Jim Crow, Ethnic Economies, and Status Attainment:

Occupational Mobility among U.S. Blacks, 1880-1940 *

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Abstract

Demographic and organizational theories yield mixed evidence as to whether ethnic economies are a benefit or hindrance to the status attainment of residents and entrepreneurs. In this paper, we provide one possible theoretical resolution by separating the positive effects that may emanate among co-ethnic neighbors from the negative effects that may result with the segregation of racial or ethnic groups. We test the theory by analyzing occupational wage attainment and entrepreneurship among African Americans between 1880 and 1940, a historical context in which Jim Crow laws imposed segregation exogenously. Drawing on cross-sectional and panel Census data for representative samples of blacks in the United States, the results suggest a consistent increase in intra- and intergenerational mobility among residents with same-race neighbors, accompanied with downward mobility among residents who are concentrated in larger racialized enclaves. Both patterns are also observed in the distribution of entrepreneurial activity. We conclude with thoughts on the possibility of bringing demographic, organizational, and historical perspectives into closer dialogue in understanding the spatial scale of ethnic economies.

Introduction

An ethnic enclave economy is a spatial concentration of an ethnic or racial minority that has implications for the economic behavior and outcomes of that group. In the early twentieth century, scholars in the Chicago School already recognized the distinctive nature of enclaves constituted by concentrated patterns of settlement or industry among immigrants and racial or religious minorities (e.g., Burgess 1967 [1925]; Wirth 1965 [1928]). Beginning with Wilson and Portes (1980; see also Wilson and Martin 1982), sociologists have quantitatively traced the implications of living and working in enclaves on the status attainment of minority members. Some theoretical interpretations have focused on spatial assimilation, whereby minorities – particularly, immigrants – temporarily self-select into enclaves on the basis of distinctive cultural characteristics and economic needs that tend to fade with acculturation and economic success. Other frameworks emphasize place stratification, whereby minorities – such as blacks in the historical U.S. context – are forced into segregated communities due to private and public prejudice (Logan, Alba and Zhang 2002; Massey and Denton 1993).

The empirical evidence linking enclave locations with the income, occupational status, education, and self-employment of racial and ethnic minorities has been decidedly mixed. Relative to the same minorities located outside of enclave economies, studies have found higher income and rates of self-employment in selected ethnic enclaves in the United States (Portes and Jensen 1989; Portes and Bach 1985; Zhou 1992), more entrepreneurship among blacks in segregated cities (Boyd 1998; Ingham 2003), and better labor market outcomes for some immigrants in European enclaves (Edin, Fredriksson and Åslund 2003). Other studies have argued that segregated enclaves increase poverty and lower relative income among U.S. blacks (Ananat 2011; Cutler and Glaeser 1997), lower rates of entrepreneurship for all racial groups, even at moderate levels of segregation (Fischer and Massey 2000), lower returns to human capital among some immigrant workers (Sanders and Nee 1987; Xie and Gough 2011), and negatively impact the educational outcomes of immigrant children in European enclaves (Grönqvist 2006). The overall portrait of enclave economies that is painted by these findings is

highly contingent, with status attainment outcomes that are dependent on the history of an enclave and the relative success of co-ethnic neighbors and employers (Portes and Schaefer 2007; Glaeser, Cutler and Vigdor 2007; Bygren and Szulkin 2010).

In this paper, we offer one possible theoretical resolution to this mixed evidence by focusing on the spatial scale at which the effects of ethnic economies operate. Among minority groups suffering from discrimination and/or limited resources within a broader society, we argue that there are benefits to the clustering of co-ethnic neighbors, which encourages the formation of supportive social networks, a cohesive identity, and the transfer of human capital. As these enclaves grow beyond immediate neighbors, they generate barriers to the status attainment of minority residents, who increasingly face spatial mismatch with mainstream labor and consumer markets, as well as mobility traps due to the specificity of their human capital. Ethnic economies may therefore be *both* beneficial and detrimental for resident workers and entrepreneurs, depending on the spatial scale of the enclave.

We test the theory in the historical context of black status attainment during Jim Crow, an era in which state laws imposed segregation exogenously. Using cross-sectional and panel Census data between 1880 and 1940, our study links representative samples of African Americans from the IPUMS project (Ruggles et al. 2015) with measures of residential ecology, as well as laws governing the segregation of private and public amenities. The cross-sectional and panel models suggest consistent increases in occupational status attainment and entrepreneurial activity among African Americans with black neighbors in the immediate vicinity. These residents suffer disadvantages in larger geographic areas (e.g., districts and counties) with a high-density black population. The results continue to hold in causal analyses of the ethnic economy, which account for residential sorting on the basis of Jim Crow segregation laws. We conclude by highlighting the importance of social organization – reflecting the micro-geography of residents, local businesses, and public amenities – in the effects of ethnic enclave economies.

African-American Enclaves during Jim Crow

Although early work on ethnic enclave economies tended to focus on immigrant communities, the concept was soon extended to the African-American experience in the United States. Sociologists recognized that the black communities that emerged during the decades after slavery were nascent enclaves, which lacked the structural interdependencies among minority-owned businesses that have come to be a defining feature of modern enclave economies (Butler and Wilson 1988). Nevertheless, the racial homogeneity, interpersonal networks, and protected markets in these enclaves were seen as a fount of African-American enterprise and upward mobility, especially in cities such as Atlanta, Chicago, Durham, Memphis, and New Orleans (Boyd 2009; Ingham 2003). When W.E.B. Du Bois remarked, around the turn of the last century, that "it is [the] density of Negro population in the main that gives the Negro business-man his best chance" (1899: 7), he was perhaps the first social scientist to posit an enclave effect.

The African-American enclaves of the Jim Crow era offer several opportunities for sociologists to engage the "enclave hypothesis", concerning the potential impact of enclave economies on individual status attainment and self-employment. Since the early 1980s, there has been extensive debate on the conceptualization of ethnic enclave economies. Some scholars insist that enclaves should be analyzed as spatial concentrations of co-ethnic *workplaces* (e.g., Portes and Shafer 2007), while others highlight the concentration of *residences* among ethnic and racial minorities (Sanders and Nee 1987; Logan, Alba and Zhang 2002).[1] While not entirely irrelevant, this distinction is muted when applied to the historical context of the Jim Crow era, a time when most blacks lived in close proximity to their place of work. In 1900, 54% of U.S. blacks over the age of nine were employed in agriculture and 26% were employed in domestic service, occupations that generally constrained these individuals to live on their sharecropped plots and family farms or near employers (Bureau of the Census 1904: Table 3). Urban black entrepreneurs likewise ran their businesses out of their homes (Perry and Waters 2012) or resided

[1] Some studies also deploy measures of ethnic enclaves that are based on both residential and workplace location (e.g., Xie and Gough 2011; Zhou and Logan 1991).

above or next to the small shops, beauty parlors, funeral homes, restaurants, and saloons they owned. Commuting statistics dating from the end of our study period reveal that even manufacturing workers were unlikely to travel more than a few miles to their workplace (e.g., Carroll 1949).[2]

The enclaves of the Jim Crow period help address another fault line that has emerged between scholars who emphasize the importance of *spatial* concentration among co-ethnics (Wilson and Portes 1980) and others who favor a less geographically-focused conception of ethnic economies, highlighting the role of interpersonal and interorganizational *networks* (Waldinger 1993). Variation in black settlement patterns contributed to both forms of ethnic enclaves in the late 19th and early 20th century. Northern cities were more susceptible to spatially-segregated "ghettos", while Southern cities were more likely to evidence a street-front pattern of segregation, in which black residents lived in dispersed clusters around alleyways, back streets, and near railroad lines (Grigoryeva and Ruef 2015). In the latter case, economic cooperation could be found among networks of immediate neighbors, as well as between less proximate clusters of African-American residents and businesses. In his early survey of cooperative networks, Du Bois (1907) found that nearly half (44%) of the black-owned business cooperatives he identified were located in the cities of the American South and border states, with many thriving in the absence of a spatially concentrated black enclave.[3]

A final advantage in studying the enclaves of this era involves the analytical leverage afforded by Jim Crow laws in separating causal effects from patterns of residential self-selection. Despite a large literature on enclave effects in sociology – amid an even larger literature on "neighborhood effects" (Sampson et al. 2002) – relatively few studies have addressed issues of

[2] Due to a lack of access to private automobiles and the inconvenience of public transportation, the proximity of work and residence persisted for blacks in the wake of post-war suburbanization. In 1960, when the Census Bureau first collected data on means of transportation and place of work, 22% of the black labor force either worked in their own home or walked to work; the equivalent statistic among whites was 17% (authors' calculations based on the 1960 1% IPUMS sample).

[3] Du Bois surveyed a total of 154 business cooperatives in manufacturing, transportation, distribution, real estate, and financial credit. The list was intended to include "typical" cooperatives conducted by African-American entrepreneurs, rather than a complete enumeration.

differential selection among ethnic and racial minorities into cities and neighborhoods. Economists have dealt more directly with challenges of causal inference, drawing on natural experiments (Edin, Fredriksson and Åslund 2003; Damm 2009) and instrumental variables (Ananat 2011) to help isolate the effects of enclaves and segregation. We suggest that the extensive passage of Jim Crow laws in the period between the 1880s and 1940 imposed a similar exogenous shock on the residential choices of African-Americans, separating them from the white population through racial housing ordinances and the segregation of organizational amenities (Murray 1951; Massey and Denton 1993). At the same time, many white-owned enterprises refused to do business in black neighborhoods (Ingham 2003). These historical conditions allow us to estimate the influence of ethnic enclave economies in contexts that involve exogenous legal segregation separately from those in which residential arrangements are likely to be driven by local prejudice or racial sorting.

The Effect of Ethnic Enclave Economies on Residents and Entrepreneurs

Before turning to a detailed analysis of African-American enclaves under Jim Crow, it is worth reviewing some general theoretical arguments regarding the effect of ethnic enclave economies (see Table 1). Several mechanisms suggest positive status attainment outcomes for residents and entrepreneurs within enclaves. Over the last three-and-a-half decades, Alejandro Portes has advanced an influential account in which ethnic economies develop on the basis of *social capital* within co-ethnic communities. While early treatments of ethnic economies located their advantage somewhat vaguely in "ethnically sympathetic sources of supply and consumer outlets" (Wilson and Portes 1980: 301), subsequent theory linked enclave participation more systematically to social capital. Portes and Sensenbrenner (1993) associated features such as reciprocity, bounded solidarity, and enforceable trust with enclave economies, while acknowledging that embeddedness among co-ethnics could have negative effects as well (cf. Smith 2007 on job-seeking among poor urban blacks). An implicit – albeit critical – assumption was that spatial concentration was a pre-condition to social networks that could sustain a

preference for co-ethnics in economic transactions and offer privileged access to information and resources among members of an ethnic or racial minority.

[Insert Table 1 About Here]

Other theories have emphasized the development and returns to human capital in ethnic enclaves, rather than social capital. Bailey and Waldinger (1991) argued that ethnic economies are often characterized by an informal *training system*, which improves skill acquisition and information flow between co-ethnic employers and workers. Ethnic enclaves encourage the emergence of such training systems by reducing the likelihood that implicit contracts between entrepreneurs and workers are broken. Demographers have qualified this argument, suggesting that an important distinction separates human capital that is oriented toward the needs of an ethnic enclave (e.g., an education acquired abroad, in the case of immigrant enclaves, or in historically black schools, in the case of African-American enclaves) from human capital that is oriented toward the needs of the mainstream economy (Xie and Gough 2011). The payoff from foreign or ethnically-specialized education and experience may be higher within enclaves, but the payoff from other education and skills is higher outside of them.

Many of the mechanisms identified by sociologists have considered the impact of ethnic enclaves on producers, including both workers and entrepreneurs. A smaller literature has brought in ethnic consumers and the interaction of supply- and demand-side considerations (Aldrich et al. 1985; Boyd 2001). The *protected market* hypothesis suggests that ethnic entrepreneurs (and, to a lesser extent, workers) benefit from serving co-ethnics because these minorities have culturally-specific tastes that are not well served by the mainstream economy (Light 1972). While protected markets may arise regardless of geography, scholars note that economies of scale and scope, as well as cultural distinctiveness, are heightened with the spatial segregation of ethnic enclaves (Aldrich et al. 1985). Research on the focused identities associated with neighborhoods also suggests that tastes specific to a racial or minority group may not be a necessary pre-condition to this consumer advantage in ethnic enclaves (Romanelli and

Khessina 2005). If the spatial agglomeration of ethnic enterprise leads to a perception that ethnic goods produced there are of higher quality or greater authenticity than those produced elsewhere (see, e.g., Grazian 2003 on urban blues clubs), then those locations will favor entrepreneurs who are located in the enclave, regardless of whether they cater specifically to an audience of co-ethnics.

While research on social capital, training systems, and protected markets within enclave economies has often hypothesized a favorable impact on entrepreneurs and workers, each mechanism has also been linked to potentially deleterious effects. Residents may prefer to live in enclaves in order to benefit from strong ties to co-ethnics and access to local institutions and services. At the same time, residential segregation separates these workers from labor market opportunities in the mainstream economy, just as enclave business locations separate entrepreneurs from mainstream consumer markets. This results in a tension between a beneficial enclave effect on social capital and a negative effect from spatial mismatch, especially among low-skilled workers (Liu 2009). The harm from spatial mismatch may be heightened when segregation is maintained by legal or extra-legal means (e.g., racial zoning and covenants, housing discrimination, threats, etc.) in addition to residential choice (Kain 1968; Wilson 1987). A common explanation for the stagnation of African-American self-employment in the early 20th century is that segregation removed black business owners from the ties they had developed with a white upper-class clientele (e.g., Perry and Waters 2012).

With respect to human capital, another long-standing argument against enclave economies concerns ethnic *mobility traps*, in which the experience and skills needed to move up within an ethnic group differ from the experience and skills needed to move up within society at large (Wiley 1967). For instance, in-group opportunities associated with an enclave training system, such as working for a co-ethnic entrepreneur, may lead to skill specialization and exploitation in lieu of better opportunities in the wider economy (Sanders and Nee 1987). Ethnic enclaves also display a high level of intergenerational persistence in human capital that can impede economic assimilation (Borjas 2000). This is particularly problematic when earlier generations of

immigrants or minorities within an enclave possessed limited education and low occupational attainment.

A third argument opposes the protected market hypothesis, highlighting the limitations of *niche markets* for ethnic goods. Economists have observed that many ethnic groups, such as Germans, Indians, and Italians in the modern U.S. economy, have a low level of spatial concentration, but a high level of self-employment (Toussaint-Comeau 2008). While entrepreneurial efforts within these groups still rely to some extent on culturally-specific goods (e.g., ethnic restaurants and specialty grocery stores), such specialization is unlikely to support high rates of self-employment across a range of locales. In the late 19th century, a similar challenge could be observed in some Southern cities, such as Charleston, with substantial yet dispersed African American populations, in which black businesses catered largely to a white clientele (Ingham 2003). Among large minority groups, excessive reliance on enclave economies can lead to an oversupply of ethnic goods and a missed opportunity to tap into lucrative primary markets.

Ethnic Enclaves at Different Spatial Scales

Recent work on ethnic enclaves has come to recognize that enclave effects may depend on the multiple spatial scales at which these enclaves are analyzed. Research in economic geography, for instance, suggests a distinction between a focus on the local neighborhood surrounding an ethnic entrepreneur and broader regional conditions (Wang 2013; Wang et al. 2014). The problem of spatial scale in enclaves has become especially clear with globalization, as entrepreneurial efforts and co-ethnic labor markets increasingly span national boundaries (e.g., Zhou 2004), and with suburbanization, as ethnic communities form outside of urban areas (Li 2009). But even in historical settings, there are important distinctions between enclave effects that occur among a handful of close neighbors and those that transpire across entire neighborhoods, cities, or regions.

Attention to spatial scale leads to a potential resolution of the opposing theoretical arguments in Table 1, insofar as the positive effects of enclaves operate at a different scale than the negative effects. Supportive social networks, transfers of specialized human capital, and focused ethnic identities tend to emerge among clusters of close co-ethnic neighbors and/or businesses. We hypothesize that these mechanisms will lead to a beneficial effect of living near and working with co-ethnics *when enclaves are analyzed at a highly local scale*. As enclaves stretch across larger areas, encompassing entire districts or regions, a high density of co-ethnic residents and enterprises becomes problematic. The increasing segregation of the minority population contributes to spatial mismatch with labor and consumer markets, as well as social pressure for residents to succeed by the standards of that racial or ethnic group, rather than society as a whole. *When enclaves are analyzed at a non-local scale*, this leads to an adverse effect of living and working in areas with a high density of co-ethnic residents. Notably, this adverse effect is likely to be observed as long as the resources held by members of the ethnic or racial minority group are, on average, less than those of other groups in the society.

Data and Method

To estimate the impact of African-American enclaves on occupational status attainment and entrepreneurship among blacks, we rely on both cross-sectional and linked IPUMS Census data for the period between 1880 and 1940 (Ruggles et al. 2015). The cross-sectional data include Census samples of the population in the continental United States for 1880, 1910, and 1940, with a one-in-ten random sample in 1880, a one-in-seventy random sample in 1910, and a one-in-one hundred random sample in 1940. To account for the oversampling of minorities, all samples are weighted to be nationally representative.[4] For purposes of analysis, the samples are restricted to those individuals who are in the labor force – specifically, those with a regular occupation, whether working or looking for work.

[4] The effective sampling rate for blacks in the three samples is roughly one-in-five, one-in-sixty, and one-in-ninety-three, respectively. Because the black oversample in 1910 does not include detailed data on residential location, multivariate analysis is restricted to the one-in-one-hundred sample in that year.

Panel data are constructed by linking 1% random samples from the four decennial Censuses between 1900 and 1930 back to complete count data in 1880 (Goeken, Huyhn, Lynch and Vick 2011). Census records were linked by the Minnesota Population Center using birth year, place of birth, first name, surname, and race. The resulting data set includes a sample of 4,173 African-Americans who were born in 1880 or later. Of that number, 1,513 individuals were in the labor force in 1880 and in a subsequent year; this sample permits analyses of *intragenerational* mobility over the life course (mean age = 25 in 1880). Another 1,564 individuals were not in the labor force in 1880, but have subsequent Census records with occupational status. Following linkage with records on the occupations of their parents, this sample is used for analyses of *intergenerational* mobility (mean age = 5 in 1880).

[Insert Table 2 About Here]

Table 2 summarizes descriptive statistics for selected samples of black labor force participants over the time period. While the statistics for the 1910 and 1930 Censuses are age-truncated, only including individuals born in 1880 or later, some differences from the linked samples can be noted. First, the linked sample has a much lower proportion of black women than the cross-sectional Census samples. This results from differences in the universe of women in the linked sample, which excludes those who became married (and, typically, changed surnames) between census years. Second, in 1910 and 1930, the linked sample has a slightly higher proportion of blacks who were born in U.S. states that had slavery at the beginning of the Civil War. This results from the linked sample's exclusion of blacks who immigrated from other countries after 1880. When the linked and cross-sectional samples are limited to native-born black males, they are statistically indistinguishable in terms of location of birth and average occupational attainment.

Outcome Variables

Our analyses assess occupational status attainment among blacks in four ways. For the cross-sectional and intragenerational mobility samples, we focus first on median occupational income. While occupations are reported reliably in the Census throughout our observation period, individual income is not. We standardize occupations by applying the 1950 occupational classification system to all sampled individuals and assign an income score based on the occupation's median total income in 1950 dollars (IPUMS-USA 2016). For the analysis of intergenerational mobility, we follow the same procedure, but examine the change between the median occupational income of an individual's parent in 1880 and their own occupational income in 1900 or later. The "parent" is defined as the related head of household of an older generation in the earlier Census, including fathers or mothers (94% of these cases), stepfathers or stepmothers (<1%), and grandparents (5%).

Two other outcome variables bear on the propensity toward self-employment within and outside of ethnic enclaves. Between 1910 and 1940, the Census Bureau explicitly asked about the class of worker for each labor force participant, distinguishing between employers, individuals working on their own account, and salary or wage earners. In the cross-sectional analyses, we identify entrepreneurs within a broad category as employers or own-account workers, excluding those who are self-employed in the domain of agriculture.[5] Because the question was not asked in the Census before 1910, the panel data rely instead on occupations as a proxy for self-employment. Table A1, in the Appendix, lists occupations that display the strongest correlation with black self-employment outside the agricultural sector in the early 20th century. In the linked data, these occupations have five times the likelihood of non-farm self-employment compared to

[5] This exclusion is based on several substantive considerations. First, during this period, the decennial population census generally did not differentiate between black farm proprietors and the numerous blacks who were "self-employed" as sharecroppers or share tenants, but who labored under harsh contracts with white landowners. Second, the existing literature on ethnic economies has generally emphasized entrepreneurial activity outside of agriculture.

other occupations.[6] Consequently, we use them as proxies for entry into entrepreneurial activity in the mobility models.[7]

Enclave Variables

Our theory calls for an operationalization of ethnic enclaves at both a local and non-local spatial scale. From a residential perspective, the most local measure of enclaves considers the racial composition of households that are immediate neighbors of a focal household. Given the high degree of racial homogeneity within households during this historical period, we focus on the race of each head of household and consider to what extent sampled blacks live next to other black household heads. Neighbors are found in the manuscript census by looking at the household that immediately precedes and that follows the household of a sampled individual. This procedure follows recent work on patterns of micro-segregation, which has found that the ordering of households in census population listings is a reliable indicator of neighbor demographics along street fronts (Grigoryeva and Ruef 2015; Logan and Parman 2015). The neighbor look-up procedure relies on complete count data in 1880, 1910, 1920, 1930, and 1940, and 50-line sampling windows in 1900.[8]

To examine enclave effects at a less local scale, we consider the racial composition of surrounding areas at two levels of geographic aggregation. For the cross-sectional models, we use complete census data to measure the proportion of the population that is black within a focal individual's enumeration district. An enumeration district is the geographic unit above the address level in historical census data through 1930. It provides an approximation of a

[6] Based on a logistic regression of self-employment on occupation type between 1910 and 1930, controlling for demographic and ecological variables.

[7] Given data limitations, we make no effort to test the relative economic returns to self-employment within ethnic economies and outside of them. The economist Andrew Brimmer, among others, posited that black entrepreneurs would earn more in segregated enclaves, but Census data on entrepreneurial income are not available until the latter half of the 20th century.

[8] The measure entered into the regression models is simply the proportion of these two neighboring households that has a black household head, either 0.0, 0.5 (1), or 1.0 (2). As a proportion, the measure also accounts for those individuals that live on the "edge" of an enumeration district and thus can have only one neighbor in the census listings.

neighborhood or settlement, insofar as districts were canvassed by enumerators who were residents of the area, who could easily traverse the area on foot, and who had "local knowledge" of every household and family (Ruggles and Menard 1994: 161). In 1880, the median enumeration district in the United States contained 298 households.

In the cross-sectional models, as well as all panel models, we also examine the effect of racial composition at the level of counties. The county is a useful level of geographic aggregation during this era since its diameter represents the maximum area that could be covered by an individual over the period of a day by foot, oxen, or horse team, thus delimiting the range of market activities in many rural areas.[9] Because immediate neighbors, districts, and counties reflect specific -- and potentially arbitrary -- points in the spatial window around a focal individual, we also ran sensitivity analyses for the models with complete count data that evaluated how coefficient estimates vary in the range from nearest (1-step) neighbors to more distant (50-step) neighbors.

Control Variables

The models control for a range of demographic and life course variables that may affect occupational status attainment, including age, gender, mixed race appearance, literacy, marital status, migration from county or state of origin, residence outside of the South, and whether an individual was born in a southern state prior to the Civil War (a "slave state"). Mixed race appearance distinguishes between those individuals who were classified as phenotypically "black" by Census enumerators and those who were classified as "mulatto". The Census question on literacy, assessing whether an individual could read and write, was used until 1930; for 1940, we proxied literacy with an item on educational attainment, treating individuals who

[9] In 1880, the average county in the continental U.S. was 1,107 square miles; in 1930, it was 959 square miles. Assuming square counties, this corresponds to a diameter of 33 and 31 miles, respectively. Postbellum estimates place the daily range of oxen and horse teams at roughly 20 and 25 miles, respectively (Ransom and Sutch 2001: 389).

completed more than a third grade education as functionally literate.[10] For modeling purposes, the South includes the states of Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia.

In addition to the enclave variables, the models consider selected features of the area where an individual resides, including county or district population (logged), a county's level of industrial development (per capita manufacturing output), and state laws in favor of or against the segregation of blacks and whites. The Jim Crow laws were initially coded from Murray (1951), which was considered the definitive legal source for the Supreme Court's decision in *Brown versus Board of Education*. While Murray provides a systematic overview of state laws affecting people of color in the mid-20th century, we also accounted for laws dating from the post-Reconstruction era that may have been overturned by then. Using HeinOnline's State Session Laws Library (SSLL), we searched for state statutes that were in place during earlier decades and prepared a decennial event history of laws authorizing, requiring, or preventing racial segregation.[11]

To convert the event history into variables, the laws were then coded by organizational domain, reflecting statutes in favor of segregation (+1), against segregation or discrimination (-1), and neither (0). We focused on organizational domains that could lead to separate facilities, public amenities, and businesses for blacks within ethnic enclaves. As discussed in greater detail in the findings, this led us to code over twenty different types of organizations and amenities.

[10] The operationalization is consistent with the definition of functional literacy used by the U.S. Army during World War II (Goldberg 1951).

[11] The search terms included references to "colored", "negro", "African", "race", and / or "separate" in the text of state statutes.

Models

The cross-sectional analyses rely on independent systematic samples of black U.S. labor force participants in 1880, 1910, and 1940. To account for the multilevel nature of the data, with individuals (level 1) nested within counties or districts (level 2), we estimate mixed-effects regression models that allow for both random intercepts and random slopes. The random slopes capture the possibility that sociodemographic characteristics of individuals may have different effects on status attainment by county or district, depending on local racial prejudice and Jim Crow ordinances, which are unobserved. This is especially salient for characteristics such as mixed race appearance and literacy. In hierarchical form, the equations for occupational income attainment (y_{ij}) are specified as:

$$y_{ij} = \gamma_{0j} + \gamma_{1j}\boldsymbol{x}_{ij} + \varepsilon_{ij} \quad (1)$$

$$\gamma_{0j} = \beta_{00} + \beta_{01}\boldsymbol{z}_j + u_{0j} \quad (2a)$$

$$\gamma_{1j} = \beta_{10} + u_{1j} \quad (2b)$$

where i and j index individuals and geographic units, respectively; $\mathbf{x}_{ij}$ denotes the vector of individual-level variables such as age, gender, mixed race appearance, and literacy; $\mathbf{z}_j$ denotes the vector of environmental variables such as total population, proportion black in area, and proportion of immediate black neighbors; u_{0j} is the residual variance component across county/district intercepts; u_{1j} is the residual variance component across county/district slopes; and ε_{ij} is the residual variance at the individual level. Our approach estimates one unique variance parameter for each random effect u.

The longitudinal analyses feature linked observations over the life course of sampled individuals between 1880 and 1930. For these panel data, we employ cross-classified mixed-effects models, so that observations are nested within both individuals and geographic units, but such nesting need not be hierarchical (since individuals may move between counties or districts over time). The cross-classified models add one further variance component (u_{0k}), corresponding to the

tendency of the occupational income intercept to reflect unobserved differences across individuals.

For self-employment or entry into an entrepreneurial occupation, we use the same multilevel modeling approaches, but estimate mixed-effects logistic regressions. These models -- as well as the cross-classified mixed-effects models -- limit random slopes to literacy and mixed race appearance in order to ensure that estimates converge. The cross-sectional estimates for occupational income feature random slopes for all individual-level attributes.

Results

Patterns of Occupational Attainment across Ethnic Economies

The cross-sectional analyses provide preliminary support in favor of our theory of ethnic economy effects. When the density of the population is considered at the county level, the median occupational income of black labor force participants was historically lower in counties with a larger proportion of black residents (Table 3). In 1880, the median income dropped by $412 annually (in 1950 dollars) as one moved from counties with almost no black residents to those with an exclusively black population. The corresponding estimates in 1910 and 1940 were roughly comparable, at $553 and $448 respectively, after controlling for a county's overall population and level of industrial development. These estimates are three to six times the effect of literacy on median income in those census years. At the individual level, the largest demographic differences are reflected in the occupational income gap by gender, marital status, and their interaction, as has been documented in previous historical analyses of the black labor force (e.g., Branch 2011).

While a larger black population in a county was associated with lower occupational status attainment, black workers generally had a higher occupational status when they lived near other black residents. In 1880 and 1910, those with same-race next-door neighbors had a median

occupational income that was $77 and $97 higher, respectively, than those with white neighbors, and in 1940, the median income associated with same-race neighbors increased by $248. The time trend in the estimates suggests that racial solidarity and support among immediate black neighbors may have become more important as the system of Jim Crow was institutionalized.

Enumeration districts lie on a spatial continuum between immediate neighbors and counties, with estimates that reflect this intermediate position. In 1880 and 1910, the proportion black in a district was associated with significant declines in median occupational income, but at a magnitude far lower than that observed at the level of counties. In 1940, the association between the racial composition of a district and median occupational income among blacks was statistically insignificant.

[Insert Tables 3 and 4 About Here]

Similar patterns can be observed in repeated cross-sectional analysis of entrepreneurship among blacks between 1880 and 1940 (Table 4). The odds of having an entrepreneurial occupation (1880) or being self-employed (1910 and 1940) decrease when blacks live in counties or districts with a predominately black population. The magnitude of the estimate varies somewhat depending on the year and level of geographic aggregation, from an odds ratio of 0.91 for individuals residing in all-black districts in 1880 to an odds ratio of 0.13 for individuals living in all-black counties in 1910. By contrast, the likelihood of entrepreneurial activity increases when individuals live next to black neighbors, with the odds of self-employment being 16% to 192% higher for blacks with same-race next-door neighbors compared to those with white neighbors.

Although these estimates cannot be used as a basis for causal inference, they illustrate broad historical patterns in African-American ethnic economies. Some scholars have argued that black-owned businesses could rely increasingly on a "large, densely packed minority customer base" in the early 20th century (Perry and Waters 2012: 657; Ingham 2003). The preliminary evidence we have thus far does not support this interpretation. Examining rates of self-

employment, blacks appeared to be relatively worse off in 1910 and 1940 when they were located in predominately black counties or districts, compared to being located in such areas in 1880. This is consistent with the argument of other social scientists which suggests that Jim Crow and the migration of the black population led to increased isolation for black entrepreneurs and that the segregated "group economy" was a poor substitute for access to lucrative white markets (Bogan and Darity 2008).

Intra- and Intergenerational Mobility in Occupational Attainment

Our panel models estimate the relationship of enclave conditions to occupational mobility for the sample of African-Americans who are observed over time. Table 5 summarizes the results for intragenerational mobility, in which sampled individuals were in the labor force in 1880 and in at least one subsequent period. The baseline model (1) confirms the estimates for a variety of individual-level variables included in the cross-sectional analyses, with median occupational income varying predictably as a function of gender, literacy, marital status, and migration, and as a curvilinear function of age. A likelihood ratio test indicates that the cross-classified mixed-effects model, which accounts for the nesting of observations within individuals and counties, provides a significant improvement in model fit over OLS estimation.

[Insert Table 5 About Here]

Model 2 adds environmental characteristics at the county level on a time-varying basis. As anticipated by the cross-sectional analysis, occupational income attainment increases when black workers live next to black neighbors and decreases when they live in counties with a large African-American population. Median occupational earnings rise by $96 (or a seventh of a standard deviation) when blacks have same-race neighbors and fall by $218 (or a third of a standard deviation) when they live in counties with a completely black population, as opposed to counties that are almost exclusively white. Model 3 shows that the effect of same-race neighbors persists when the ecological conditions of an individual's neighborhood are held constant at their

1880 levels – having black neighbors early in the adult life course continues to benefit upward mobility, even when occupational outcomes are assessed decades later.

[Insert Tables 6 and 7 About Here]

Tables 6 and 7 display the same results for intergenerational mobility and entry into entrepreneurial occupations. The baseline model of intergenerational mobility (Table 6, Model 1) adds controls for the demographic characteristics of an individual's related head of household in 1880 (father, mother, or grandparent) and suggests that occupational income attainment tended to be lower when blacks grew up in female-headed households. Model 2 adds time-varying county characteristics, again showing an increase in occupational attainment for individuals with same-race black neighbors (+0.16 standard deviations) and a decrease in occupational attainment for individuals in predominately black counties (-0.41 standard deviations). The magnitude of these enclave effects is slightly larger for blacks who had not yet entered the labor force in 1880 than those who had, but the effects also appear to be less persistent. In a model with time-invariant environmental characteristics (Model 3), neither the presence of black neighbors nor the proportion of a county's population that was black is statistically significant when those predictors are held constant at 1880 levels.

Mixed-effects logistic regressions of entry into entrepreneurial occupations yield parallel results (Table 7). The odds of entry into an occupation with a high probability of self-employment increase by two-thirds when blacks have same-race neighbors, but decline by over 80% when blacks live in counties that are almost exclusively black (Model 2). No significant effect is observed in a time-invariant model of county characteristics (Model 3).

Causal Analysis of Ethnic Economies

The cross-sectional and panel models reveal consistent correlations between residential conditions and status attainment among blacks in the Jim Crow era, but cannot be taken as evidence of causation. We now turn to models that offer a basis for causal claims by considering segregation and anti-discrimination statutes as exogenous shocks that strongly impacted racial residential segregation during this time period. The laws are informative for analytical purposes because they had a weak direct relationship to occupational segregation. Black codes that were passed by Southern states immediately after the Civil War had provisions constraining the kind of work that emancipated slaves could do (Ruef 2014), but were outlawed by the Fourteenth Amendment. As Jim Crow statutes ushered in a new era of oppression, beginning in the 1880s, they focused heavily on the segregation of public and private amenities, rather than workplaces, which had become segregated on a de facto basis. For instance, Murray's (1951) summary of state laws only identifies a single case, in South Carolina's cotton mills, where workplaces were explicitly segregated by race, beyond the requirement that employers have separate restrooms for blacks and whites.

We focused on state statutes that governed the segregation of organizational amenities in particular, since these laws could provide an impetus to the creation of separate businesses, schools, and other private or public institutions within ethnic enclaves.[12] Between 1880 and 1950, the statutes affected more than twenty broad forms of organizations, ranging from barber shops and cinemas to hospitals, libraries, and colleges. Table 8 summarizes states and time periods in which the statutes stipulated the segregation of blacks and whites in one or more organizational domains and those in which statutes took a neutral stance on racial mixing (or provided some protections in favor of racial integration). During the heart of the Jim Crow era, the laws reflect the well-known tendency of Southern states to favor racial segregation (Anderson and Halcoussis 1996). However, the historical timing of Jim Crow laws provides two

[12] Excluded from this definition are statutes that pertain to the role of race in political processes (e.g., voter laws), in family life (e.g., anti-miscegenation laws), and in civil rights more generally (laws pertaining to hate speech or white terrorism).

sources of analytical variation. First, a number of states in the Deep South had provisions in favor of integration during Reconstruction and in the years that followed. For instance, Louisiana issued a ban on segregation in amenities such as bars, restaurants, and theaters in 1869; in 1873, Florida integrated common carriers, inns, public schools, and theaters (Valelly 2004: 80-83). These provisions were weakened when the Supreme Court ruled on the *Civil Rights Cases* in 1883 and disappeared entirely in the South with *Plessy vs. Ferguson* in 1896. Second, a number of states in the American West and Midwest had statutes in favor of organizational segregation in the late 19th and/or early 20th centuries, including Arizona, California, Indiana, New Mexico, and Wyoming. As late as the 1920s and 30s, most Western states had some Jim Crow provisions in their statutes (Anderson and Halcoussis 1996), though these laws did not always pertain specifically to organizational amenities.

[Insert Table 8 About Here]

Jim Crow statutes were associated with the residential segregation of blacks and whites, even after controlling for a host of individual and ecological factors. Using entropy reweighting (Hainmueller 2012), we created balanced samples of black workers in states with and without Jim Crow statutes, matching workers on age, gender, mixed race appearance, literacy, marital status, migration, and birth in a slave state. We then regressed the proportion of immediate black neighbors on a dichotomous indicator of segregation statutes, individual-level characteristics, county population, proportion black, county manufacturing output, and a dummy variable for the South. In 1910, the proportion of same-race neighbors among black residents in states with statutes that favored racial segregation was double that observed among black residents in states with statues that were neutral (or against) segregation, net of other factors. By 1940, that ratio had increased to more than two-and-a-half times the proportion of black neighbors in segregated states. While state statutes did not directly impact housing choices, the segregation of

organizational amenities was strongly reflected in the racial make-up of neighborhoods during the Jim Crow era.[13]

A simple test of the causal impact of ethnic economies on black status attainment compares the effect size observed in areas without Jim Crow statutes, where the partial correlation results largely from residential self-selection and local reactions to upward mobility among blacks, and areas with Jim Crow statutes, where there is an exogenous catalyst toward the creation of ethnic economies. The estimates for the cross-sectional data on occupational income and self-employment are shown in Tables 9 and 10. Among blacks in states without Jim Crow laws, there is no significant relationship between residence in a county with a larger black population and occupational income attainment in 1880, 1910, or 1940. By contrast, among blacks who live in states with Jim Crow laws, there is a significant, and consistently negative, association between black population size and median occupational income. To an extent, this also holds true of self-employment among blacks during this period, though the difference in 1880 is small and not statistically significant. On the whole, the concentration of blacks in a county had a negative impact on black status attainment when ethnic economies were segregated exogenously by state law, but not when ethnic economies formed endogenously through residential sorting, restrictive covenants, or other means.

[Insert Tables 9 -11 About Here]

The positive effect of having same-race neighbors also tended to be larger in states with Jim Crow statutes than it was in states without such statutes and the difference is statistically significant in all six models (Tables 9 and 10). Another test of the causal effect of ethnic economies can be found in the corresponding panel models for occupational mobility and entry into entrepreneurial occupations (Table 11). The impact of having a large black population in a

[13] The racial zoning of housing was common in Southern cities until 1917, but it was achieved by local ordinances rather than state statutes (Rice 1968; Murray 1951). When the Supreme Court invalidated the ordinances in *Buchanan versus Warley*, the legal segregation of housing became even more local, largely maintained through restrictive covenants in deeds and redlining. State statutes remained the primary tool whereby racial segregation was imposed exogenously on large segments of the black population irrespective of the attitudes of white residents.

county was consistently worse in states where Jim Crow served as an exogenous catalyst to residential segregation than in states where segregation was likely to be endogenous to status attainment. Conversely, having immediate black neighbors consistently had a stronger positive impact on black occupational mobility and entrepreneurship under Jim Crow than it did in states without Jim Crow statutes. The panel models thus suggest that estimates of this magnitude were unlikely to be observed merely due to the (reverse) causal influence of black upward mobility on residential choice.[14]

Discussion

While research on the effects of ethnic economies has produced decidedly mixed results, this study points to a resolution based on the spatial scale of those economies. Examining the African-American enclaves that emerged during the era of Jim Crow, we find that upward mobility and entrepreneurship were generally enhanced among blacks who had black neighbors. As theories of enclave economies have suggested, these beneficial outcomes may be rooted in the support of co-ethnic networks (Portes and Sensenbrenner 1993), the transfer of specialized human capital (Bailey and Waldinger 1991), and the emergence of local protected markets (Aldrich et al. 1985). Our results also find that spatial agglomerations of blacks, at the level of counties or districts, impeded the occupational mobility of African Americans during this period. Classic theories pointing to the adverse role of segregation suggest that minorities tend to suffer from spatial mismatch with consumer and labor markets (Kain 1968) and mobility traps (Wiley 1967), particularly as the spatial scale of enclave economies grows.

The ecological approach of the early Chicago School already anticipated some of these mechanisms, but did not empirically evaluate them for representative minority populations. Over a century ago, Robert Park wrote that "proximity and neighborly contact are the basis for the simplest and most elementary form of association … in the organization of city life" (1915:

[14] The estimates in Tables 9 – 11 also imply that Jim Crow laws may operate primarily as mediating variables. Statistically significant direct effects are only observed in four out of nine models.

580). Indeed, having supportive same-race neighbors was critical for African-Americans confronting the prejudices of Jim Crow. Between 1880 and 1940, our cross-sectional and panel estimates suggest that the positive impact of immediate black neighbors on occupational income ranged between 63% and 178% of the effect of achieving functional literacy. African Americans with same-race neighbors were also more likely to be self-employed than their counterparts with white neighbors. At the same time, African Americans who were located in heavily black counties or districts faced barriers to upward mobility and entrepreneurship that outweighed the benefits offered by networks of co-ethnic neighbors.

Our approach confronts several empirical challenges endemic to past research on the relationship between ethnic economies and occupational mobility. Sociological studies have tended to rely exclusively on cross-sectional rather than panel data, have sampled selectively from particular cities or regions, and have typically not had access to geographic micro-data, which allows researchers to track neighbor networks. A distinctive feature of our empirical context is that segregation was imposed exogenously in states with Jim Crow statutes, whereas most ethnic economies are subject to residential self-selection, thereby complicating causal inference. Past research has also been limited by a focus on demographic and environmental factors, with less attention to the businesses and amenities that often constitute the most visible feature of ethnic enclaves. Because Jim Crow laws in the United States primarily sought to segregate access to organizational infrastructure, they directly impacted ethnic economies as agglomerations of ethnic enterprise and systems of education, not just as agglomerations of residential patterns.

Our emphasis on the spatial ecology of ethnic enclaves would benefit from a number of empirical and theoretical extensions. While focusing on the proximity of same-race neighbors, we have ignored other ecological features of enclaves, including the spatial distribution of businesses and human capital. Journalistic accounts of modern-day segregation acknowledge that race often trumps class in dictating residential outcomes (Eligon and Gebeloff 2016). Nevertheless, minorities may benefit from having same-race neighbors who are upwardly mobile or entrepreneurial. The role of underlying mechanisms in our account is also largely theoretical

at present. If social capital and solidarity are indeed a result of having same-race neighbors, then contemporary surveys may be better equipped to assess their impact on upward mobility or entry into self-employment, as well as their pitfalls with respect to enclave insularity or mistrust of racial outgroups (e.g., Ruef and Kwon 2016). Similarly, the transfer of human capital in an enclave economy's training system or the spatial scope of protected markets is best assessed with contemporary survey data or ethnographic methods, rather than the historical census data that we have deployed here.

In seeking to generalize our account of ethnic economy effects beyond the historical case of African-American enclaves during the Jim Crow era, several additional caveats are worth noting. One is that the causal effects of enclave residence are likely to be much less clear when racial sorting into neighborhoods occurs by personal choice or is constrained largely by local prejudice and covenants. In those instances, residential location is as much a function of upward mobility (or the reactions of the majority population to it), as it is a causal factor in the determination of mobility. For instance, the efforts of successful African-American citizens to move outside the confines of overcrowded black districts in Chicago were met with collective white violence during the 1940s (Duneier 2016). One could certainly not conclude that the economic success and persistence of blacks who were able to purchase or rent properties in white neighborhoods, however temporarily, was due to the presence of their hostile white neighbors.

A second caveat concerns the possibility of generalizing findings from black status attainment under Jim Crow statutes. The exogenous imposition of segregated enclaves during this era provides a basis for causal inference, but it also generates complex and pernicious effects on numerous aspects of status attainment, ranging from access to education, healthcare, and transportation to marriage and consumption markets. While DuBois (1899) noted the potential benefit of protected markets in enclaves of black businesses and workers, he also spent much of his career fighting against the more pervasive ills of state-mandated segregation. To extend our theory of enclave economy effects, it will be critical to understand whether and how such

features of segregated enclaves also appear among other ethnic groups, in other time periods, and within other geographic locales.

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Table 1. Some Arguments in Favor of and Against Ethnic Economies

	Arguments For	**Arguments Against**
Mechanisms	• Reciprocity, trust, and solidarity generates social capital among co-ethnics (Portes and Sensenbrenner 1993) • Co-ethnics enjoy a higher return to human capital and participate in a training system (Bailey and Waldinger 1991) • Spatial agglomeration creates a protected market and focused identity for ethnic enterprise (Aldrich et al. 1985; Romanelli and Khessina 2005)	• Minorities in enclaves suffer spatial mismatch with labor and consumer markets (Kain 1968; Wilson 1987; Liu 2009) • Ethnic economies produce mobility traps due to intergenerational persistence and specificity of human capital (Wiley 1967; Borjas 2000) • Ethnic economies cannot rely solely on niche markets for ethnic goods (Toussaint-Comeau 2008)
Empirical Evidence	• Cuban enclaves in Miami yield higher income / self-employment among pre-Mariel immigrants (Portes and Jensen 1989) • Chinese residents in Chinatown enjoy high entrepreneurial income / rates of self-employment (Zhou 1992) • Blacks in segregated cities have high rates of entrepreneurship and relatively successful businesses (Boyd 1998; Drake and Cayton 1945; Ingham 2003)	• Even moderate levels of segregation lower rate of entrepreneurship in U.S. cities (Fischer and Massey 2000) • Enclaves yield higher income among Cuban and Chinese entrepreneurs, but not workers (Sanders and Nee 1987) • Segregation generally increases poverty and lowers relative income among blacks (Ananat 2011; Massey and Denton 1993)

Table 2. Descriptive Statistics for Census Samples of the Black Labor Force in the United States

	1880 10% Sample †	1910 1.4% Sample ‡	1930 5% Sample ‡	1940 1% Sample †	1880 Linked Data	1910 Linked Data	1930 Linked Data
Age	30.160	44.392	58.191	36.071	26.146	46.200	58.899
	(15.391)	(11.606)	(7.67)	(13.744)	(10.751)	(12.108)	(7.956)
Female	0.330	0.359	0.262	0.334	0.108	0.124	0.024
	(0.470)	(0.480)	(0.440)	(0.472)	(0.310)	(0.330)	(0.154)
Mixed race	0.137	0.186	---	---	0.178	0.175	0.220
	(0.344)	(0.389)			(0.383)	(0.380)	(0.415)
Born in slave state	0.681	0.293	0.092	0.002	0.667	0.376	0.119
	(0.466)	(0.455)	(0.289)	(0.040)	(0.471)	(0.485)	(0.324)
Learned to read & write	0.277	0.566	0.682	0.747 ^	0.348	0.607	0.753
	(0.448)	(0.496)	(0.466)	(0.435)	(0.477)	(0.489)	(0.432)
Married	0.471	0.707	0.664	0.620	0.565	0.817	0.768
	(0.499)	(0.455)	(0.472)	(0.485)	(0.496)	(0.387)	(0.423)
Outside south	0.183	0.243	0.297	0.323	0.222	0.310	0.335
	(0.387)	(0.429)	(0.457)	(0.468)	(0.415)	(0.463)	(0.473)
Occupational income (median, $100's)	13.113	13.660	14.978	14.721	13.529	15.594	17.155
	(5.977)	(7.682)	(7.884)	(8.343)	(5.765)	(7.536)	(7.406)
Self-employment	---	0.373	0.380	0.180	---	0.464	0.460
		(0.484)	(0.485)	(0.385)		(0.499)	(0.499)
Sample Size	562,547	41,773	47,259	55,139	1,720	960	328

Note: Standard deviations in parentheses.

† Samples are weighted for representativeness.

‡ Individuals born in 1880 or later; samples are weighted for representativeness.

^ Individuals with more than a 3rd grade education.

Table 3. Cross-Sectional Multilevel Mixed-Effects Models of Occupational Income Attainment among Blacks, 1880-1940 †

	1880		1910		1940	
	County Level	District Level	County Level	District Level	County Level	District Level
Intercept	12.731 ***	13.643 ***	10.755 ***	10.888 ***	12.945 ***	12.559 ***
	(0.145)	(0.081)	(0.214)	(0.175)	(0.298)	(0.275)
Demographics						
Age	0.116 ***	0.101 ***	0.298 ***	0.278 ***	0.305 ***	0.314 ***
	(0.003)	(0.002)	(0.008)	(0.008)	(0.013)	(0.013)
Age squared / 100	-0.115 ***	-0.098 ***	-0.283 ***	-0.263 ***	-0.324 ***	-0.335 ***
	(0.003)	(0.003)	(0.012)	(0.011)	(0.016)	(0.016)
Female	-4.044 ***	-4.310 ***	-5.006 ***	-4.989 ***	-6.021 ***	-6.471 ***
	(0.080)	(0.041)	(0.097)	(0.071)	(0.116)	(0.102)
Mixed race	0.291 ***	0.374 ***	0.484 ***	0.577 ***	---	---
	(0.036)	(0.027)	(0.094)	(0.088)		
Born in slave state	0.479 ***	0.449 ***	-0.795 ***	-0.732 ***	4.228 ***	4.423
	(0.035)	(0.026)	(0.131)	(0.129)	(0.973)	(3.300)
Life Course						
Learned to read & write	0.632 ***	0.511 ***	0.961 ***	1.040 ***	1.391 ***	1.566 ***
	(0.035)	(0.022)	(0.072)	(0.064)	(0.082)	(0.079)
Married	3.319 ***	3.409 ***	6.138 ***	6.382 ***	4.541 ***	4.587 ***
	(0.054)	(0.044)	(0.164)	(0.159)	(0.206)	(0.201)
Married x female	-1.635 ***	-1.730 ***	-4.088 ***	-4.152 ***	-2.684 ***	-2.813 ***
	(0.040)	(0.031)	(0.106)	(0.103)	(0.140)	(0.135)
Moved from birth state	0.235 ***	0.105 ***	0.881 ***	0.829 ***	0.225 *	0.422 ***
	(0.039)	(0.024)	(0.115)	(0.089)	(0.112)	(0.088)
Outside south	2.051 ***	2.077 ***	0.694 *	1.037 ***	0.818 ***	2.119 ***
	(0.252)	(0.135)	(0.288)	(0.116)	(0.224)	(0.107)

(cont'd)						
Environment						
Population (log)	0.549 ***	1.100 ***	0.628 ***	0.185 *	0.788 ***	0.461 ***
	(0.122)	(0.100)	(0.133)	(0.074)	(0.086)	(0.081)
Black population (prop)	-4.120 ***	-1.589 ***	-5.534 ***	-1.753 ***	-4.479 ***	0.181
	(0.491)	(0.245)	(0.516)	(0.165)	(0.460)	(0.142)
Black neighbors (prop)	0.766 ***	0.408 ***	0.968 ***	1.242 ***	2.484 ***	2.183 ***
	(0.020)	(0.019)	(0.081)	(0.095)	(0.100)	(0.112)
Manufacturing output ($100s, per capita)	2.433 ***	1.270 ***	0.334 ***	0.260 ***	0.188 ***	0.256 ***
	(0.179)	(0.055)	(0.042)	(0.016)	(0.030)	(0.012)
LR χ^2 (vs. OLS model)	80733.22 (9)	195105.72 (9)	3376.00 (9)	4468.98 (9)	905.86 (8)	1450.37 (8)
Conditional ICC	0.282	0.549	0.173	0.126	0.039	0.074
Sample Size	559,540		50,119		47,637	

† Median occupational earnings in $100s.

Table 4. Cross-Sectional Multilevel Mixed-Effects Models of Self-Employment (Non-Farm) among Blacks, 1880-1940

	1880 †		1910		1940	
	County Level	District Level	County Level	District Level	County Level	District Level
Intercept	-8.634 ***	-8.814 ***	-9.259 ***	-11.667 ***	-7.339 ***	-7.992 ***
	(0.099)	(0.099)	(0.193)	(0.304)	(0.237)	(0.249)
Demographics						
Age	0.122 ***	0.121 ***	0.112 ***	0.126 ***	0.114 ***	0.121 ***
	(0.004)	(0.004)	(0.007)	(0.009)	(0.010)	(0.010)
Age squared / 100	-0.109 ***	-0.105 ***	-0.091 ***	-0.100 ***	-0.083 ***	-0.089 ***
	(0.005)	(0.005)	(0.009)	(0.012)	(0.011)	(0.012)
Female	0.256 ***	0.228 ***	1.645 ***	2.008 ***	0.470 ***	0.491 ***
	(0.036)	(0.037)	(0.068)	(0.088)	(0.074)	(0.078)
Mixed race	0.696 ***	0.711 ***	0.345 ***	0.256 *	---	---
	(0.036)	(0.034)	(0.057)	(0.120)		
Born in slave state	0.107 **	0.159 ***	-0.167 *	-0.163	0.221	0.295
	(0.038)	(0.038)	(0.084)	(0.108)	(0.474)	(0.502)
Life Course						
Learned to read & write	1.312 ***	1.279 ***	0.437 ***	0.264 **	0.315 ***	0.314 ***
	(0.029)	(0.031)	(0.052)	(0.087)	(0.056)	(0.071)
Married	0.770 ***	0.756 ***	-0.315 *	-0.534 **	-0.654 ***	-0.713 ***
	(0.076)	(0.078)	(0.151)	(0.181)	(0.151)	(0.158)
Married x female	-0.401 ***	-0.378 ***	0.276 **	0.464 ***	0.388 ***	0.414 ***
	(0.052)	(0.054)	(0.086)	(0.105)	(0.093)	(0.098)
Moved from birth state	0.164 ***	0.109 ***	0.151 **	0.215 **	-0.041	0.046
	(0.028)	(0.027)	(0.052)	(0.066)	(0.059)	(0.060)
Outside south	-0.020	0.048	0.227 *	0.317 **	-0.359 ***	-0.161 *
	(0.074)	(0.053)	(0.114)	(0.106)	(0.102)	(0.069)

(cont'd)

Environment						
Population (log)	0.191 ***	0.173 ***	-0.004	0.147	0.045	0.201 ***
	(0.038)	(0.038)	(0.049)	(0.075)	(0.035)	(0.056)
Black population (prop)	-0.503 ***	-0.091	-2.017 ***	-2.003 ***	-1.261 ***	-0.386 ***
	(0.136)	(0.092)	(0.209)	(0.171)	(0.211)	(0.091)
Black neighbors (prop)	0.247 ***	0.199 ***	0.728 ***	1.073 ***	0.640 ***	0.737 ***
	(0.031)	(0.034)	(0.061)	(0.097)	(0.079)	(0.089)
Manufacturing output ($100s, per capita)	0.156 **	0.328 ***	0.054 ***	0.098 ***	-0.012	0.010
	(0.048)	(0.021)	(0.014)	(0.014)	(0.012)	(0.007)
LR χ^2 (vs. logistic model)	1654.65 (3)	3080.96 (3)	883.85 (3)	1663.32 (3)	89.34 (2)	204.44 (2)
Conditional ICC	0.090	0.207	0.184	0.592	0.070	0.201
Sample Size	559,540		50,119		47,637	

† Entrepreneurial occupations serve as a proxy of self-employment in 1880.

Table 5. Mixed-Effects Regressions of Intragenerational Occupational Mobility among Blacks (median occupational earnings in $100s), 1880-1930

	Model 1 Baseline	Model 2 Time-Varying Environment	Model 3 Time-Invariant Environment (1880)
Demographics			
Age	0.248***	0.238***	0.245***
	(0.035)	(0.035)	(0.035)
Age squared / 100	-0.227***	-0.223***	-0.229***
	(0.035)	(0.035)	(0.035)
Female	-3.837***	-3.983***	-3.940***
	(0.725)	(0.712)	(0.719)
Mixed race	0.430	0.385	0.433
	(0.354)	(0.346)	(0.353)
Born in slave state	-0.075	0.125	-0.002
	(0.313)	(0.306)	(0.311)
Life Course			
Learned to read & write	1.751***	1.467***	1.573***
	(0.245)	(0.241)	(0.246)
Married	2.644**	2.547*	2.643*
	(1.011)	(0.997)	(1.004)
Married x female	-1.391	-1.344	-1.426
	(0.897)	(0.884)	(0.890)
Moved from county	1.687***	1.442***	1.749***
	(0.334)	(0.330)	(0.332)
Distance (100s miles)	0.150	0.046	0.156
	(0.103)	(0.101)	(0.102)
Outside south	1.475***	0.125	0.998**
	(0.270)	(0.347)	(0.339)
Environment			
County population (log)		0.609***	0.089
		(0.140)	(0.180)
Black population (prop)		-2.182***	-0.197
		(0.625)	(0.658)
Black neighbors (prop)		0.960***	0.930**
		(0.266)	(0.302)
Manufacturing output ($100s, per capita)		0.440***	1.121***
		(0.097)	(0.282)
Wald χ^2 (df)	618.88 (15)	747.76 (19)	668.50 (19)
Δ in χ^2 (vs. baseline)	† 329.54 ***	128.88 ***	49.62 ***

Note: N = 1,513 individuals. Standard errors are in parentheses. Models include dummy variables for year.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). † Likelihood ratio test versus OLS model.

Table 6. Mixed-Effects Regressions of Intergenerational Occupational Mobility among Blacks (median occupational earnings in $100s), 1880-1930

	Model 1 Baseline	Model 2 Time-Varying Environment	Model 3 Time-Invariant Environment (1880)
Demographics			
Age	-0.027	-0.009	-0.023
	(0.041)	(0.040)	(0.040)
Age squared / 100	0.082	0.048	0.069
	(0.074)	(0.073)	(0.074)
Female	-1.442***	-1.513***	-1.511***
	(0.396)	(0.388)	(0.391)
Mixed race	1.661***	1.596***	1.510***
	(0.328)	(0.322)	(0.327)
Born in slave state	0.062	0.298	0.123
	(1.293)	(1.263)	(1.271)
Parent / Guardian Demographics			
Age (in 1880)	0.004	0.003	0.005
	(0.010)	(0.010)	(0.010)
Female	-2.473***	-2.412***	-2.414***
	(0.497)	(0.487)	(0.490)
White	-2.929	-2.709	-2.590
	(1.805)	(1.764)	(1.789)
Born in slave state	-1.008	-0.162	0.150
	(0.565)	(0.562)	(0.586)
Life Course			
Learned to read & write	2.054***	1.619***	1.901***
	(0.321)	(0.320)	(0.321)
Married	5.332*	5.667*	5.165*
	(2.662)	(2.596)	(2.627)
Married x female	-3.677	-3.956	-3.464
	(2.592)	(2.527)	(2.557)
Moved from county	1.449***	0.842**	1.604***
	(0.379)	(0.377)	(0.377)
Distance (100s miles)	0.165	0.054	0.198
	(0.107)	(0.106)	(0.107)
Outside south	2.007***	0.392	1.050***
	(0.275)	(0.353)	(0.341)

(cont'd)

Environment			
County population (log)		0.623***	0.246
		(0.139)	(0.181)
Black population (prop)		-2.714***	-1.228
		(0.640)	(0.655)
Black neighbors (prop)		1.018***	0.518
		(0.284)	(0.308)
Manufacturing output ($100s, per capita)		0.446***	1.198***
		(0.101)	(0.269)
Wald χ^2 (df)	329.51 (19)	454.01 (23)	388.65 (23)
Δ in χ^2 (vs. baseline)	† 303.88 ***	124.50 ***	59.14 ***

Note: N = 1,564 individuals. Standard errors are in parentheses. Models include dummy variables for year.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). † Likelihood ratio test versus OLS model.

Table 7. Mixed-Effects Logistic Regressions for Entrepreneurial Occupations among Blacks (odds ratios), 1880-1930

	Model 1 Baseline	Model 2 Time-Varying Environment	Model 3 Time-Invariant Environment (1880)
Demographics			
Age	1.231***	1.221***	1.227***
	(0.046)	(0.045)	(0.046)
Age squared / 100	0.847***	0.853***	0.847***
	(0.033)	(0.033)	(0.033)
Female	0.459	0.448	0.424*
	(0.193)	(0.187)	(0.180)
Mixed race	1.229	1.356	1.037
	(0.436)	(0.435)	(0.382)
Born in slave state	0.565*	0.636	0.613
	(0.148)	(0.166)	(0.164)
Life Course			
Learned to read & write	6.042***	5.889***	5.930***
	(1.979)	(1.570)	(1.955)
Married	5.141*	5.205*	4.991
	(4.240)	(4.267)	(4.147)
Married x female	0.171*	0.177*	0.177*
	(0.125)	(0.129)	(0.130)
Moved from county	1.933**	1.637*	2.270**
	(0.442)	(0.382)	(0.529)
Distance (100s miles)	0.988	0.960	1.009
	(0.052)	(0.055)	(0.053)
Outside south	1.156	0.441**	0.793
	(0.236)	(0.133)	(0.214)
Environment			
County population (log)		1.277**	1.517**
		(0.111)	(0.212)
Black population (prop)		0.192**	0.682
		(0.118)	(0.376)
Black neighbors (prop)		1.660*	1.323
		(0.374)	(0.330)
Manufacturing output ($100s, per capita)		1.103*	1.018
		(0.042)	(0.169)
Wald χ^2 (df)	115.48 (15)	169.36 (19)	133.92 (19)
Δ in χ^2 (vs. baseline)	† 7.66	53.88 ***	18.44 **

Note: N = 4,018 individuals. Standard errors are in parentheses. Models include dummy variables for year.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests). † Likelihood ratio versus logistic model.

Table 8. State Laws Governing Organizational Segregation during the Jim Crow Era †

States with Statutes Favoring Organizational Segregation	States with Statutes Neutral on (or Against) Organizational Segregation
Alabama (1868-1950)	Arkansas (1873-1883)
Arizona (1880-1950)	California (1897-1950)
Arkansas (1883-1950)	Colorado (1876-1950)
California (1870-1897)	Connecticut (1868-1950)
Delaware (1875-1950)	District of Columbia (1872-1950)
Florida (1885-1950)	Florida (1873-1885)
Georgia (1869-1950)	Idaho (1867-1950)
Indiana (1869-1885)	Illinois (1870-1950)
Kentucky (1869-1950)	Indiana (1885-1950)
Louisiana (1883-1950)	Iowa (1868-1950)
Maryland (1874-1950)	Kansas (1870-1950)
Mississippi (1883-1950)	Louisiana (1869-1883)
Missouri (1865-1950)	Maine (1880-1950)
New Mexico (1923-1950)	Massachusetts (1865-1950)
North Carolina (1869-1950)	Michigan (1869-1950)
Oklahoma (1890-1950)	Minnesota (1868-1950)
South Carolina (1882-1950)	Mississippi (1870-1883)
Tennessee (1875-1950)	Montana (1875-1950)
Texas (1879-1950)	Nebraska (1891-1950)
Virginia (1874-1950)	Nevada (1873-1950)
West Virginia (1879-1950)	New Hampshire (1868-1950)
Wyoming (1869-1889)	New Jersey (1874-1950)
	New Mexico (1853-1923)
	New York (1873-1950)
	North Dakota (1889-1950)
	Ohio (1868-1950)
	Oregon (1862-1950)
	Pennsylvania (1877-1950)
	Rhode Island (1866-1950)
	South Carolina (1879-1882)
	South Dakota (1889-1950)
	Utah (1896-1950)
	Washington (1889-1950)
	Wisconsin (1880-1950)
	Wyoming (1889-1950)

† Includes segregation of barber shops, bars, bathrooms, beauty parlors, boarding houses, boardwalks, cemeteries, churches, cinemas, common carriers, drug stores, fairs, gaming establishments, gyms, hospitals, hotels, libraries, parks, public amusements, public garages, restaurants, rinks, schools, stores, teacher colleges, theaters, universities, and/or specialized educational institutions.

Table 9. Cross-Sectional Estimates of Occupational Income Attainment in States with and without Jim Crow Statutes †

	1880		1910		1940	
	Without Statute	With Statute	Without Statute	With Statute	Without Statute	With Statute
Segregation by Statute	0.000	-0.051 *** (0.007)	0.000	-0.039 (0.039)	1.000	-0.313 *** (0.048)
Black Population (proportion)	-0.009 (0.012)	-0.052 *** (0.009)	0.082 (0.235)	-0.467 *** (0.022)	0.489 (0.268)	-0.487 *** (0.030)
Black Neighbors (proportion)	0.168 *** (0.007)	0.186 *** (0.004)	0.030 (0.046)	0.189 *** (0.012)	0.031 (0.056)	0.383 *** (0.014)
R-Square (df)	0.154 (17)		0.416 (17)		0.318 (16)	
Sample Size	559,540		50,119		47,637	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).

† Observations in states with and without segregation statutes are weighted so that means of individual-level characteristics are matched across legal environments.

Table 10. Cross-Sectional Estimates of Self-Employment (Non-Farm) in States with and without Jim Crow Statutes †

	1880		1910		1940	
	Without Statute	With Statute	Without Statute	With Statute	Without Statute	With Statute
Segregation by Statute	0.000	-0.015 (0.051)	0.000	-0.205 (0.159)	1.000	-0.900 *** (0.223)
Black Population (proportion)	-0.413 *** (0.099)	-0.493 *** (0.087)	0.845 (0.851)	-2.360 *** (0.118)	-0.330 (1.041)	-1.369 *** (0.160)
Black Neighbors (proportion)	0.043 (0.051)	0.350 *** (0.041)	-0.035 (0.181)	0.892 *** (0.070)	-0.052 (0.234)	1.063 *** (0.102)
F-Statistic (df)	786.1 (17)		69.5 (17)		28.2 (16)	
Sample Size	559,540		50,119		47,637	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).

† Observations in states with and without segregation statutes are weighted so that means of individual-level characteristics are matched across legal environments.

Table 11. Panel Model Estimates of Ethnic Economy Effects in States with and without Jim Crow Statutes

	Intragenerational Mobility (standardized estimates)		Intergenerational Mobility (standardized estimates)		Entrepreneurial Occupations (odds ratios)	
	Without Statute	With Statute	Without Statute	With Statute	Without Statute	With Statute
Segregation by Statute	0.000	-0.158 * (0.077)	0.000	0.095 (0.084)	1.000	1.208 (0.453)
Black Population (proportion)	-0.254 (0.149)	-0.362 *** (0.100)	-0.346 * (0.143)	-0.423 *** (0.110)	0.380 (0.406)	0.147 ** (0.096)
Black Neighbors (proportion)	0.025 (0.081)	0.173 *** (0.044)	0.143 (0.079)	0.156 ** (0.051)	0.926 (0.344)	2.189 ** (0.625)
Wald χ^2 (df)	765.89 (22)		457.04 (26)		180.64 (22)	
Sample Size	1,513		1,564		4,018	

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).

Table A1. Some Occupations Linked to Black Self-Employment in the early 20th Century *

Crafts- or Tradespeople	*Independent Professionals*	*Merchants or Service Proprietors*
Blacksmith	Architect	Boarding-House Keeper
Cooper	Artist	Caterer
Dressmaker	Clergy	Clothier
Mechanic	Dentist	Funeral Parlor Director
Shoemaker	Lawyer	Grocer
Tailor	Musician	Hotel Keeper
Upholsterer	Physician	Peddler
Wheelwright	Veterinarian	Restaurant Keeper
		Other Proprietor

* We exclude some occupations, such as barbers, that had strong links to black self-employment in the late 19th century, but which were increasingly displaced by European immigrants in the 1910s and 20s (Bogan and Darity, 2008).