Contents lists available at ScienceDirect

Economics Letters

Neighborhood segregation and black entrepreneurship

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HIGHLIGHTS

- We find that segregation has a positive effect on black entrepreneurship.
- We address neighborhood sorting by analyzing city averages.
- We address omitted variable bias by instrumenting segregation with railroad configurations.
- Our findings are important because entrepreneurship may decrease welfare and unemployment.
- Entrepreneurship is an important avenue out of poverty.

ARTICLE INFO

ABSTRACT

We examine the causal effect of neighborhood segregation on black entrepreneurship. We address neighborhood sorting by analyzing city averages and omitted variable bias by instrumenting for segregation using historical railroad configurations. We find that segregation has a significant positive effect: a 10 percentage point increase in the dissimilarity index decreases the racial gap by about 3.3 percentage points. To minimize the effect of cross-city sorting, we use a narrower sample constructed from outcomes of young adults and find a similar effect. Our findings are important because historically, entrepreneurship has been an avenue out of poverty, and entrepreneurship has been promoted as a way to decrease welfare and unemployment.

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1. Introduction

We consider the effect of segregation on black entrepreneurship —a relationship that has been studied previously but, to the best of our knowledge, not in a manner that renders a causal estimate.[1] Understanding the racial gap in entrepreneurship is important because entrepreneurship is a source of wealth and employment as well as a critical channel of upward mobility (Fairlie and Robb, 2008; Quadrini, 1999). Racial disparities in business ownership could exacerbate wealth inequality along racial lines, and engender persistent intergenerational economic stagnation for minorities.

Neighborhood segregation does not necessarily lead to lower black entrepreneurship rates especially if there are positive spillovers that result from within-group mixing among income classes (Higgs, 1977) or from market segmentation whereby black entrepreneurs serve the needs of black customers that are not pursued by white-owned businesses (Brimmer, 1997). However, if racial segregation results in a lack of positive role models or a deficient provision of local public goods, then it is plausible that segregation could curb black entrepreneurship.[2]

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[1] See, for example, Massey and Denton (1993) and Bogan and William (2008). Cutler and Glaeser (1997), Card and Rothstein (2007), and Ananat (2011) examine the effect of segregation on other black outcomes such as employment status, test scores, and income.

[2] Wilson (1996) observed that "Segregation in ghettos exacerbates employment problems because it leads to weak informal employment networks and contributes to social isolation of individuals and families, thereby reducing their chances of acquiring the human capital skills, that facilitate mobility in a society. Since no other

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Establishing the causal effect of segregation on entrepreneurship is complicated by two primary concerns. First, individuals may self-select into neighborhoods. For example, more enterprising blacks may choose to locate in less segregated neighborhoods. To mitigate this concern, following Cutler and Glaeser (1997) and Card and Rothstein (2007), we average outcomes to the city level for non-blacks and blacks and take the difference to eliminate any city-wide variables that affect the two groups equally. To account for possible city-level unobservables that affect the groups differently, we include city characteristics in the specification of the remaining error term. The second concern is that omitted variable bias could arise from unobservable city-level attributes that affect both segregation and mean economic outcomes. We instrument for segregation using the Railroad Division Index (RDI) of Ananat (2011). Ananat argues that the extent to which a city was subdivided by nineteenth-century railroad tracks, which subsequently served as natural enclave boundaries, influenced how segregated a city became when large inflows of blacks moved during the Great Migration.

Addressing these concerns, we find strong evidence that greater neighborhood segregation increases relative black entrepreneurship. A 10 percentage point increase in the dissimilarity index, an index that measures the level of neighborhood segregation, increases the rate of black entrepreneurship by 3.3 percentage points relative to the rate of non-blacks. To minimize the influence of cross-city sorting, we also estimate the segregation effect using a narrower sample constructed from the outcomes of young adults. This narrower sample mitigates the influence of sorting since young adults have a shorter window to change cities, and the likelihood of such moves is conceivably low. Using this sample we find that a 10 percentage point increase in the dissimilarity index increases the rate of black entrepreneurship by 2.8 percentage points relative to the rate of non-blacks.

2. Model

The outcome of individual i of racial group j living in city c is determined by

$$Y_{ijc} = X_{ijc}\alpha + R_{ijc}\delta + \epsilon_{ijc}, \tag{1}$$

where

$$Y_{ijc} = \begin{cases} 1 & \text{if the individual is an entrepreneur} \\ 0 & \text{if the individual is employed by others} \end{cases}$$

X_{ijc} is a vector of observed individual characteristics, and R_{ijc} is the fraction of blacks in i's neighborhood. δ is the parameter of interest. It measures the effect of neighborhood segregation on entrepreneurship. The error ϵ_{ijc} has two components. One component is common to individuals in racial group j living in city c, u_{jc}. The other component is an individual-specific error with mean 0 for each racial group living in each city, ξ_{ijc}.

Following Cutler and Glaeser (1997) and Card and Rothstein (2007), we average outcomes of each racial group to the city level which removes ξ_{ijc} from the model and eliminates the effect of non-random sorting of households into neighborhoods within a given city. Taking the average of (1), we have

$$Y_{jc} = X_{jc}\alpha + R_{jc}\delta + u_{jc}. \tag{2}$$

Here, Y_{jc} is the entrepreneurship rate of group j in city c, X_{jc} are the mean characteristics of racial group j living in city c, and R_{jc} is the average fraction of black neighbors in group j living in city c.

We then take the difference between racial groups within a city to eliminate any city-wide variables that affect the two racial groups equally:

$$\Delta Y_c = \Delta X_c\alpha + \Delta R_c\delta + \Delta u_c, \tag{3}$$

where $\Delta Y_c = Y_{2c} - Y_{1c}$, $\Delta X_c = X_{2c} - X_{1c}$, and $\Delta u_c = u_{2c} - u_{1c}$. ΔR_c is the dissimilarity index, a measure of the level of segregation in city c.

To account for any possible unobserved differences between non-blacks and blacks at the city level, we include city characteristics in the specification of Δu_c. That is,

$$\Delta u_c = F_c\psi + v_c$$

where F_c are city characteristics and v_c contains the remaining unobserved differences between non-blacks and blacks in city c.

The model to be estimated is then

$$\Delta Y_c = \Delta X_c\alpha + \Delta R_c\delta + F_c\psi + v_c. \tag{4}$$

As mentioned previously, omitted variable bias could still be present. We address this by instrumenting for neighborhood segregation following Ananat (2011). There is also the possibility of cross-city sorting. We address this in a robustness test by estimating the model on a sample created from outcomes of young adults, following the approach of Cutler and Glaeser (1997).

3. Data

Our data comes from four sources. Data on entrepreneurship and individual characteristics are from the 5-percent Public Use Microdata Sample Files (PUMS) of the 2000 Census. City characteristics for 2000 were downloaded using American FactFinder. The 2000 dissimilarity index was downloaded from the archived web page of Jacob Vigdor.[3] Our instrument for the dissimilarity index, the Railroad Division Index (RDI), and 1910 and 1920 city characteristics are from Ananat (2011).[4]

3.1. 2000 Census Data

Using the 2000 Census data, for our primary analysis, we computed entrepreneurship rates and average characteristics by Metropolitan Statistical Area (MSA) and by racial group using US-citizen heads of household ages 18–65 who were not in school or the armed forces. A person is an entrepreneur if the PUMS class-of-worker variable indicates that the person worked for their own enterprise, and is not an entrepreneur if the person worked for someone else as an employee. Our dependent variable is the difference in mean entrepreneurship rates of non-blacks and blacks. For ease of exposition, we will henceforth refer to this dependent variable as the *racial gap*.

We also estimated the model using a sample based on 18–25 year olds. This is meant to minimize the effect of cross-city sorting since young adults have had only a short period in which to change residence. Moreover, we assign individuals to their MSA of residence five years before being interviewed to capture the effect of segregation when peer influences are presumably strongest. This subsample contains fewer observations since some MSAs do not contain observations from any young black individuals.

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group in society experiences the degree of segregation, isolation, and poverty concentration as do African-Americans, they are far more likely to be disadvantaged..." (pg. 24).