler et al. (in press) show that only a small portion of this increase can be attributed to changing characteristics of immigrants themselves; a larger portion relates to the changing form of American cities and the tendency for immigrants to participate less fully in the process of suburban sprawl. Rising segregation need not be a public policy concern if segregation has few or no negative consequences. Results presented here suggest that at least in some cases, such a sanguine view is not warranted.

Section 2 discusses the potential benefits and costs of ethnic concentration. Section 3 reviews our sources of data and methods. Section 4 presents results, and Section 5 concludes.

2. How might ghettos impact immigrants?

The study of racial and ethnic residential enclaves, and their potential impacts on residents, has long been an area of emphasis in the social sciences (Dubois, 1899; Glazer and Moynihan, 1963; Lieberson, 1980; Zunz, 1982). Much of this literature has been motivated by the hypothesis that ethnic groups, particularly economically marginalized ones, may suffer harm if their residential enclaves are not proximate to areas of job growth, or to areas populated by more well-off members of other groups (Kain, 1968). More recent literature has offered a number of arguments and theoretical models considering the potential impacts of

[2] As discussed below, if we violate the exclusion restriction in spite of these efforts, the expected impact is to bias the results of the IV regressions towards OLS. Results will reveal significant differences between OLS and IV specifications.

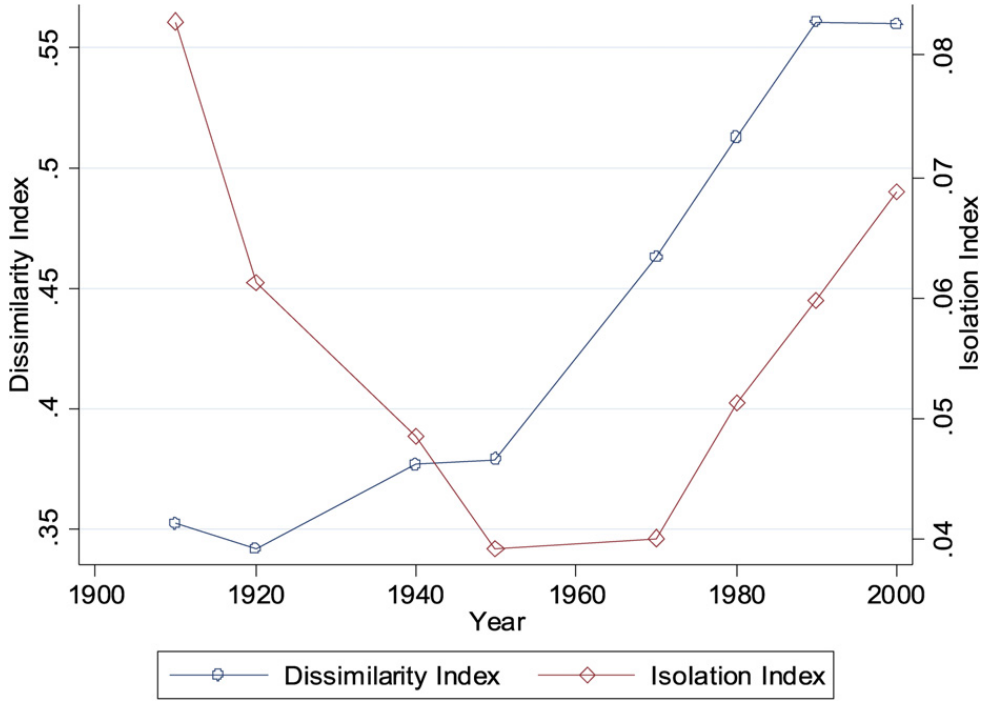

Fig. 1. Dissimilarity and Isolation, 1910–2000. Observations are weighted averages of statistics for immigrant communities, with weights equal to the number of immigrants in the community.

segregation (Cutler and Glaeser, 1997; Borjas, 1995; Edin et al., 2003). In this section, we briefly review the hypothesized benefits and costs of enclave residence.

2.1. *The benefits of segregation*

Residence in an enclave community might have beneficial impacts on immigrant's income and consumption possibilities. Ethnic density may foster the formation of group-specific networks that provide access to employment opportunities and transportation (Bayer et al., 2006). Residential concentration may also be necessary for groups to form a critical mass necessary to support group-specific commercial enterprises or community institutions (Waldfogel, 2003). Generally speaking, the benefits associated with segregation can be thought of as reducing the costs of assimilation to the host society, primarily by making that process less necessary to economic success.

2.2. *The costs of segregation*

While many of the benefits associated with residence in an enclave are immediate in nature, many of the hypothesized costs accrue over a longer period of time. Enclave communities are often located in older residential areas, further from suburban areas of job growth in most MSAs. Thus, while the availability of employment and transportation networks may assist immigrants in the short run, the relative difficulty of expanding beyond these networks could cause harm in the long run. This hypothesized impact relates to the spatial mismatch hypothesis (Kain, 1968), long discussed as a possible mechanism linking racial segregation to poor labor market outcomes for African-Americans.

Because of their tendency to be located in older neighborhoods, ethnic enclaves are disproportionately likely to be served by relatively strained central city or inner-ring suburb governments. Lower quality of local public goods, particularly primary and secondary education, may have a strong negative impact on family welfare, albeit one only observed with a significant time lag. Other local disamenities, such as crime, may impact immigrants more immediately. Cutler et al. (in press) show evidence that the availability of one locally-provided public good, transit, may play a disproportionate role in immigrant location decisions. To the extent that investments in transit crowd out other categories of public expenditure, enclave residents may suffer in the long run.

Beyond these costs associated with physical location of the ghetto, isolated immigrants may more generally exhibit reduced rates of economic and cultural assimilation. Exposed disproportionately to people like themselves, group members may retain group characteristics for a longer period of time. For less-educated or lower-

skilled immigrant groups, this implies lower future income for present and future generations. For higher-skilled groups, of course, isolation from the less-skilled majority may actually be beneficial. The impact of segregation on human capital accumulation quite possibly depends on the characteristics of the segregated group (Borjas, 1995; Edin et al., 2003; Cutler et al., 2005).

2.3. Challenges associated with causal inference

Given the presence of short-term benefits and longer-term costs, an immigrant's optimal strategy may be to locate in an enclave community initially, then move out once a certain amount of assimilation has taken place. Indeed, empirical evidence supports the notion that immigrants tend to reduce their degree of isolation as they spend more time in the host country (Cutler et al., in press, see also the first-stage regressions in Appendix Table 1).

In response to this concern, researchers have adopted an array of techniques, including simple bounds analyses (Solon et al., 2000; Page and Solon, 2003), propensity score matching methods (Harding, 2003), instrumental variables (Cutler and Glaeser, 1997), quasi- or "natural" experiments (Aaronson, 1998; Oreopoulos, 2003; Jacob, 2004), and actual randomized controlled trials (Kling and Liebman, 2005, see Vigdor (2006), for a review of recent literature on neighborhood effects).

One strategy of particular interest in this application, introduced by Evans et al. (1992), is the substitution of a metropolitan-level measure for a neighborhood-level measure. This strategy operates under the assumption that individuals may sort endogenously into neighborhoods, but are constrained in their choices by the set of neighborhoods available in the area where they live.[3] In metropolitan areas without ethnic enclaves, members of an immigrant group cannot choose to reside in one. This introduces potentially useful variation in the degree of ethnic concentration experienced by immigrants, but only to the extent that immigrants do not sort endogenously across metropolitan areas. This is a serious concern; assimilation may lead immigrants not only to leave enclave neighborhoods, but move away from metropolitan areas with enclaves to cities or smaller towns where no enclave exists.[4] Even in metropolitan-level specifications, then, steps may be necessary to isolate exogenous variation in the average ethnic concentration experienced by immigrant groups. We describe our empirical strategies for addressing these concerns in more detail in the following section.

3. Data and methods

3.1. Basic information

Our study of immigrant segregation and outcomes makes use of information collected in the US Decennial Census enumeration of 1990.[5] The Census contains information on country of birth for all foreign-born residents; we use this information to categorize immigrants by country of origin.[6] Socioeconomic outcome measures derived from the Census include the logarithm of earned income in 1989, and indicators for whether an individual was either gainfully employed or enrolled in school in the week prior to the enumeration. These outcome variables mirror those used in Cutler and Glaeser (1997).[7] As in that earlier paper, we restrict our attention to individuals between 20 and 30 years of age at the time of the enumeration, under the hypothesis that this group is more likely to have their residential location assigned by parental choice, rather than their own individual choice. This hypothesis is admittedly more credible

[3] A second assumption, common to all forms of instrumental-variable analysis, is that the metropolitan level variable has no association with individual outcomes except by influencing neighborhood-level variables.

[4] There is much anecdotal evidence, for example, regarding the movement of Chinese immigrants first to large urban centers with established enclaves, and then to smaller towns. See Lim, Peggy, "Slain Immigrant Lived a Dream, Briefly," *Raleigh News and Observer*, August 5, 2007.

[5] We use 1990 data here primarily for purposes of comparability with (Cutler and Glaeser, 1997). Analyses completed with 2000 Census data, available from the authors on request, show similar patterns to those presented here.

[6] The Census does not collect information on citizenship for foreign-born residents. There is some concern that the Census severely undercounts immigrants, particularly undocumented or "illegal" immigrants. We imagine that undocumented immigrants have relatively poor socioeconomic outcomes and have a disproportionate tendency to locate in immigrant enclaves. Thus, excluding these individuals from our sample should have the impact of reducing any estimated negative relationship between locations and outcomes. We hesitate to refer to our coefficients as biased, however, since much of the change in coefficients associated with including undocumented immigrants would doubtlessly represent selection bias rather than any true treatment effect.

[7] Cutler and Glaeser (1997) also analyze single motherhood as an outcome variable. We do not report such an analysis because of cell size requirements associated with restricted-access Census microdata. Analysis of segregation and single motherhood using public-access Census data shows no significant mean effect in either OLS or IV specifications. There is a significant relationship in interacted IV specifications, indicating that segregation is associated with higher rates of single motherhood only in less-educated groups. This is consistent with findings reported in Section 4 below.

Table 1
Outcome regression descriptive statistics, IPUMS 1990

Dependent variables	*N*	Mean	SD	Min	Max
English ability	14137	0.953	–	–	–
School enrollment	5637	0.791	–	–	–
Teen mother	5636	0.068	–	–	–
Single mother	14293	0.130	–	–	–
Wage income (logged)	22564	9.166	0.988	0.693	12.185
Idle	30584	0.208	–	–	–
Covariates					
Isolation	4101	0.006	0.017	0	0.234
Dissimilarity	4101	0.225	0.321	0	0.980
Immigrant share	4101	0.002	0.010	0	0.228
Mean age	4101	38.109	11.324	2	90
Mean years in US	4101	15.13	8.098	51	0
Mean education	4101	9.904	2.115	1	17
Entered 1987–1990	46831	0.239	–	–	–
1985–1986	46831	0.138	–	–	––
1982–1984	46831	0.136	–	–	––
1975–1981	46831	0.316	–	–	––
1960–1974	46831	0.171	–	–	––
Education	46831	8.367	3.458	1	17
Age	46831	21.706	5.916	9	30
Female	46831	0.471	–	–	–
Black	46831	0.070	–	–	–
Other non-white	46831	0.754	–	–	–

in the case of African-Americans, many of whom reside in their place of birth, than in the case of immigrants, who by definition live outside their place of birth. We discuss additional methods of addressing selection bias below.

In addition to these outcome measures, we examine three variables pertaining to younger immigrants. For children between the ages of 9 and 18, we analyze the probability of both speaking and writing English well. For children between 16 and 18 years of age, we consider the decision to enroll in school. Finally, for females 13 to 19 years old, we analyze the propensity to be a teenage mother. Summary statistics for these outcome variables and for the individual-level covariates controlled for in our analysis appear in Table 1.

3.2. Measuring ethnic concentration

There are many ways to measure segregation and ethnic concentration, and social scientists continue to find new, and arguably superior, ways to quantify both constructs (Massey and Denton, 1988; Echenique and Fryer, 2007).[8] The most straightforward measure of ethnic concentration is an ethnic group's share of the population in a neighborhood. To operationalize the concept of neighborhood, we use Census tracts, which average 4000 residents each though population size varies. Arguments can be made for using either larger or smaller geographic areas as the unit of analysis; tracts have the advantage that they are defined consistently throughout the country and have a rich array of demographic data available for analysis in public use summary files.

As a metropolitan area-level measure of average ethnic concentration, we use two segregation indices, both of which are described in detail in Cutler et al. (1999). The dissimilarity index, D, is defined as:

$$D = \frac{1}{2}\sum_i \left| \frac{group_i}{group_{\text{total}}} - \frac{non\text{-}group_i}{non\text{-}group_{\text{total}}} \right| \tag{1}$$

where $group_i$ denotes the number of relevant immigrant group members living in neighborhood i, $group_{\text{total}}$ the number living in the entire city or metropolitan area, and $non\text{-}group_i$ and $non\text{-}group_{\text{total}}$ are similarly defined for residents not belonging to the group in question. Dissimilarity equals zero in situations where a group forms an equal share of the population in all neighborhoods, and equals one when a group resides exclusively in neighborhoods where no non-group members live. Between these extremes, the dissimilarity index can be interpreted as the share of group members (or non-group members) that would have to switch neighborhoods in order to achieve an even distribution across the MSA.

While it possesses an intuitive interpretation, the dissimilarity index can easily be criticized (see, for example, Echenique and Fryer, 2007). Among other criticisms, the dissimilarity index can record a group as being highly segregated even in situations where group members have extensive neighborhood-level exposure to non-group members. A group located exclusively in one neighborhood that only forms 10% of the population in that neighborhood, for example, would have a dissimilarity value close to one in a large MSA. This property in particular renders the dissimilarity index an imperfect measure of the average degree of ethnic concentration experienced by members of an immigrant group in a metropolitan area. While many alternative indices have been proposed that lack this undesirable property, our past work (Cutler et al., 1999) focuses on

[8] Many recent innovations in the measurement of segregation involve the use of multigroup indices. These indices describe the general level of integration or segregation in a community as a whole. They are not appropriate for use in this analysis, as we wish to ascribe a segregation level to an individual group within a community, rather than to a community as a whole. The use of MSA-fixed effects in our analysis make it impossible to estimate the mean impact of MSA-level multigroup segregation.

one in particular, the isolation index. Isolation is defined as follows:

$$I = \frac{\sum_i \frac{group_i}{group_{\text{total}}} \times \frac{group_i}{population_i} - \frac{group_{\text{total}}}{population_{\text{total}}}}{\min\left(1, \frac{group_{\text{total}}}{population_{\text{smallest}}}\right) - \frac{group_{\text{total}}}{population_{\text{total}}}} \quad (2)$$

where $group_i$ and $group_{\text{total}}$ are defined as above, $population_i$ and $population_{\text{total}}$ represent the overall population in tract i and the entire city or metropolitan area, and $population_{\text{smallest}}$ is the population of the neighborhood with the fewest residents in the city or metropolitan area. At the extremes, isolation and dissimilarity take on the same values, zero and one. At intermediate values, isolation measures the extent to which the neighborhood-level group share experienced by the average group member exceeds the level that would be expected under perfect integration. It is thus a measure more closely related to the ethnic concentration experienced by the typical member of a group. Our analysis uses both dissimilarity and isolation in order to check the sensitivity of our conclusions to the form of index used. As will be seen below, the results are generally not sensitive to the choice of segregation index.

Figure 1 displays the time pattern of immigrant segregation since 1910, using the two indices defined above. The plotted values are averages of immigrant group/city specific observations, weighted by the number of group members in the city in the indicated year. Both dissimilarity and isolation have been rising over the past several decades, though the 1990s witnessed relative stability in dissimilarity levels. Cutler et al. (in press) analyze the time series and cross-sectional variation in immigrant segregation over this time period.[9] As pointed out above, there has been a substantial increase in immigrant segregation over the past several decades. Summary statistics for immigrant segregation indices used in the analysis below appear in Table 1.

3.3. Addressing selection bias

Section 2.3 above discusses the primary threats to causal interpretation in the study of ethnic concentration. Here we outline our efforts to address these threats.

[9] The time-series plots in Fig. 1 omit segregation values for 1930 and 1960. Census data for those years lack neighborhood-level counts of the foreign born by country of origin, which are necessary to compute the indices. The divergent nature of segregation trends prior to 1950 reflect the differences in index interpretation described in the text. Over this time period, immigrants became somewhat more separated from the population at large even as the neighborhoods they occupied became less ethnically concentrated. For further analysis of segregation trends over time, see Cutler et al. (in press).

First, we present results that incorporate both MSA and country-of-origin fixed effects. With these fixed effects in place, our effects of interest are identified from variation in the extent of segregation for immigrant groups residing in the same city, except for that variation that stems from differences in the average segregation level across groups. These fixed effects eliminate many potential sources of bias. For example, one common concern is that immigrant enclaves tend to be located in older MSAs with a heavier reliance on manufacturing industry, public transit, and the like. These characteristics may in turn predict worse (or better) outcomes for immigrants. Fixed effects eliminate this concern. A second example would be a concern that a particularly uneducated immigrant group shows a tendency to form residential enclaves wherever they locate, and its members experience poor outcomes regardless of the actual concentration level. This concern is also addressed with the fixed effects strategy.

The fixed-effects strategy is certainly not flawless. If immigrants with unobserved skill levels lower than their group-level average tend to sort into ethnically concentrated environments, wherever they may be, then selection bias will still influence our estimates. Thus, while we believe the fixed effects strategy addresses many selection concerns, it does not address all of them.

Our second strategy is to employ instrumental variable (IV) strategies in specifications examining tract-level ethnic concentration. A successful IV research design involves one or more variables that influence concentration but have no other statistical relationship, causal or otherwise, with the dependent variable. We instrument for concentration with a simulated measure that takes the total number of group members in an MSA, the distribution of non-group members, the nationwide distribution of occupations for each group, and the MSA-specific distribution of individuals by occupation across tracts as given. A predicted concentration level is computed for each group in each tract according to the following formula:

$$\text{Predicted group size} = p_{ij} R_i O_j \quad (3)$$

where Predicted group size is a t by 1 vector of the simulated number of group members in tracts indexed t, p_{ij} is a (scalar) measure of group j's population in MSA i, R_i is a t by k matrix listing the share of persons with occupation k residing within each of the t tracts, and O_j is a k by 1 vector of the distribution of group j members across the k occupations. The predicted tract share is then computed by dividing predicted group size by the sum of predicted group size and the actual number of non-group members in the tract. As a simple exam-

ple, consider a hypothetical immigrant group, composed entirely of farm laborers throughout the United States. The predicted group size in tract t in metropolitan area i is the population of this group in the metropolitan area multiplied by the fraction of farm laborers (of any nationality) in the area who live in tract t. The extension to multiple occupations is straightforward. Appendix Table 1 lists representative first stage regression specifications utilizing this instrument; in general it is a very strong predictor of actual group share. Immigrants tend to locate in neighborhoods that house individuals of similar skill levels.

Our third strategy, described in general terms in Section 2.3 above, substitutes a metropolitan-level measure of average ethnic concentration for the neighborhood-level measure. As discussed above, this strategy yields consistent estimates to the extent that endogenous sorting takes place within but not between metropolitan areas. We use the segregation measures described in Section 3.2 above as metropolitan-level measures of average ethnic concentration.

Finally, to address concerns that endogenous sorting may take place across metropolitan areas and not just between them, we instrument for segregation with a measure of the mean years since immigration for members of a country-of-origin group within a city. There are two primary concerns regarding the exclusion restriction for these models. First, years since immigration can be considered a measure of assimilation, which could directly impact outcomes. To address this, we control separately in the regression for an individual immigrant's own years since immigration. A second concern is that employers or other agents may statistically discriminate against members of a group on the basis of average group characteristics, including years since immigration. To address this concern, we control directly for two other city/group level characteristics that are arguably more likely to inspire statistical discrimination: average age and average education levels. Age is more directly observable than years since immigration, and education is a more reliable predictor of an individual's skill level. Representative first stage regression specifications are reported in Appendix Table 1. Immigrant groups tend to be significantly less segregated as they spend more time in the United States.[10]

Using multiple, overlapping strategies for addressing selection bias provides us with some ability to check the assumptions underlying each of them individually. As will be seen below, the overall pattern of results is consistent with the existence of negative selection into enclave neighborhoods, and suggests that the exclusion restriction associated with our instrument for neighborhood-level ethnic concentration is not satisfied.

4. Results

4.1. Direct estimates of the impact of neighborhood group share

Table 2 presents an analysis relating the neighborhood-level ethnic concentration experienced by foreign-born residents of the United States to a series of educational and labor market outcomes, using 1990 restricted-access Census microdata. These specifications employ both metropolitan area and country-of-origin fixed effects. Each specification controls simultaneously for group share at the metropolitan area and census tract levels. The coefficient on tract-level group share thus represents the impact of increasing ethnic concentration in a neighborhood while holding the composition of the overall metropolitan population constant.

Results indicate that youth residing in an ethnically concentrated neighborhood are both less likely to be fluent in English between the ages of 9 and 18, and more likely to be enrolled in school between the ages of 16 and 18. These mixed results might occur because school districts devote more resources to bilingual education in ethnically concentrated neighborhoods. There is admittedly little data to test this assertion. Educational outcomes are generally better among older immigrants, those with more years in the United States, and those residing in more-educated immigrant communities.

Labor market outcomes, including income and the likelihood of being both out of school and out of work, are significantly worse among 20–30 year olds residing in more ethnically concentrated neighborhoods. Interestingly, the effect of tract-level concentration is almost exactly offset by the impact of MSA-level concentration. Increases in exposure to fellow group members rooted in increases in the MSA-level group share thus have no significant impact on labor market outcomes. Increases in exposure not linked to MSA-level changes have a detrimental impact. One interpretation of this

[10] One might still maintain that the group's average years since immigration correlates with some unobserved individual characteristic. The most likely scenario, arguably, is that immigrants belonging to groups with more years since immigration are unobservably more assimilated, and should hence have more positive economic outcomes. In this scenario, the IV results would reflect a bias toward the OLS results, as its central implication—that residents of less segregated communities are unobservably predisposed to superior outcomes—is identical to the fundamental concern regarding OLS.

Table 2
Tract-level group share and outcomes: Results with MSA and country-of-origin fixed effects

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Group share of tract population	−0.076***	0.038***	−0.195***	0.048***
	(0.006)	(0.006)	(0.033)	(0.006)
Group share of MSA population	0.027	0.057	0.199**	−0.070**
	(0.024)	(0.069)	(0.082)	(0.033)
Year of entry 1985–1986	0.180***	0.120***	0.274***	−0.052***
	(0.017)	(0.002)	(0.011)	(0.004)
Year of entry 1982–1984	0.228***	0.186***	0.328***	−0.068***
	(0.025)	(0.008)	(0.008)	(0.005)
Year of entry 1980–1981	0.241***	0.236***	0.378***	−0.093***
	(0.023)	(0.019)	(0.017)	(0.003)
Year of entry 1975–1979	0.273***	0.257***	0.444***	−0.098***
	(0.023)	(0.012)	(0.020)	(0.003)
Year of entry 1970–1974	0.278***	0.228***	0.504***	−0.098***
	(0.023)	(0.014)	(0.026)	(0.002)
Year of entry 1965–1969	–	–	0.592***	−0.094***
			(0.029)	(0.005)
Year of entry 1960–1964	–	–	0.713***	−0.095***
			(0.042)	(0.003)
Education	0.041***	0.079***	0.029***	−0.021***
	(0.001)	(0.003)	(0.002)	(0.001)
Age	−0.032***	−0.169***	0.043***	0.002***
	(0.001)	(0.003)	(0.005)	(0.001)
Female	−0.005***	−0.002	−0.397***	0.286***
	(0.001)	(0.003)	(0.015)	(0.018)
Black	0.011*	−0.006	−0.025	0.025**
	(0.007)	(0.016)	(0.046)	(0.013)
Other non-white	−0.026*	−0.033	−0.006	−0.007**
	(0.016)	(0.032)	(0.024)	(0.003)
Average age of group members	−0.00001	−0.001	−0.001	0.002*
in MSA	(0.0004)	(0.001)	(0.001)	(0.001)
Average education of group	0.003*	0.018***	0.051***	−0.004
members in MSA	(0.002)	(0.006)	(0.012)	(0.003)
R^2	0.2242	0.3064	0.1452	0.1449
N	193,916	99,235	408,897	552,513

Notes. Standard errors, in parentheses, have been adjusted to reflect within group/tract clustering. Sample consists of foreign-born Census respondents.

* Significance at the 10% level.
** Idem, 5%.
*** Idem, 1%.

finding is that immigrants have more success in the labor market when they have an ethnic network that extends beyond the geographic confines of their neighborhood. If this is the case, it suggests that one of the assumptions inherent in the use of MSA-level variables to instrument for neighborhood-level variables is violated. Labor market outcomes are predictably better among more educated and older immigrants, those with more time in the United States, and males. Immigrants from more educated communities tend to earn more but are not more likely to be employed.

There are serious threats to causal interpretation of the coefficient estimates in Table 2. While these regressions control for a number of individual characteristics, as well as MSA and group fixed effects, individual sorting on unobservables into neighborhoods with varying ethnic concentration could still produce inconsistency here. In Table 3, we provide instrumental variable estimates that essentially exploit the tendency for American metropolitan areas to be economically segregated, and for immigrant groups to form an unrepresentative socioeconomic sample of the broader population.

In three of four IV specifications, point estimates indicate that ethnic concentration has a more harmful or less beneficial effect than that reported in OLS. The predicted impacts on English ability and earnings

Table 3
Tract-level group share and outcomes: Instrumental Variable specifications

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Group share of tract population	−0.103***	0.030	−0.274***	0.003
	(0.012)	(0.020)	(0.054)	(0.027)
Group share of MSA population	0.055**	0.065	0.199**	−0.025
	(0.026)	(0.072)	(0.082)	(0.042)
Year of entry 1985–1986	0.180***	0.120***	0.274***	−0.052***
	(0.017)	(0.002)	(0.011)	(0.004)
Year of entry 1982–1984	0.228***	0.186***	0.328***	−0.068***
	(0.025)	(0.008)	(0.008)	(0.005)
Year of entry 1980–1981	0.242***	0.236***	0.378***	−0.093***
	(0.023)	(0.019)	(0.017)	(0.003)
Year of entry 1975–1979	0.273***	0.257***	0.444***	−0.098***
	(0.023)	(0.012)	(0.020)	(0.003)
Year of entry 1970–1974	0.278***	0.228***	0.505***	−0.098***
	(0.023)	(0.014)	(0.026)	(0.003)
Year of entry 1965–1969	–	–	0.591***	−0.094***
			(0.029)	(0.005)
Year of entry 1960–1964	–	–	0.710***	−0.096***
			(0.042)	(0.004)
Education	0.041***	0.079***	0.029***	−0.021***
	(0.001)	(0.003)	(0.002)	(0.001)
Age	−0.032***	−0.169***	0.043***	0.002***
	(0.001)	(0.003)	(0.005)	(0.001)
Female	−0.005***	−0.002	−0.397***	0.286***
	(0.001)	(0.003)	(0.015)	(0.017)
Black	0.010*	−0.006	−0.026	0.023**
	(0.006)	(0.016)	(0.045)	(0.012)
Other non-white	−0.026	−0.033	−0.004	−0.005**
	(0.016)	(0.032)	(0.023)	(0.004)
Average age of group members	−0.000001	−0.001	−0.001	0.002∗
in MSA	(0.0004)	(0.001)	(0.001)	(0.001)
Average education of group	0.003*	0.018***	0.051***	−0.004
members in MSA	(0.002)	(0.006)	(0.012)	(0.003)
R^2	0.2241	0.3064	0.1451	0.1447
N	193,916	99,235	408,897	552,513

Notes. Standard errors, in parentheses, have been adjusted to reflect within group/tract clustering. Sample consists of foreign-born Census respondents.

* Significance at the 10% level.
** Idem, 5%.
*** Idem, 1%.

have worsened, and the coefficient on enrollment among 16–18 year olds is diminished and no longer statistically significant. Neighborhood-level concentration is no longer associated with a higher likelihood of being idle; MSA-level concentration is also no longer associated with a lower likelihood of being idle. Accepting a causal interpretation of these coefficients, they indicate that residence in an ethnic enclave is on average detrimental to immigrants, and that some portion of this effect is obscured by the tendency for unobservably more-able immigrants to sort into these neighborhoods. This is not necessarily the expected sign of bias. Further analysis using segregation indices as proxies for neighborhood-level ethnic concentration promises to shed more light on this issue.

Not all ghettos have the same impact on their residents: this is the simple logical conclusion of existing research on the subject, which has found a combination of positive, negative, and null impacts. Following previous work on the subject, Table 4 presents results of both OLS and IV specifications that interact tract-level group share variables with group mean education levels, utilizing restricted-access Census microdata. In this table, dependent variables appear in rows and each pair of columns represents a different regression specification. The first coefficient reported in each pair is the main ef-

Table 4
Testing for heterogeneity in the effect of tract share

Dependent variable	OLS/Fixed effects		IV	
	Main effect	Interaction	Main effect	Interaction
English ability	−0.285***	0.038***	−0.234***	0.024***
	(0.031)	(0.006)	(0.012)	(0.008)
School enrollment	0.090*	−0.010	0.018	0.002
	(0.053)	(0.010)	(0.073)	(0.012)
ln(earnings)	−0.008	−0.034	−0.623***	0.063**
	(0.168)	(0.029)	(0.222)	(0.032)
Idle	0.088**	−0.007	0.210*	−0.038**
	(0.043)	(0.008)	(0.125)	(0.018)

Notes. Main effect is the coefficient on tract share in each specification. Interaction term is between tract share and the mean education level of immigrants of the same nationality within the same metropolitan area. Standard errors, corrected for within-tract/group clustering, in parentheses.

* Significance at the 10% level.
** Idem, 5%.
*** Idem, 1%.

fect of group share, the second is the coefficient on the interaction of group share with the average education level variable included as a covariate in earlier analyses. In IV specifications, both the main effect and interaction are instrumented for, using the occupation-based predicted group size variable described in Section 3.3 and its interaction with group average education. The main effect can thus be interpreted as the impact of group share on an immigrant group where the mean level of education is zero. This is clearly an out-of-sample prediction, hence the main effect should not be considered in isolation. The interaction term identifies the change in the marginal impact of group share associated with a one-year increase in average education levels.

Coefficients derived from OLS specifications with MSA and country-of-origin fixed effects are generally inconclusive. Interaction terms are insignificant in three of four specifications, and main effects suggest widely varying impacts of ethnic concentration on outcomes for low-skilled immigrant groups. Instrumental variable estimates present a more consistent picture. In three of four specifications, neighborhood-level ethnic concentration displays a statistically significant moderated relationship with individual outcomes, with more negative effects occurring among groups with lower average education levels. Among low skilled groups, ethnic concentration is associated with lower English fluency, lower earnings, and higher rates of idleness. These associations weaken as the skill level of the group increases. Around the population average of 10 years of education, implied effects are close to zero in all cases.

4.2. Using segregation as a proxy for group share

Table 5, panels A and B, presents analyses of the impact of dissimilarity and isolation, respectively, on immigrants' educational and labor market outcomes. As in Table 2, these specifications incorporate MSA and country-of-origin specific fixed effects. They also include controls for MSA-level group share, so that coefficients on segregation indices can be interpreted as the impact of reductions in a group's exposure to nonmembers, holding population share constant. Unlike the preceding tables, these regressions employ public-use Census microdata, as neighborhood identifiers are not needed.

In these specifications, dissimilarity shows no relationship with educational outcomes, predicts significantly lower earnings and a significantly lower probability of being idle. The combination of labor market results might reflect the fact that ethnic concentration enables less-skilled members of a group to find employment, simultaneously increasing employment rates and reducing earnings. Metropolitan area-level group share predicts lower English ability, a higher likelihood of being enrolled in school, and significantly higher earnings. The mixed educational results could once again be explained by the selective availability of bilingual education programs; the significant earnings impact could reflect network effects that are offset to some extent by spatial mismatch, as measured by the dissimilarity index.

As discussed in Section 3.2 above, the isolation index may be a better measure of metropolitan-level ethnic concentration. Table 4, panel B reveals that isolation is significantly associated with only one of four outcomes considered, the English-speaking ability of children belonging to the group. In contrast to the results in Tables 2 and 3, however, the estimated impact is positive rather than negative. The negative impact observed in those earlier tables appears to load onto a covariate in this specification, the metropolitan level group share. The group share variable also predicts significantly higher rates of enrollment, as it has in prior specifications.

Before attempting to explain the differences in results between specifications using neighborhood- and metropolitan-level measures of ethnic concentration, it is worthwhile to recall that the estimates in Table 5, panels A and B, are potentially subject to sorting bias. Table 6, panels A and B, reports estimates employing the instrument for segregation discussed in Section 3.3 above, the mean number of years since immigration for members of the immigrant group residing in a metropol-

Table 5
Panel A: Dissimilarity and outcomes: Results with MSA and country-of-origin fixed effects

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Dissimilarity index	0.017	−0.021	−0.225*	−0.064**
	(0.036)	(0.069)	(0.120)	(0.033)
Group share of MSA population	−0.201***	0.427***	0.755***	−0.003
	(0.071)	(0.170)	(0.293)	(0.099)
Year of entry 1985–1986	0.167***	0.095***	0.262***	−0.056***
	(0.021)	(0.012)	(0.013)	(0.005)
Year of entry 1982–1984	0.232***	0.220***	0.263***	−0.072***
	(0.031)	(0.029)	(0.010)	(0.005)
Year of entry 1975–1981	0.269***	0.254***	0.406***	−0.081***
	(0.033)	(0.014)	(0.021)	(0.006)
Year of entry 1960–1974	0.265***	0.267***	0.548***	−0.113***
	(0.031)	(0.019)	(0.023)	(0.007)
Education	0.044***	0.078***	0.031***	−0.021***
	(0.001)	(0.002)	(0.003)	(0.001)
Age	−0.037***	−0.187***	0.041***	0.004***
	(0.002)	(0.015)	(0.007)	(0.001)
Female	0.006**	−0.009	−0.417***	0.298***
	(0.002)	(0.006)	(0.022)	(0.021)
Black	0.055**	−0.058	−0.055	0.046
	(0.025)	(0.048)	(0.058)	(0.030)
Other non-white	−0.010	0.017	−0.107	−0.030*
	(0.023)	(0.038)	(0.186)	(0.016)
Average age of group members in MSA	−0.002**	−0.004	−0.002	0.001
	(0.001)	(0.003)	(0.005)	(0.001)
Average education of group members in MSA	0.004	0.008	0.032	−0.003
	(0.006)	(0.012)	(0.021)	(0.006)
R^2	0.2468	0.3685	0.1499	0.1482
N	14137	5637	22564	30584

Panel B: Isolation and outcomes: Results with MSA and country-of-origin fixed effects

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Isolation index	0.232**	−0.188	0.250	0.133
	(0.107)	(0.202)	(0.512)	(0.204)
Group share of MSA population	−0.348***	0.614***	0.709	−0.053
	(0.085)	(0.195)	(0.515)	(0.161)
Year of entry 1985–1986	0.167***	0.095***	0.262***	−0.056***
	(0.021)	(0.012)	(0.013)	(0.005)
Year of entry 1982–1984	0.232***	0.220***	0.263***	−0.072***
	(0.031)	(0.029)	(0.010)	(0.005)
Year of entry 1975–1981	0.269***	0.254***	0.406***	−0.080***
	(0.033)	(0.014)	(0.021)	(0.006)
Year of entry 1960–1974	0.265***	0.267***	0.548***	−0.113***
	(0.031)	(0.019)	(0.023)	(0.007)
Education	0.044***	0.078***	0.031***	−0.021***
	(0.001)	(0.002)	(0.003)	(0.001)
Age	−0.037***	−0.187***	0.041***	0.004***
	(0.002)	(0.015)	(0.007)	(0.001)
Female	0.006**	−0.009	−0.417***	0.289***
	(0.002)	(0.006)	(0.022)	(0.021)
Black	0.055**	−0.058	−0.054	0.046
	(0.025)	(0.048)	(0.058)	(0.030)

(*continued on next page*)

Table 5 (*continued*)
Panel B: Isolation and outcomes: Results with MSA and country-of-origin fixed effects

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Other non-white	−0.010	0.017	−0.108	−0.031*
	(0.022)	(0.038)	(0.186)	(0.016)
Average age of group members	−0.002***	−0.004	−0.002	0.001
in MSA	(0.001)	(0.003)	(0.005)	(0.001)
Average education of group	0.009*	0.004	0.044*	0.002
members in MSA	(0.005)	(0.013)	(0.025)	(0.006)
R^2	0.2468	0.3685	0.1499	0.1482
N	14137	5637	22564	30584

Notes. Standard errors, in parentheses, have been adjusted to reflect within-immigrant-community clustering. Sample consists of foreign-born Census respondents.

* Significance at the 10% level.
** Idem, 5%.
*** Idem, 1%.

itan area. Coefficients from representative first-stage regression specifications can be found in Appendix Table 1.

For both dissimilarity and isolation, the IV results produce a consistent set of results: segregation now appears significantly positively related to children's English ability and to the earnings of young adults. Point estimates of the effect on school enrollment are not significant in either case, but switch from negative to positive. These positive estimated impacts contradict both the OLS and IV results reported in Tables 2 and 3 relating direct measures of neighborhood-level group share to the same outcomes. The estimated impact of segregation on idleness is positive—indicating a higher likelihood of being out of work or out of school—but insignificant. With the exception of idleness, each of these specifications points at negative selection: a tendency for unobservably less-able immigrants to sort into more-segregated communities. This is once again the opposite of the conclusion reached in the analysis of neighborhood-level concentration. Altogether, these results suggest that negative selection hampers efforts to isolate the impact of concentration on outcomes, and that the instrument for neighborhood-level group share employed above exacerbates, rather than corrects, selection bias.

The regression specifications in Table 7 test for heterogeneity in the impact of segregation on outcomes, much as Table 4 examined heterogeneity in the impact of neighborhood-level group share. As in that previous table, Table 7 includes both OLS and IV specifications. In IV specifications, both the main effect and interaction term are instrumented for, with the mean years-since-immigration variable and its interaction with mean education.

The OLS specifications, as in Table 4, reveal very few significant patterns. The two sets of results that do appear link the most positive impacts of segregation to the lowest-education groups. These effects are significant only at the 10% level, and both are directly contradicted by evidence available in the corresponding IV specification.

In instrumental variables specifications, a fairly consistent result pattern emerges in the analysis of two dependent variables: English ability and the logarithm of earned income. Segregation, whether measured by dissimilarity or isolation, predicts worse outcomes for groups with the least education, and better outcomes for highly educated groups. Depending on the particular point estimates, the crossover from negative to positive segregation effects occurs at mean education levels between 10th grade and minimal post-secondary education. Thus, isolation in an enclave where most adults have post-secondary degrees appears beneficial in many respects, while isolation in an enclave where most adults have education below minimum domestic standards appears harmful. These results are entirely consistent with those obtained in IV specifications using a neighborhood-level measure of group share in Table 4. That table also reported significant interacted effects in IV specifications analyzing idleness, a pattern which is not replicated here. Overall, the results corroborate existing evidence identifying group human capital as a significant determinant of the relationship between ethnic concentration and outcomes (Borjas, 1995; Cutler et al., 2005).

Table 6
Panel A: Dissimilarity and outcomes: Results from Instrumental Variable specifications

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Dissimilarity index	0.104**	0.067	0.371**	0.047
	(0.045)	(0.108)	(0.170)	(0.044)
Group share of MSA population	−0.136*	0.555***	1.062***	0.058
	(0.070)	(0.195)	(0.403)	(0.116)
Year of entry 1985–1986	0.167***	0.095***	0.263***	−0.056***
	(0.021)	(0.012)	(0.013)	(0.005)
Year of entry 1982–1984	0.232***	0.220***	0.263***	−0.072***
	(0.031)	(0.029)	(0.010)	(0.005)
Year of entry 1975–1981	0.269***	0.254***	0.406***	−0.080***
	(0.033)	(0.014)	(0.021)	(0.006)
Year of entry 1960–1974	0.265***	0.267***	0.548***	−0.113***
	(0.031)	(0.019)	(0.023)	(0.007)
Education	0.044***	0.078***	0.031***	0.004***
	(0.001)	(0.002)	(0.003)	(0.001)
Age	−0.037***	−0.187***	0.041***	−0.021***
	(0.002)	(0.015)	(0.007)	(0.001)
Female	0.006**	−0.009	−0.417***	0.289***
	(0.002)	(0.006)	(0.022)	(0.021)
Black	0.054**	−0.058	−0.054	0.046
	(0.025)	(0.048)	(0.058)	(0.030)
Other non-white	−0.011	0.016	−0.109	−0.031∗
	(0.022)	(0.038)	(0.186)	(0.16)
Average age of group members in MSA	−0.001*	−0.004	−0.001	−0.0001
	(0.001)	(0.003)	(0.005)	(0.007)
Average education of group members in MSA	0.007	0.010	0.047*	0.001
	(0.007)	(0.013)	(0.026)	(0.001)
R^2	0.2468	0.3684	0.1498	0.1482
N	14137	5637	22564	30584

Panel B: Isolation and outcomes: Results from Instrumental Variable specifications

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Isolation index	0.970**	0.506	2.963**	0.388
	(0.402)	(0.813)	(1.525)	(0.361)
Group share of MSA population	−0.771***	0.204	−1.052	−0.218
	(0.237)	(0.495)	(0.930)	(0.254)
Year of entry 1985–1986	0.167***	0.095***	0.262***	−0.056***
	(0.021)	(0.012)	(0.013)	(0.005)
Year of entry 1982–1984	0.232***	0.220***	0.263***	−0.072***
	(0.031)	(0.030)	(0.010)	(0.005)
Year of entry 1975–1981	0.269***	0.254***	0.406***	−0.080***
	(0.033)	(0.014)	(0.021)	(0.006)
Year of entry 1960–1974	0.266***	0.267***	0.549***	−0.113***
	(0.031)	(0.019)	(0.023)	(0.007)
Education	0.044***	0.078***	0.031***	0.004***
	(0.001)	(0.002)	(0.003)	(0.001)
Age	−0.037***	−0.187***	0.041***	−0.021***
	(0.002)	(0.015)	(0.007)	(0.001)
Female	0.006**	−0.009	−0.417***	0.289***
	(0.002)	(0.006)	(0.022)	(0.021)
Black	0.055**	−0.058	−0.055	0.046
	(0.025)	(0.048)	(0.058)	(0.030)
Other non-white	−0.011	0.017	−0.111	−0.031∗
	(0.023)	(0.038)	(0.185)	(0.016)

(*continued on next page*)

Table 6 (*continued*)
Panel B: Isolation and outcomes: Results from Instrumental Variable specifications

Independent variable	English ability (age 9–18)	Enrollment (age 16–18)	ln(Earnings) (age 20–30)	Idle (age 20–30)
Average age of group members in MSA	−0.003*** (0.001)	−0.004 (0.003)	−0.004 (0.006)	0.001 (0.001)
Average education of group members in MSA	0.027** (0.012)	0.021 (0.025)	0.111 (0.047)	0.008 (0.011)
R^2	0.2467	0.3684	0.1497	0.1482
N	14137	5637	22564	30584

Notes. Standard errors, in parentheses, have been adjusted to reflect within-immigrant-community clustering. Sample consists of foreign-born Census respondents.

* Significance at the 10% level.
** Idem, 5%.
*** Idem, 1%.

Table 7
Testing for heterogeneity in the effects of segregation

Dependent variable	Dissimilarity				Isolation			
	OLS/Fixed effects		IV		OLS/Fixed effects		IV	
	Main effect	Interaction	Main effect	Interaction	Main effect	Interaction	Main effect	Interaction
English ability	0.207* (0.109)	−0.021* (0.012)	−0.254 (0.154)	0.041** (0.018)	0.239 (0.448)	−0.001 (0.051)	−2.770** (1.214)	0.350** (0.138)
School enrollment	−0.115 (0.333)	0.011 (0.036)	−0.208 (0.370)	0.033 (0.045)	0.852 (1.00)	−0.130 (0.116)	−1.950 (2.579)	0.239 (0.293)
ln(earnings)	0.216 (0.544)	−0.049 (0.058)	−1.571*** (0.589)	0.238*** (0.080)	2.965* (1.600)	−0.331* (0.183)	−14.021*** (5.212)	1.637*** (0.568)
Idle	−0.099 (0.192)	0.004 (0.020)	−0.048 (0.141)	0.012 (0.017)	0.587 (0.840)	−0.055 (0.094)	−0.740 (0.920)	0.108 (0.102)

Notes. Main effect is the coefficient on the relevant segregation index in each specification. Interaction term is between segregation and the mean education level of immigrants of the same nationality within the same metropolitan area. Standard errors, corrected for within MSA/group clustering, in parentheses.

* Significance at the 10% level.
** Idem, 5%.
*** Idem, 1%.

5. Conclusions

Immigrant groups in the United States have become dramatically more segregated over the past few decades. Will this increase in ethnic concentration perpetuate or exacerbate economic differences between native and immigrant populations? Previous literature has provided varying answers to this question, and this analysis suggests a means of reconciling various findings. Estimates suggest that efforts to isolate the causal impact of ethnic concentration on educational and labor market outcomes are hampered by significant negative selection into enclave communities. This negative selection effect obscures a positive average treatment effect: when using segregation indices as measures of average group concentration, and instrumenting for those indices, ethnic concentration becomes a significant positive predictor of the earnings of young adults and the English-speaking ability of youth.

Further analysis shows that ethnic concentration is not equally valuable for all groups. In fact, groups with very low education levels—including many of the most rapidly growing groups, from Mexico and Central America—appear to suffer negative consequences associated with living in an enclave community. As it is these less-educated groups that have inspired most of the recent policy concern regarding immigration policy in the United States, these results suggest that increases in immigrant segregation over the past few decades are quite relevant for broader discussions of assimilation and the rights and responsibilities of citizenship.

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Appendix Table 1
Representative first-stage regression equations

	Dissimilarity index	Isolation index	Tract share
Mean years since immigration for same MSA/country of origin cell	0.003 (1×10^{-4})	4×10^{-4} (2×10^{-5})	–
Predicted share based on occupations	–	–	38.27 (0.097)
Group share of MSA population	−0.524 (0.011)	0.648 (0.004)	0.807 (0.011)
Mean age in MSA/country of origin cell	−0.026 (0.001)	0.001 (1×10^{-4})	4×10^{-4} (2×10^{-4})
Mean education in MSA/country of origin cell	0.003 (1×10^{-4})	−0.025 (3×10^{-4})	0.003 (0.001)
Individual level covariates	Yes	Yes	Yes
MSA fixed effects	Yes	Yes	Yes
Group fixed effects	Yes	Yes	Yes
N	30,584	30,584	552,513
R^2	0.920	0.984	0.412

Notes. These first-stage regressions correspond to two-stage specifications where the dependent variable is a binary indicator for whether the respondent is idle. Standard errors, corrected for within-MSA/group or within-tract/group clustering, in parentheses.

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