

Did COVID Change the Black Neighborhood Startup Deficit? Evidence from the Startup Cartography Project

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December 2024

Preliminary
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This work builds on *How is COVID Changing the Geography of Entrepreneurship?: Evidence from the Startup Cartography Project*, NBER WP 28787 (joint with Yupeng Liu), and includes segments of text drawn from that paper. This work is part of the Startup Cartography Project (Andrews, et al., 2022). We would like to thank Ezra Zuckerman Sivan, Valentina Tartari and seminar participants at the University of Oklahoma and Stockholm School of Economics for useful feedback and suggestions. All errors and omissions are our own.

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September 2024

Abstract

This paper examines the relative rate of new firm formation within Black neighborhoods both over time and with particular attention to the period after COVID. Motivated by the seminal work of Wilson (1987), we first hypothesize that a lower rate of entrepreneurship among Black individuals, alongside a lower level of entrepreneurial opportunities within Black neighborhoods, combines to yield an historical “startup deficit” within Black neighborhoods. Leveraging data from the Startup Cartography Project, we document that, relative to otherwise similar neighborhoods, Black neighborhoods register a lower rate of startup formation between 1990-2019. We then test to see how this relative rate changes in the wake of COVID. The relative rate of startup formation in Black neighborhoods flips from a deficit to a surplus in 2020 and 2021 before returning to a deficit in 2023. We explore a range of potential explanations and confounders for this changing rate of relative entrepreneurship in Black neighborhoods. We consider whether measures associated with gentrification (e.g., recent migration, income growth, changes in home values, and the extension of PPP loans) explain the increased rate of startup formation observed in Black neighborhoods following the pandemic. While each of these factors is associated with changes in the startup formation rate, these factors do not account for the specific rise of entrepreneurship in Black neighborhoods. We then note that the initial surge in entrepreneurship in Black neighborhoods occurred as support for Black-owned businesses widened in connection with the Black Lives Matter Movement. In 2020 relative to 2019, we find a significant rise in Black neighborhoods of new businesses with names signaling Black identity as well as more personalized ventures, and a reduction in more traditional business names (e.g., those indicating the industry or the city of the business).

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I. Introduction

William Julius Wilson's seminal analyses of concentrated poverty within inner city communities (1987, 1996, 2009) suggests that, due to racial segregation and structural barriers, Black urban neighborhoods have experienced a form of economic isolation, with lower levels of economic activity and higher levels of joblessness. While urban theorists often highlight the value of dense cities in promoting economic opportunity (Glaeser, 2011), Wilson's analysis raises the possibility that a "dual-city phenomenon" can arise, whereby Black neighborhoods are left economically isolated and suffer disinvestment and neglect (Wilson, 1987; 1996; 2009). Thus, even as formal barriers for Black economic opportunity might recede, one implication of Wilson's work is that the economic geography of Black neighborhoods may continue to experience a lower level of opportunity for social and economic advancement within cities.

One particularly important channel through which this dynamic might be reflected is local entrepreneurship. Entrepreneurship is widely seen as a catalyst for economic growth and social advancement (Decker et al., 2014). Yet, the rate of entrepreneurship varies considerably across different demographic groups and regions. Notably, in the United States, Black individuals have historically had lower rates of entrepreneurship compared to other groups (Fairlie, 1999; Fairlie and Robb, 2010; Fairlie, et al., 2022; Bennett and Robinson, 2024) due to a range of structural and systemic barriers—such as limited access to financial capital, discriminatory lending practices, and biases in supply chains and consumer markets—that disproportionately hinder potential Black entrepreneurs (Fairlie and Robb, 2010; Greenwald, et al., 2024; Howell, et al., 2024). Moreover, as emphasized by Bostic and Lampani (1999) and further supported by Atkins (2020), a significant element in lower rates of Black entrepreneurship may be that the barriers for establishing a business are higher in disproportionately Black neighborhoods.

While a large body of literature has documented and explored the drivers of the lower incidence of entrepreneurship among Black individuals relative to others, the nature of entrepreneurship *within* Black neighborhoods (independent of founder race) has received less attention. Considering Wilson's work in tandem with this body of literature, we frame a hypothesis that the combined impact of a lower rate of entrepreneurship among Black individuals, alongside a lower level of economic opportunity within Black neighborhoods, may

result in fewer new businesses being formed within Black neighborhoods, and give rise to a “startup deficit” in the relative rate of new firm formation found there.

Leveraging data from ten U.S. states from the Startup Cartography Project, the purpose of this paper is to investigate this startup deficit hypothesis directly, documenting the relative incidence of entrepreneurship in Black neighborhoods versus other similar areas over time. Our approach builds on the methodology and extends the dataset of the Startup Cartography Project (SCP; Andrews, et al., 2022). Based on Guzman and Stern (2015, 2017), the SCP combines state-level business registration records and a predictive analytics approach to provide measures of both the quantity and quality (i.e., potential for growth) of entrepreneurship over time and at an arbitrary level of geographic granularity. Specifically, while Andrews, et al. (2022) report SCP results covering 49 states and Washington D.C. from 1988-2014, and 46 states through 2016, this paper applies the methodology introduced in Fazio, et al. (2021) and draws on new data of the entire population of new business registration records from 2017 through 2023 for ten U.S. states comprising over 45% of U.S. GDP. State-level business registration data are a particularly valuable publicly available data source on entrepreneurship, as each record reflects the legal founding of a new entity, and reflects steps taken by founders to gain protection from liability, divide equity and develop a corporate governance structure. Importantly, for each business registrant, we are able to observe the name of the business, its precise street address, and its business registration type (e.g., partnership, LLC, or corporation).

Building on the “snapshot in time” analysis in Fazio, et al. (2021), we focus on the specific dynamics of entrepreneurship within Black neighborhoods between 1989-2023. We begin by documenting the relative rate of startup formation in Black neighborhoods as compared to other similar neighborhoods. Controlling for other demographic and geographic factors including population, income, and density, we focus on the correlation between the percent Black in a zip code and the number of firms registered there. When we force comparisons to be with neighborhoods in the same geographic region, we find stark evidence of a Black neighborhood startup deficit from 1989 – 2019. As the proportion of Black residents in a neighborhood rises from 0 to 100 percent, the expected number of new business registrations falls by 139 across our sample. Within nearby neighborhoods, those registering 10 percentage points higher Black proportion in their population register 14 fewer firms. Our pattern provides evidence for a core

implication of Wilson (1987): controlling for other factors, there has historically been a “startup deficit” in Black neighborhoods.

We next consider the changes in entrepreneurship during the COVID pandemic. We replicate the large and persistent boom in entrepreneurship following COVID observed in the literature (*see, e.g., Haltiwanger, 2022*). We next evaluate the relationship of these changes to startup deficit in Black neighborhoods. When we regress the percent of non-Hispanic Black residents on the number of firms registered in a neighborhood (including controls and neighborhood effects), the pattern is striking. With the onset of COVID, relative startup formation rates in Black neighborhoods abruptly reverse from a deficit to a surplus in 2020 and 2021. Whereas greater proportions of Black residents in a given zip code/year predict lower rates of startup formation from 2011 through 2019, the opposite is true in 2020 and 2021. Increasing the share of Black residents from 0 to 1 is associated with an average annual increase of 200 new business registrations above the mean, after accounting for median income and population and controlling for year and regional variation. This Black neighborhood start-up “boom,” however, recedes in 2022 and 2023, converging to the population mean in 2022 and exhibiting a (slight) negative and noisy deficit in 2023. When we further decompose this effect, repeating our specification but replacing the continuous measure of Black percentage with the quartile of the neighborhood and comparing the lowest Black percentage with each of the other groups, we find that neighborhoods in the “top” Black neighborhood percentage (i.e., zip codes whose Black population is among the top 20% in terms of Black neighborhood percentage) have historically been associated with the largest start-up deficit, but also realize the largest relative surplus in 2020 and 2021, and do not converge back to the population level through 2023.

We next take advantage of the DHS startup growth estimate to focus more specifically on the increase that occurred during the pandemic and compare the change in the rate of new firm formation in each of 2020 and 2021 relative to 2019. Consistent with Fazio et al. (2021), we find that neighborhoods with a higher proportion of Black residents experienced the largest growth in the rate of startup formation. Across all Black neighborhoods, this striking pattern is most apparent in the formation of new "Main Street" businesses, as indicated by the entity form adopted (e.g., LLCs rather than corporations).

We then explore a range of potential explanations and confounders that could illuminate the drivers of these phenomena. First, we empirically evaluate whether shifting patterns of gentrification (e.g., changes in percentage of residents living in the same home, city or state, income growth and/or rising home values) within Black neighborhoods might account for the changes in the geography of entrepreneurship we observe. They do not. While these measures can explain some fraction of the overall rise in startup formation rates relative to 2019, they do not meaningfully alter our core findings regarding the sharp rise in entrepreneurship in Black neighborhoods. Further, while the interaction between income growth and percent black is positive (suggesting an interesting avenue for further research), the interaction effects between percent black and migration and home values, respectively, are the opposite of what one would expect if migration, home values or changes in income were driving these effects. Second, we construct a number of measures to assess whether PPP loans could be driving the patterns we observe: all loans by Zip Code and both the number and value of PPP loans to Black-owned firms. Here again, we find no evidence to indicate that PPP loans drive the change in rates in startup formation observed in Black neighborhoods.

Finally, given the striking nature of our results, we undertake, in a more descriptive and preliminary way, whether name-based markers associated with newly registered businesses. We find evidence that, relative to 2019 and comparable neighborhoods, more businesses in Black neighborhoods during 2020 incorporate expressions of Black identity, punctuation or spelling incongruities, or religious references in their business names. This trend suggests a potential alignment with the "passion economy" (Davidson, 2020), where entrepreneurial ventures are closely tied to personal passions and communal identities. This shift may reflect the influence of heightened civil activism and a renewed sense of empowerment within Black communities during this period. Though exploratory, we believe that the study of business names offers a new lens (beyond traditional industry codes, etc.) to observe changes in the motives for startup founding.

Our analysis offers direct historical evidence of depressed rates of startup formation in Black neighborhoods in line with Wilson's hypothesis that the economic isolation and racial segregation experienced by Black communities impacts economic dynamism there. As well, the closure of the startup deficit during COVID suggests that the relative lack of economic

opportunity in Black neighborhoods is not immutable. And, perhaps most intriguingly, the post-COVID surge in entrepreneurship in Black neighborhoods highlights the possible role of personal identity and “passion” in shaping founder choices.

II. The Black Neighborhood Startup Deficit

Cities are fundamental to human progress. They bring people together, creating prospects for networking and idea-sharing, and serving as the fulcrum through which agglomeration economies realize specialization and economies of scale (Glaeser, 2011). One of the primary ways that cities enable economic dynamism is through entrepreneurship; the value that arises from density is enabled through the starting and scaling of new enterprises. From New York’s garment district to Silicon Valley’s tech hub, history is replete with examples of densely populated urban areas that have served as incubators for new industries, centers of innovation, and catalysts for opportunity and economic growth.

Yet the benefits of an urban environment are neither evenly distributed nor a universal salve. Though cities as a whole may be dynamic, neighborhoods within cities can experience persistent poverty and social challenges in the wake of structural economic shifts. Neighborhoods “mediate and are mediated by both macro structures (e.g., political, economic, legal) and micro-processes (e.g. perception and choice)” and thus can perpetuate racial segregation and structural inequality. (Sampson, 2018, p. 7). For example, William Julius Wilson’s groundbreaking studies highlight that Black neighborhoods were particularly vulnerable to the decline in manufacturing jobs and increase in automation, starting in the 1970s, and these neighborhoods -- previously buoyed by abundant manufacturing jobs -- experienced rising rates of joblessness, depopulation (via urban flight), and social dislocation (Wilson, 1987). Even within otherwise prosperous cities and independent of subsequent formal discrimination, Black neighborhoods can experience a persistently lower level of economic performance and dynamism as a result. (Wilson, 2009).

This gap between Black neighborhoods and cities at large may be particularly salient in the domain of entrepreneurship for two interrelated reasons. First, as most entrepreneurship is in fact local, Black neighborhoods will be impacted by both the lower rate of Black entrepreneurship and the structural challenges facing potential Black entrepreneurs. A large body of literature

documents a lower incidence of entrepreneurship among Black individuals relative to other groups (Borjas and Bronars, 1989; Light and Rosenstein, 1995; Fairlie and Meyer, 1996; Fairlie, 1999; Bates, 2000; Hout and Rosen, 2000; Köllinger and Minniti, 2006; Fairlie and Robb, 2010; Bates 2011; Fairlie, et al. , 2022; Fairlie et al., 2023, Bennett and Robinson, 2024). Significant structural and systemic barriers obstruct both the founding and the growing of new businesses by people of color and those from disadvantaged backgrounds. As summarized with careful detail and in a comprehensive literature review by Bates (2011), minority-led businesses confront barriers to growth well beyond those faced by their white counterparts. Most notably, potential Black entrepreneurs face less access to bank finance (Bostic and Lampani, 1999; Atkins, 2020; Fairlie et al., 2020), and so found businesses with less initial capital, more personal debt, and at a scale that limits their potential for growth and profitability. Recent studies likewise find that the traditional processes that banks use to score business loans may disproportionately disadvantage Black applicants, and that Black entrepreneurs may be particularly benefited by more “algorithmic” approaches (Howell, et al., 2024; Greenwald, et al., 2024). Moreover, “suppliers often charge higher prices from Black entrepreneurs and white customers usually avoid doing business transactions with Blacks” (Basu et al., 2024, p. 959; Kopkin, 2017).

Second, beyond the direct structural barriers facing an individual Black entrepreneur, a lack of local economic opportunity may also limit entrepreneurship in Black neighborhoods. On average, Black neighborhoods have lower income (and wealth) than other neighborhoods, reducing local demand for goods and services within those neighborhoods. Even after accounting for the overall level of income (and any other independent demographic factors that might influence the rate of entrepreneurship), economic “isolation” within Black neighborhoods may further reduce the ability of entrepreneurs to found and grow successful businesses there. “Banking conventionally is more difficult in richer minority neighborhoods than higher-poverty white ones.” (Small et al., 2021, p. 1626). Racial discrimination in other markets (such as the housing collateral market) can amplify any patterns of discrimination in entrepreneurial finance (Atkins, 2020). In other words, independent of “direct” forms of discrimination against Black entrepreneurs, potential entrepreneurs who might be considering establishing a new firm within a Black neighborhood may face both a higher cost of entry as well as lower realized demand (even conditioning on income).

Density remains an important potential countervailing force to the disadvantages that Black neighborhoods face with respect to the startup formation rate in cities. Notwithstanding the economic isolation that urban Black (and other minority) neighborhoods experience, these neighborhoods are still embedded within larger cities which themselves tend to support a high level of dynamism and entrepreneurship (Glaeser, 2011). As the means by which agglomeration economies (specialization, knowledge spillovers, and economies of scale) are realized, the density of cities both provides a fertile environment for entrepreneurship and also benefits from entrepreneurship in terms of the ability to offer a wider range of more tailored goods and services (Jacobs, 1991; Glaeser, et al., 1992; Bostic, et al., 1995; Glaeser, 2011). As the marginalization emphasized by Wilson and others operates on individual Black neighborhoods, Black neighborhoods in dense areas will benefit to some extent from agglomeration itself. The degree to which density mitigates discrimination and lack of local economic opportunity is thus an empirical question.

Motivated by the seminal analysis of Wilson as well as the large literature that has by and large focused on the relative rate of entrepreneurship by Black individuals, we hypothesize that, all else equal, Black neighborhoods will register a lower rate of entrepreneurship than otherwise similar neighborhoods over time (the “Black neighborhood startup deficit”). Specifically, after accounting for differences in population across different neighborhoods (in our empirical analysis, these will be Zip Codes), we will examine how the startup formation rate varies with the Black population share of that neighborhood, controlling for differences in income (which itself shapes the level of demand in a given location) and density (to account for the impact of the dynamism of being embedded within larger cities). Documenting this startup deficit is important in so far as the impact of lower rates of entrepreneurship in Black neighborhoods not only exerts a private loss to the potential entrepreneur but also the loss of social return to the community in which that entrepreneur lives.

The Impact of COVID and Black Civil Rights Protests on the Black Neighborhood Startup Deficit. In addition to testing for the historical Black neighborhood startup deficit, our analysis builds on Fazio et al. (2021) to examine the changing rate of entrepreneurship within Black neighborhoods in the wake of the COVID pandemic. The time immediately following the onset of the pandemic (March-June 2020) combined a period of high economic and societal

uncertainty, particularly in Black neighborhoods. Notably, even beyond COVID’s widespread impact (with a large increase in work-from-home and school-at-home), the George Floyd murder ushered in a period of robust social action to support Black business owners and their communities. Precipitated by episodes of police brutality, the broad social movement of Black Lives Matter was an affirmation of the social and economic presence of Black communities across the United States and created a social impetus where consumers and services directly focused—at least performatively—on providing access and support for Black entrepreneurs. Individuals sought to buy from Black owned businesses, and banks and other financial institutions emphasized their commitment to them and their communities. (Agrawal et al., 2023). These shifts may have changed both the objective conditions for and perception of entrepreneurial opportunity by Black founders and within Black neighborhoods. For example, Agrawal et al. (2023) and Aneja et al. (2023) identify contexts where consumer demand for products and services from Black owned businesses increased and performance of Black-owned firms improved. Garcia and Ortega (2023) and Koh et al. (2023) find that access to some forms of financing for Black entrepreneurs may likewise have increased. (*But see* Marx et al., 2024, showing reversion of the upswell in venture capital deals to pre-pandemic levels). At an individual level, the social affirmation from this movement could have resulted in increased self-determination, higher locus of control, and increased willingness to undertake risk within these communities.¹

This shift in social affirmation may also align with what some journalists have termed the “Passion Economy” (Davidson, 2020). They note that the twenty-first century economy has evolved to offer a new paradigm for the creation and capture of value: niche ventures grounded in shared passions as opposed to scale. “The passion economy presents a new way to capitalize on creativity by connecting creators with genuine, engaged communities who share their passions.” (Vaughan, 2020). In contrast to the development of the modern corporation, where

¹ 2020 also included the \$2.3 trillion Coronavirus Aid, Relief and Economic Security (CARES) Act and the \$900 billion Relief Supplemental Appropriations Act of 2021 (Supplemental). While neither the CARES Act nor the Supplemental Act were specifically aimed at encouraging new business formation, both provided broad-based economic relief across demographic and geographic lines that were independent of historical inequities in access to entrepreneurial capital. All of these mechanisms and potentially others may be working against the persistent racial inequalities in entrepreneurship, changing the incidence and overall trend of Black entrepreneurship during the COVID recovery. *See* Fazio, et al., 2021).

many signals push employees and businesses to conform to external metrics in search of scale and profits, the passion economy offers the prospect of being rewarded based on unique interests, and specifically those things that make your products and services different and authentic. (Jachimowicz, 2020, interviewing Adam Davidson).

Putting these ideas together, our analysis examines whether the context immediately subsequent to the pandemic allowed for an (at least temporary) shift in the “equilibrium” underlying the Black startup deficit to specifically examine whether there was a particularly pronounced shift in entrepreneurship in Black neighborhoods. In doing so, we first examine whether any shift was being driven by traditional economic drivers of entrepreneurship (e.g., rapid migration into neighborhoods, changes in house and rental prices, changes in income or even the provision of credit resulting from pandemic era financing initiatives). We next consider in a more preliminary fashion whether at least a portion of any shift in the rate of entrepreneurship is linked to indicators of Black identity or the incidence of certain incongruities in spelling or punctuation that might be associated with the “passion” economy.

III. Data²

We develop a dataset of entrepreneurship by year at the neighborhood level. We include demographic characteristics of the neighborhood, changes in the neighborhood that are relevant during COVID, and characteristics of founded firms. We use zip codes as our unit of observation for neighborhoods. Zip codes are defined by the U.S. Postal Service to cover a specific delivery area based on mail volume, which in most cases proxies for population. While (in contrast to census tracts) zip codes are not developed to specifically represent distinct communities or demographic groups, they often do. Research in economics has shown that zip codes are good predictors of economic outcomes (Bailey et al. 2018; Chetty et al. 2022) and characterize spatial differences in entrepreneurship (Guzman and Stern 2015).

To build this dataset, we combine six primary data sources: the Startup Cartography Project (SCP), the 1990 Decennial Census, the American Community Survey (ACS), the Zillow Home Value Index, data from the Small Business Administration on the Paycheck Protection Program

² Some language in this section draws on Andrews, et al. (2022) (which itself draws on Guzman and Stern (2015, 2017)). Please see Andrews, et al. (2022) for a complete discussion (and more complete references) concerning the use of state-level business registration records, and the ability to link these records with other datasets, including firm-level growth outcomes.

(PPP), and measures of language analytics calculated either through our own calculation or using Linguistic Inquiry and Word Count (LIWC-22).

Measuring Startup Formation through The Startup Cartography Project

To measure the founding of a firm in a neighborhood we use state-level business registration records. Business registration records are public records created endogenously when an individual registers a new business as a corporation, LLC, or limited partnership. While businesses also can exist without being registered (e.g., a sole proprietorship), the benefits of registration are substantial, and include limited liability, various tax benefits, the ability to issue and trade ownership shares, and credibility with potential customers. All corporations, limited partnerships, and limited liability companies must register with a Secretary of State (or Secretary of the Commonwealth) in order to take advantage of these benefits: the act of *registering* the firm triggers the legal creation of the company. As such, these records reflect the population of businesses for which an individual seeks to establish a formal organization separate from themselves in order to pursue some form of economic opportunity. Concretely, our analysis draws on the complete population of firms satisfying one of the following conditions: (a) a for-profit firm in the local jurisdiction or (b) a for-profit firm whose jurisdiction is in Delaware but whose principal office address is in the local state. In other words, our analysis excludes non-profit organizations as well as companies whose primary location is not in the state (e.g., companies that are founded in one state but then register in a second state as part of an expansion into that state-level market).

The core data for this paper extends the SCP dataset, a project covering entrepreneurship for 49 states and Washington D.C. from 1988-2014, and 46 states through 2016, and made available at multiple levels of aggregation (see Andrews, et al., 2022). We gather data from ten U.S. states that make these business registration records available on a timely and cost-effective basis. Our dataset includes all registrations through December 2023 for Alaska, California, Colorado, Connecticut, Florida, Georgia, Kentucky, New York, Tennessee, and Texas. Each record includes the name of the company, the date of filing, the legal address for that company, and the form of corporate governance, among other things. The current analysis specifically leverages three elements of these data: the date of incorporation, the precise street address (including ZIP Code), and the form of corporate governance. It is useful to note the distinction between the

three forms of corporate governance. On the one hand, LLC/partnerships are the most straightforward form of corporate governance providing limited liability protection (in the case of an LLC) and tax advantages with a minimal level of ongoing administrative paperwork burden. Corporations on the other hand impose a more onerous administrative burden (and less tax flexibility). Finally, local Delaware corporations involve significant additional upfront expenses (requiring a separate registration in Delaware) but enable companies to take advantage of a more consistent body of corporate law governing Delaware corporations that is often preferred by external investors such as venture capitalists and investors in public stock offerings. We focus on data on entrepreneurship from 1990 (allowing us to use information in the 1990 Decennial Census) to 2023.

We aggregate our data by the five-digit zip code as reported in the business registration. Our initial data contains 6976 zip codes for all 10 states.

Neighborhood Characteristics from the American Community Survey and Decennial Census

To measure neighborhood characteristics, we include a series of measures from the American Community Survey (ACS). The ACS is a survey run by the U.S. Census Bureau annually to track U.S. communities. The ACS reports statistics for zip code tabulation areas (ZCTA), which are geographic areas intended to map relatively well to zip codes. We assume them to be interchangeable in our case. At levels of granularity finer than a county, the ACS only provides aggregates as 5-year averages. The first year a 5-year average is available is 2011.

We obtain a set of ZCTA characteristics drawn from the 2011, 2018 and 2021 American Community Survey (ACS). These measures include various measures of population and density (*Total Population, Persons Density (Population per square mile, Population Density)*), racial demographics (*Percent Hispanic and Percent Non-Hispanic Black*), socioeconomic measures (*Median Income, Average Home Value, Percent with a Mortgage, Percent Employed, Percent Work from Home*), geographic migration measures (*Percent Living in Same House 1 Year Ago, Percent Living in Same City but Different House 1 Year Ago, and Percent Living in Same State but Different House 1 Year Ago*), and the land area of the ZCTA.

We also obtain race and income by zip code from the 1990 Decennial Census. The 1990 census does not separate a location's Black population by whether they are Hispanic or not.

Instead, it provides a single variable *Percent Black*. It also reports these statistics by zip codes, rather than ZCTA. We do not believe either of these differences would cause any significant bias in our analysis of long trends in neighborhood entrepreneurship.

Merging of Census and SCP Data into a Consistent Panel of Neighborhoods

We perform several steps towards our goal of studying a consistent set of neighborhoods over time. First, using the 2024 MSA to zip code crosswalk file from the Department of Housing and Urban Development, we remove 151 zip codes not belonging to a metropolitan statistical area (MSA) in the 2020 Census definitions. Then, we consider only zip codes that are covered within the 2011 American Community Survey (ACS)³ and that have a minimum level of population in 2011.⁴ We drop all zip codes that are either (a) not available in the ACS in 2011 (741 zip codes) or (b) have ZCTA population fewer than 100 people in 2011 (103 zip codes). We also drop 71 zip codes for which at least one of our main ACS variables is missing in the period of 2018 to 2022. Finally, to avoid issues from truncation when estimating growth in neighborhood entrepreneurship measures, we drop 3 zip codes that register zero startups in any year between 2018 and 2022, our period of study. The final sample is 5999 zip codes.

In addition to examining the raw rate of start-up formation per zip code per year, we follow on Davis, et al. (1996) and construct a measure of the growth over time in these measures, the *DHS Growth Ratio*, which is simply the level of entrepreneurship within a given zip code in a given year compared to the average level of entrepreneurship in that region across that year and a reference year. For example, for a comparison between 2019 and 2020, we use the following formula:

$$StartupGrowthRatio_j = \left(\frac{\#Firms_{j,2020}}{\frac{1}{2}(\#Firms_{j,2019} + \#Firms_{j,2020})} - 1 \right) * 100 \quad (1)$$

³ In other words, we drop zip codes that were incorporated into the ACS after 2011, usually because they represent new developments. For example, the community of Lake Viridian in Arlington, TX experienced most of its expansion after 2015, including the creation of a new zip code (76005). The ACS does not provide estimates on this ZCTA before 2021, and so is not included in our analysis.

⁴ ZCTAs vary substantially in population size. In the 2011 ACS, ZCTAs have population that goes from 0 at the 1st percentile to 58,899 at the 99th percentile. For example, 10029, a zip code in our data covering the east side of Manhattan, from 96th to 116th street, and representing a large portion of the area typically known as Spanish Harlem, has a 2011 population estimate of 78,451. In contrast, 14112 a rural zip code in North Evans, in upstate New York, registers only 12 residents in the 2011 ACS.

This measure captures the relative increase in the number of new business registrations in a given zip code in a given year relative to the previous year.

Real Estate Values from the Zillow Home Values Index

To measure changes in neighborhood attractiveness during COVID we also follow a long literature in urban economics that uses the prices of real estate to measure the demand to live in a neighborhood. We use data from the Zillow Home Values Index, which provides estimates of the value of homes in each zip code and month. We translate these into annual estimates by taking the geometric average of the monthly values in a year. Finally, we consider the difference in the logarithm of two values --home value and rental price-- from 2019 to 2020. Because Zillow can only estimate these measures where there is a reasonable flow of transactions, they do not cover all zip codes. Out of 5999 zip codes in our data, 5925 have a home value estimate and 1303 a rental value estimate.

Measures of Small Business Loans During COVID through PPP Data

Next, we develop measures to account for the possibility that money moved into the neighborhood. In this case, we take advantage of the well documented role of the Payment Protection Program in providing COVID relief to small businesses (Fairlie and Fossen, 2022; Howell et al., 2022; Chernenko and Scharfstein, 2024). This program was intended to help existing businesses retain their employees, not foster new firms, but it is possible that such cash inflow into the neighborhood increased entrepreneurship if the neighborhood was under-resourced. Research has shown that the PPP program provided disproportionate capital to minority owned small businesses, in part due to the role of online banks in solving the traditional spatial mismatch in banking options faced in minority neighborhoods (e.g., Wang et al., 2018). The data on PPP loans is public. It tracks the total dollars spent and (since it is a federal program) whether the business was a Black owned business. We develop measures counting the number of loans provided to each neighborhood, the total dollars spent on the neighborhood, the number of loans and total dollars provided to Black-owned firms, and the share of dollars spent in the neighborhood that went to Black owners.

Measuring Changes in Firms Created from a Firm's Name

In the final portion of our analysis, we consider differences in the potential types of firms created by taking advantage of the name chosen by the entrepreneurs themselves for their firm. Prior work has shown that the choice of firm name is an important decision taken the by entrepreneur and interpreted as a quality signal by customers (McDevitt, 2014; Belenzon et al., 2017, 2020). To motivate our thinking on how the naming of firms might have changed during COVID, we present in Table A1 two lists of firms, representing, by alphabetical order, the first 40 firms registered in the Kirkwood neighborhood in Atlanta in 2019 and 2020. Kirkwood (zip codes 30316 and 30317) is a well-known African American neighborhood east of Downtown Atlanta, and the birthplace of civil rights leaders such as Hosea Williams and Stacey Abrahams as well as famous musicians Future and Young Scooter.

We note several differences between firms registered in 2019 vs those in 2020. One, the 2020 firms include two names referencing to Black culture (Africa One+, LLC, and Afromentals, LLC), while the 2019 ones have none. Two, 2020 firms have several novel spellings which include ending words with 'Z' (Above the Horizonz, LLC) and punctuation (A,Dor Wealth LLC); the 2019 have none. Three, in contrast the 2019 firms speak to the typical small and midsize business sectors that tend to compose local business infrastructure. There are two automotive repair firms, two transportation firms, four real estate firms, and three home improvement firms. 2020 registers much fewer firms in these sectors, at least based on name: there is one automotive firm (ACJ Towing LLC), one possible transportation firm (Aberdeen Road LLC), no real estate firms, and one home improvement firm.

Based on these differences we create five measures based on firm names:

- *Black-Related Name*: if the firm has any of the strings 'afro' 'afric' or 'black' in its name.
- *Ends with Z*: If any of the words in the firm name end with Z.
- *Has Punctuation*: If the name includes a dollar sign, exclamation point, or '@' symbol.
- *Traditional SMB*: If the name includes any of the strings 'home' 'builders' 'realty' 'realtors' 'trucking' 'towing' 'transport' 'painting' and 'plumbing'.
- *City in Firm Name*: whether the name of the city in which the firm is located is included in the firm's name (which is a measure of being a local service).

Linguistic Data from Linguistic Inquiry and Word Count Software

We complement this linguistic analysis by using the Linguistic Inquiry and Word Count (LIWC-22) software package (Pennebaker et al., 2022). LIWC is a text analysis tool widely used in psychological and social science research to quantify the presence of various linguistic categories within textual data. Using a pre-defined expert "dictionary," the software calculates word frequency and categorizes words reflecting different emotions, cognitive processes, and social concerns. By applying LIWC to the names of newly registered businesses, we can measure the extent to which positive emotion words and other linguistic markers are present. This approach allows us to compare the emotional and expressive characteristics of business names across different neighborhoods and time periods, providing insights into how social movements may be influencing entrepreneurial expression. We count the number of firms tagged under positive emotion by zip code.

Summary Statistics

The summary statistics are reported in Table 1. Panel A reports the measures created from firm counts for a panel of zip codes from 2011 (the first year of the ACS) to 2023, which will be the centerpiece of our analysis. Our dataset includes 77,883 ZIP code-year observations, with a mean number of 234 new business registrations (*Number of Firms*), 178 new LLC registrations, 56 local corporation registrations and 1.4 Delaware Corporation registrations per ZIP Code year. On average, 76% of these firms are limited liability companies or partnerships registered under local jurisdiction (*Local LLC or Partnership*), 24% of firms are corporations registered under local jurisdiction (*Local Corporations*), and 0.5%% of firms are local corporations registered under Delaware jurisdiction (*Delaware Corporations*). Panel B reports neighborhood characteristics for each zip code.

IV. Results

We begin by establishing the entrepreneurship gap in Black neighborhoods since 1990. To do so, we focus on the correlation between the percent Black in a zip code in 1990 and the number of firms registered in a zip code each year since 1990. We focus on the period before the COVID pandemic and hence stop at 2019.

Table 2 reports regressions that consider this relationship. Column (1) includes the minimum level of fixed effects necessary, year and state, where the latter accounts for potential differences in registration thresholds for firms across jurisdictions. The coefficient is positive and noisy, not statistically significant. In the absence of any controls for location, Black neighborhoods are historically neither at a deficit or a surplus for most of the period. Column (2) includes controls for 1990 median income, population density, and population in 1990, the correlation is now negative, but still noisy. Columns (3) and (4) include location controls that force the comparisons to be with neighborhoods in the same geographic region. Column (3) compares within metropolitan statistical area (MSA), by including a fixed effect for each MSA-year pair. The coefficient is now negative, significant, and economically meaningful. As the proportion of Black residents in a neighborhood goes from 0 to 100 percent, the expected number of new business registrations falls by 39 across our sample. Relative to the average number of firms in a zip code in this sample, which is 111.2, this number is substantial. Column (4) introduces the key construct for empirical comparison in our paper, “ZIP4” fixed effects, or the leading four-digit ZCTA fixed effects. In other words, in the four-digit zip code fixed effect specifications, we are only leveraging variation within the nine adjacent zip codes that share the same first four digits (e.g., 1178 would include zip codes 11780 through 11789, all of which are in western Suffolk County, New York). These ten adjacent zip codes represent different neighborhoods within a very similar regional economic environment. Our effect becomes considerably larger, with a value of -139 and significant. Within nearby neighborhoods, those registering 10 percentage points higher Black proportion in their population have 14 fewer firms. Finally, column (5) incorporates a linear trend for the year. The gap has been, if anything, increasing.

We consider this further in Figure 1, where we plot the coefficients by year for this model in a model with ZIP4 by year fixed effects and standard errors clustered by ZIP4. We find a sizable start-up deficit that grows over time. For example, during the mid-2000s, the coefficient on the

Black neighborhood interaction effect is ~ -200 . This implies that a one-standard deviation shift in Black neighborhood percentage (0.16) would be associated with a reduction in the start-up rate of more than 30 firms per year. Our pattern provides evidence for a core implication of Wilson (1987): controlling for other factors, there has indeed historically been a “start-up deficit” in Black neighborhoods.

We replicate our analysis using an equivalent set of specifications focusing in on the period between 2011 and 2023 and adjusting the variables to the 2011 ACS measures. Similar to Table 2 and Figure 1, the effect is positive without any controls, possibly because Black neighborhoods are more dense and higher population. Incorporating even basic controls makes the coefficient negative, though noisy. The effect is large and significant once we incorporate ZIP4 by year effects or simple demographic factors; there is a persistent “start-up deficit” in Black neighborhoods, with a coefficient of -108 . The effect is larger in size, but smaller relative to a mean of this sample, which is 184.

Changes in Black Neighborhood Entrepreneurship during COVID

Next, we consider changes in entrepreneurship during the COVID-19 pandemic. A growing literature, including Haltiwanger (2022), Decker and Haltiwanger (2023), Fazio et al (2021), has documented a large and persistent boom in entrepreneurship after COVID. Our data, in Figure 2, replicates this pattern. When we simply plot the total number of firms registered by month in our sample, we find a large and persistent increase in the number of start-ups following COVID, leading to a higher level of entrepreneurship.

We evaluate the relationship of these changes to the entrepreneurship gap in Black neighborhoods. Figure 3 reports a regression equivalent to Figure 1, but focused on the correlation each year between *Percent Non-Hispanic Black* of a neighborhood in 2011 and the number of firms registered in that neighborhood. Controls and ZIP4 by year effects are included. The pattern is striking. While there is an incremental narrowing in 2018 and 2019, there is a sharp shift in the relative start-up rate in Black neighborhoods in 2020 and 2021, resulting in a start-up surplus in those years. Whereas from 2011-2019, greater proportions of Black residents in a given ZIP code/year predict lower rates of startup formation, the opposite is true in 2020 and 2021. In each of those years, increasing the share of Black residents from 0 to 1 is associated with an average annual increase of 200 new business registrations above the mean, after

accounting for median income and population and controlling for year and regional variation. This Black neighborhood start-up “boom,” however, recedes in 2022 and 2023, converging to the population average in 2022 and exhibiting a (slight) negative and noisy deficit in 2023.

These patterns are reinforced in Figure 4, which repeats our specification but replaces the continuous measure of Black percentage with the quantile of the neighborhood based on their 2011 value. We run four regressions comparing the bottom group (lowest Black percentage) to each of the other groups. While neighborhoods in the “top” Black neighborhood percentage (i.e., zip codes whose Black population is among the top 20% in terms of Black neighborhood percentage) have historically been associated with the largest start-up deficit, these neighborhoods realize the largest surplus in 2020 and 2021, and do not converge back to the population level even through 2023.

Figure 5 delves deeper by considering a detailed examination of these dynamics within New York and Atlanta. The left-hand figures represent the zip-code level changes between February 2019 and February 2020, and the right-hand figures represent the zip-code level changes between June 2020 and June 2019. The shift is striking. While there is no particular pattern of advantage or disadvantage (on a year-over-year basis between February 2019-2020), there is a striking pattern centered outside of the inner city, and in particular (in both cases) in clustered zip codes that correspond with historically Black neighborhoods.

To focus more specifically on the increase that occurred during the pandemic, we take advantage of the DHS startup growth estimate, which directly compares the level of firms registered in a neighborhood in 2020 versus the number registered in 2019. Table 4 reports linear regressions of the DHS Growth measure on the 2018 levels of Percent Non-Hispanic Black, Percent Hispanic, Log(Median Income), Log(Population) Population Density, along with different types of fixed effects. Even when we only include state-level fixed effects, the coefficient for *Percent Non-Hispanic Black* is positive and significant for each of the 2020 vs 2019 and 2021 vs 2019 DHS Growth Ratios. That is, the neighborhoods that had a higher proportion of Black residents are the ones that experienced the largest growth. Relative to other demographic variables, such as population, income, or the percent Hispanic, the effect is substantial. The coefficient for population density is large, but only because it is a very small number, with a mean of 0.001. The results are robust and stable with the inclusion of more

granular fixed effects, including ZIP3 and ZIP4 fixed effects. Each of these specifications suggests that shifting from 0 to 1 in terms of Non-Hispanic Black is associated with more than a 60% increase in the rate of entrepreneurship at the zip code level between 2020 (or 2021) versus 2019.

We further examine this striking shift in terms of the type of entrepreneurship we observe. Specifically, in Table 5, we run a similar analysis to Table 2, but break out the number of new firms into Local Corporations, LLCs, and Delaware Corporations, respectively. The results accord with a striking rise in “Main Street” entrepreneurship in Black neighborhoods, with a similar coefficient as Table 2 in the LLC regression (column 2), a slightly smaller coefficient for the Local Corporations regression (column 1), and a noisy estimate on the impact on Delaware firms (which in any case represent less than 2% of the sample).

Putting these results together, our findings so far suggest that Black neighborhoods have historically experienced a start-up deficit, and that, consistent with the hypothesis of an equilibrium shift resulting from the interplay between the pandemic and civil actions, this deficit was reversed in the form of a surplus in 2020 and 2021. These results highlight the importance of the presence of a Black population in predicting regional entrepreneurship response at a microgeographic level following the onset of the pandemic.

Potential Explanations for the Increase in Entrepreneurship in Black Neighborhoods

We have so far argued that the effect we find is characterized by the racial composition of a neighborhood. We now consider potential explanations for this effect. Our goal is to use our data to focus on those neighborhood attributes documented to have changed quickly during the pandemic, and which may be associated with higher levels of entrepreneurship.

We first consider geographic migration. The pandemic was associated with migration to highly livable locations that offer space and amenities. States like Texas and Florida, already highly attractive migrant destinations, saw the number of inbound moves increase, as did moves from metro to non-metro areas. If these moves are what drives entrepreneurship, the mechanism would be a more typical pattern of gentrification, under which arriving individuals with more income drive the economic activity of a locality and may even displace the opportunities for long-time residents. COVID 19 was indeed characterized by a high degree of migration.

However, these destinations do not appear to overlap well with the characteristics of Black neighborhoods. Black neighborhoods may offer a lower cost of living through depressed economic conditions, but they are also more likely to be urban within a metro area, while the migration during COVID was instead characterized by migration to suburban and rural destinations as professionals sought more space.

We examine this empirically in Table 6 through DHS regressions controlling for different measures of migration one year ago as estimated by the ACS in the 2021 release (we use 2021 as these would represent pandemic moves). Column (1) reports that, when considering residents have been living in the same house since last year, our effect is unchanged. Furthermore, the interaction is *positive*. This is the opposite prediction of a gentrification explanation; it is instead those neighborhoods with local residents that accentuate our effect.

Columns (2) and (3) consider those that have not lived in the same house but did live in the same city one year ago, and those only living in the same state, but not the same city. Across both of these tests, we find our main effect unchanged and the interaction with migration negative and noisy.

We consider in Table 7 a different measure of migration and changes in demand for a location: real estate prices. To do so, we consider whether local changes in the housing market offer a confounding effect on our results, and so control for either the change in Log(Rental Price) or the change in Log(Home Value) (both from 2020 versus 2019). While each of these factors has a separate impact on entrepreneurship (though relatively small in size compared to their standard deviations), these effects do not meaningfully alter the core findings regarding the sharp rise in entrepreneurship in Black neighborhoods in the wake of the pandemic. Furthermore, once again, the negative interaction with percent Black suggests the opposite than what would be predicted by a gentrification explanation. The relationship between percent Black and entrepreneurship increases during COVID becomes larger for those neighborhoods where real estate prices increased less, attenuating the baseline positive effect of these variables.

Finally, Table 8 considers whether there may be some other less obvious dynamic that is changing the income of the neighborhood (such as pandemic relief checks) that could be determining our effect. The main effect is unchanged when we include controls for the level of income in 2020 and the increase in income from 2015 to 2020. The positive correlation between

income and percent Black suggests the benefits of a high share of Black residents are more significant when the residents also have a higher income. An interesting avenue for future inquiry.

We next consider whether COVID relief programs that targeted small businesses could be driving our effect by focusing on the Paycheck Protection Program (PPP). Howell et al. (2024) document that the PPP program, in addition to providing easy bank finance for existing businesses, seems to have been particularly salient for Black entrepreneurs and Black neighborhoods, as automated “fintech” lenders introduced more automated and algorithmic loan processing, which benefited Black borrowers (who might have had less access to local credit or even local banks) (see also Chernenko and Scharfstein, 2024). We construct a number of measures consistent with these insights, including measures of the overall number of PPP loans, the value of PPP loans, and both the number and value of PPP loans to Black owners (by zip code). In each case, as earlier, we include both the direct effect of these measures as well as an interaction term with Percentage Non-Hispanic Black. Most of the effects are small or zero, and incorporating them does not change our main effect. This makes sense. Since the PPP program was not targeting new businesses, it is not obvious that it should lead to the incorporation of new firms. The share of PPP loan value to Black owners is associated with an increase in the start-up growth rate. However, in all of these specifications, the core finding of the striking shift in Black neighborhoods remains at roughly the same level while the interaction with the percentage Black is always zero. To the extent that these loans also could have promoted new firms, the effect appears to be distinct from the role of race on the COVID increase in entrepreneurship, the focus of this paper.

The Changing Nature of Entrepreneurship in Black Neighborhoods

Given the striking nature of our results, we undertook a more descriptive and preliminary analysis of whether there is a shift in the “nature” of entrepreneurship within Black neighborhoods. Specifically, our analyses were motivated by the observation that the onset of the pandemic (essentially) coincided with a much higher level of civil activism within and for the Black community, particularly in the wake of the murder of George Floyd in May 2020.

We begin with a simple but descriptive exercise where we considered the first forty business name entries from Kirkwood, Georgia (30316, 57% Black), an historically Black neighborhood

in Atlanta. In Table A1, we simply list forty business registration names from this zip code in 2019 and 2020. There seems to be far more "active" names with corresponding links to Black identity in 2020 versus 2019. For example, there are two firms that specifically reference the word "African" or "Afro" in 2020, with zero in 2019.

While visual inspection of name lists is not persuasive on its own, this exercise nonetheless motivates our more systematic analysis, where we undertake to construct two types of measures that we believe might relate to the changing "nature" of entrepreneurship during this period: Black identity markers, and "passion economy" markers. Essentially, we run a "stacked" regression where, for each zip code, we run a DHS-style growth regression but for multiple measures within each zip code. Table A6 and Figure 6 report our main findings. On the one hand, across all zip codes, there is an 11% increase in Black names, and the overall impact of Non-Hispanic Black population remains the same as earlier result. But, relative to other types of names, Black-Related Names increase an additional 35% (above the 65% baseline increase) in Black neighborhoods. This is the expense of more "traditional" naming patterns, where we see more than a 20% relative decline in names associated with traditional SMB businesses (e.g., laundry, restaurant, etc) or names that include the city or metro area where the business is located. We also (in a preliminary way) observe a similar dynamic for "Passion" economy names, with a more sizeable rise in names that are associated with names that include "religious" affiliations, end with the letter "Z," or include distinctive punctuation (like an exclamation point).

In other words, these results suggest the overall increase in entrepreneurial activity in Black neighborhoods during the pandemic tracks with an uptick in Black Identity and "positive emotion" within business names. This correlation suggests that the same social and economic dynamics driving the rise in start-up rates—such as increased civil activism, community empowerment, and the embrace of the passion economy—may also be influencing the way entrepreneurs choose to represent their businesses. The heightened use of positive emotion words could reflect a deliberate effort to convey optimism, resilience, and a strong connection to community values.

Change in Entrepreneurship in Black Neighborhood after COVID

To bring our results full circle, we next document the changes in entrepreneurship in neighborhoods after COVID. Figure 3 already suggested that the positive correlation between the black percentage and the number of firms only occurs in 2020 and 2021, and Figure 4 that non-Black neighborhoods caught up to Black neighborhoods in 2022 and 2023. We explore these relationships more formally by re-estimating our increase estimate to account for changes after COVID and running our main specification against different versions of this outcome.

Table 10, column (1), focuses on the changes from 2020 to 2021, still within the pandemic period. In contrast to the large correlation observed from 2019 to 2020, we observe no positive correlation between the percent of Black residents and the neighborhood's entrepreneurship increase from 2020 to 2021. Columns (2) and (3) consider the period after the pandemic, by using an increase between 2021 and 2022, and an increase between 2021 and 2023, respectively. Strikingly, the coefficient is now negative and significant, with a magnitude of 0.42 and 0.61, roughly similar to the positive coefficient estimated in our main models. Neighborhoods that have a higher percentage of Black residents experienced *lower* increases in entrepreneurship after the pandemic, opposite to the prior gains.

Column (4) brings a more aggregate perspective by comparing the number of firms registered in 2023 versus those in 2019. While the coefficient remains positive and significant, the size has decreased by an order of magnitude to 0.07. By 2023, a neighborhood with ten percentage points higher share of Black residents is experiencing merely a 0.7% higher rate of entrepreneurship than the increased experienced by other neighborhoods. By and large, the gains achieved during the pandemic appear to have been erased.

III. Conclusions

Motivated by the seminal analysis of Wilson (1987), this paper has documented the historically large Black neighborhood startup deficit, and the shift in that deficit to a surplus in 2020 and 2021 alongside the onset of the pandemic. Consistent with a model of an equilibrium shift in norms around entrepreneurship within Black communities, we find that the microgeography of the step up in startup formation in the wake of COVID has not been in traditional hubs of business dynamism, but instead is centered in areas with a higher Black

population. Moreover, these effects are not explained by traditional economic drivers such as migration, changes in housing or rental prices, growth in income, or even the availability of capital. Instead, the shift is at least partially associated with a shift towards a more “personal” form of entrepreneurship, indicated by a rising incidence of business names with ties to Black identity or the Passion economy.

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Table 1: Summary Statistics

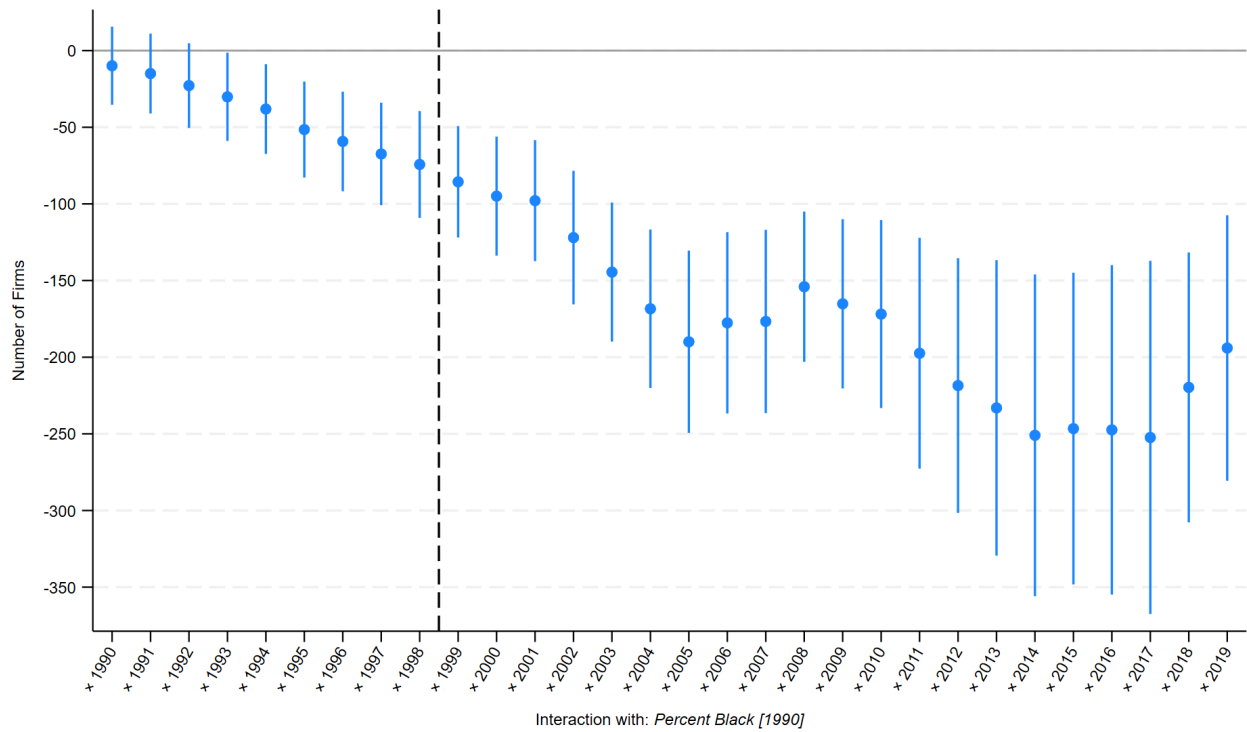
<i>Panel A. ZIP Code Firm Counts. 2011-2023</i>			
Variable	Mean	Std. Dev.	N
Number of Firms	234.12	385.95	77883
Number of LLCs	177.87	316.33	77883
Number of Delaware Corporations	1.38	7.07	77883
Number of Corporations	56.25	109.88	77883
Firm Name Says Black	0.41	1.14	77883
Firm Name Uses Punctuation	0.11	0.49	77883
Firm Name Ends With Z	27.63	72.15	77883
Firm Name is Traditional SMB	8.43	16.42	77883
Firm Name has City Name	2.62	5.94	77883
<i>Panel B. Neighborhood Characteristics</i>			
Variable	Mean	Std. Dev.	N
Perc. Black [1990]	0.10	0.16	5412
Median Income [1990]	32255.89	14022.77	5412
Population [1990]	17363.43	15742.88	5412
Perc. Non-Hispanic Black [2011]	0.10	0.16	5999
Perc. Non-Hispanic Black [2018]	0.11	0.16	5999
Perc. Hispanic [2018]	0.21	0.22	5999
Population Density x 1000 [2018]	1.37	3.76	5999
Population [2018]	22534.92	19231.84	5999
Median Income [2018]	32504.89	12708.29	5999
Log(Median Income) [2018]	10.32	0.35	5999
Log(Population) [2018]	9.57	1.07	5999
Perc. in Same House 1 Year Ago [2021]	0.86	0.06	5999
Perc. Moved from Same City 1 Year Ago [2021]	0.03	0.04	5999
Perc. Moved from Same State 1 Year Ago [2021]	0.03	0.03	5999
Num. PPP Loans ('000s)	0.33	0.37	5998
Log(\$ PPP Loans)	16.49	1.49	5998
Num. PPP Loans Black Owners	0.01	0.01	5998
Log(\$ PPP Loan Black Owners)	11.67	1.79	3542
Share of PPP Dollars to Black Owners	0.01	0.02	5998
Δ Log(Home Values)[2020-2019]	0.06	0.03	5925
Δ Log(Rental Price)[2020-2019]	0.02	0.03	1303

Table 2: Black Neighborhood Startup Deficit or Surplus 1990 - 2019

	(1)	(2)	(3)	(4)	(5)
Perc. Black[1990]	8.850 (13.75)	-20.85 (17.17)	-38.55** (18.50)	-139.2** (26.14)	-13.55 (16.69)
Perc. Black[1990] \times Year					-8.668** (1.794)
Log(Median Income) [1990]		109.3** (7.721)	92.44** (11.62)	72.27** (10.37)	72.27** (10.37)
Population Density [1990]		9188.4** (2563.5)	8552.5** (2732.5)	-2879.3** (1243.1)	-2879.3** (1243.1)
Log(Population) [1990]		48.93** (2.867)	47.72** (2.983)	41.09** (2.550)	41.09** (2.550)
State F.E.	Yes	Yes	Yes	Yes	Yes
ZIP4 by Year F.E.	No	No	No	Yes	Yes
MSA by Year F.E.	No	No	Yes	No	No
Year	Yes	Yes	No	No	No
Observations	162360	162330	161280	151080	151080
R^2	0.185	0.336	0.385	0.663	0.665

Note:

Figure 1: Black Neighborhood Startup Deficit or Surplus
(Relative to Alternative Control Groups) 1990 - 2019



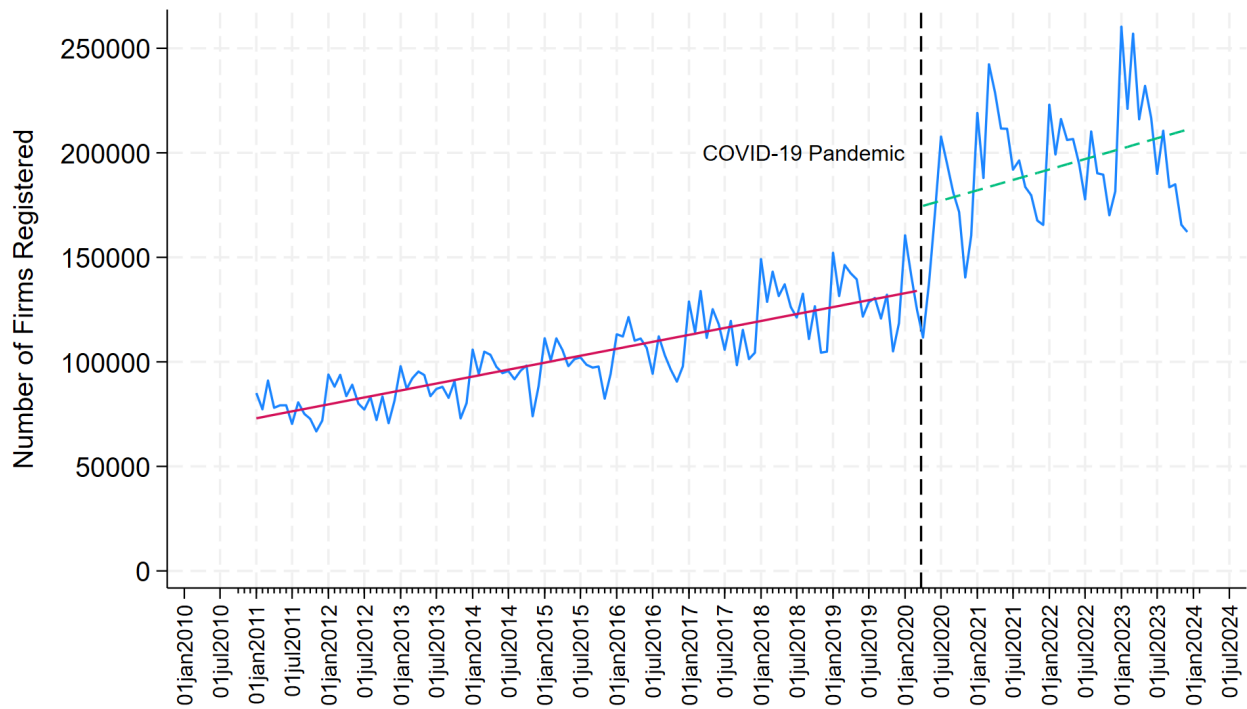
Note: The Figure plots the coefficients of a regression with the number of new firms in the zip code as the dependent variable and the coefficients of the percent black population in each neighborhood by year. Black percent is obtained from the 1990 Decennial Census. Model (1) includes year fixed effects, model (2) ZIP4 by year fixed effects and state fixed effects (ZIP4 is the first four digits of a zip code), model (3) also adds controls for 1990 population density, median income, and population. 95 percent confidence intervals clustered at ZIP4 are reported. Regression coefficients are reported in Table A3.

Table 3: Black Neighborhood Startup Deficit or Surplus 2011 - 2019

	(1)	(2)	(3)	(4)	(5)
Perc. Non-Hispanic Black [2011]	43.47** (14.83)	-14.59 (15.28)	-15.59 (17.46)	-107.7** (24.41)	-27.17* (14.32)
Perc. Non-Hispanic Black [2011] \times Year					-5.754** (1.759)
Log(Median Income) [2011]		116.6** (7.646)	114.3** (9.990)	94.33** (9.448)	94.33** (9.448)
Population Density [2011]		7547.7** (1640.2)	7659.8** (1809.6)	-343.1 (1791.5)	-343.1 (1791.5)
Log(Population) [2011]		64.16** (2.533)	63.25** (2.738)	58.11** (2.418)	58.11** (2.418)
State F.E.	Yes	Yes	Yes	Yes	Yes
ZIP4 by Year F.E.	No	No	No	Yes	Yes
MSA by Year F.E.	No	No	Yes	No	No
Year	Yes	Yes	No	No	No
Observations	185969	185969	184977	174871	174871
R^2	0.177	0.368	0.416	0.678	0.679

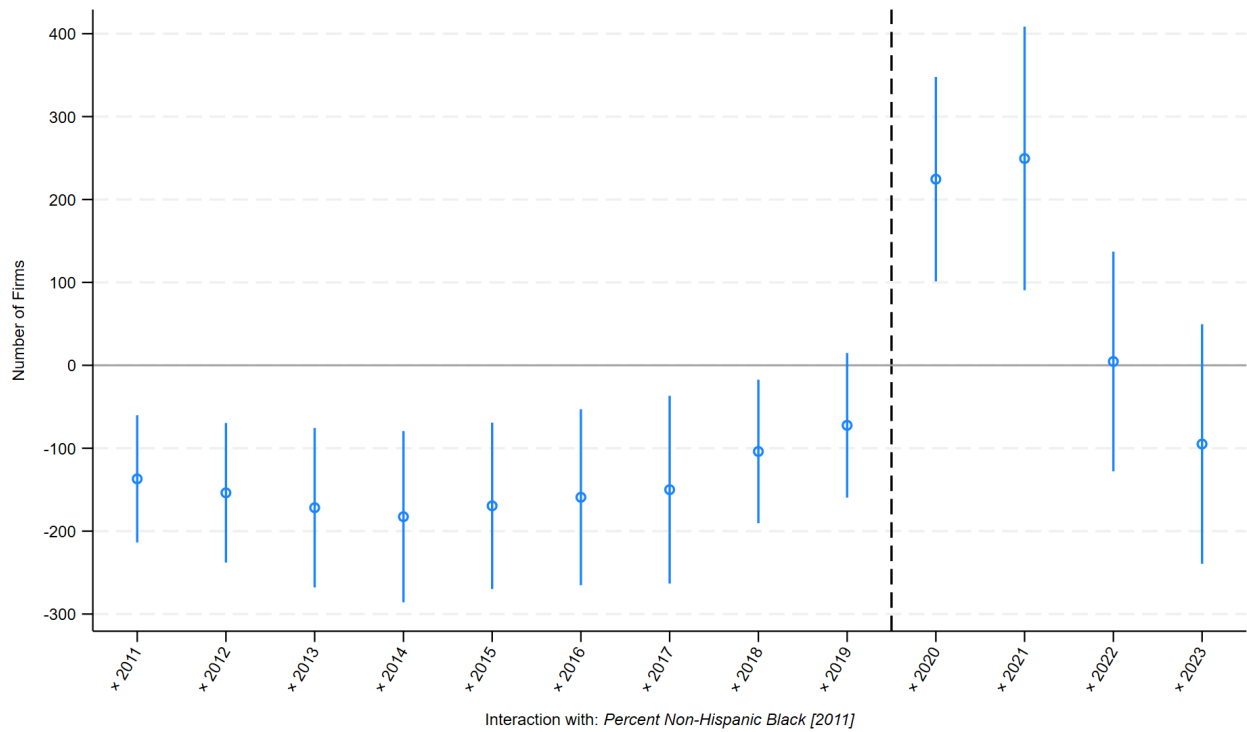
Note:

Figure 2: Monthly Entrepreneurship Rates Before and After COVID



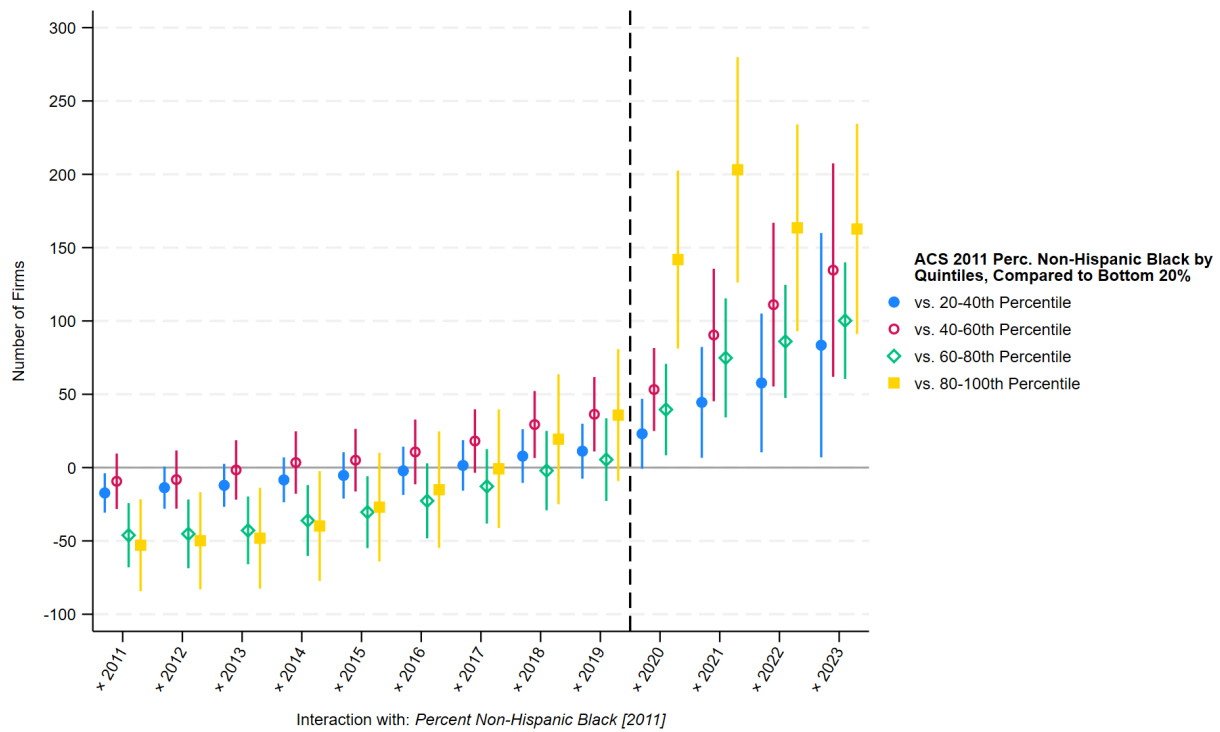
Note: This figure reports the total number of firms created in ten states each month, with a fitted line for the period before and a fitted line for the period after March of 2020, which we consider as the start of COVID in the United States.

Figure 3: Black Neighborhood Startup Deficit or Surplus
 (Relative to Alternative Control Groups) Before and During COVID-19



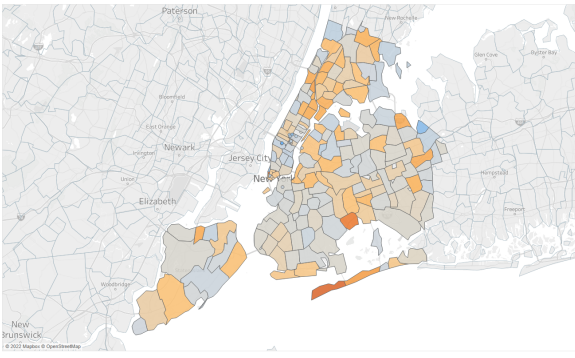
Note: The Figure plots the coefficients of a regression with the number of new firms in the zip code as the dependent variable and the coefficients of the percent black population in each neighborhood by year. Black percent is obtained from the 2011 American Community Survey 5 year estimate. Model (1) includes year fixed effects, model (2) ZIP4 by year fixed effects and state fixed effects (ZIP4 is the first four digits of a zip code), model (3) also adds controls for 2011 ACS population density, median income, and population. 95 percent confidence intervals clustered at ZIP4 are reported. Regression coefficients are reported in Table A4.

Figure 4: Black Neighborhood Startup Deficit or Surplus by Race Quintile

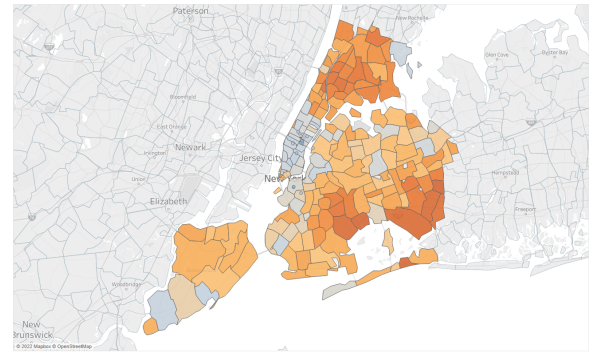


Note: The Figure plots the coefficients of a regression with the number of new firms in the zip code as the dependent variable and the coefficients of the percent black population in each neighborhood by year. Neighborhoods are split into quintiles by the level of percent black in the 2011 American Community Survey, and four regressions are run reporting the difference between each quintile versus the lowest quintile (0-20th percentile). Model also includes ZIP4 by year fixed effects and state fixed effects (ZIP4 is the first four digits of a zip code), and controls for 2011 population density, median income, and population. 95 percent confidence intervals clustered at ZIP4 are reported.

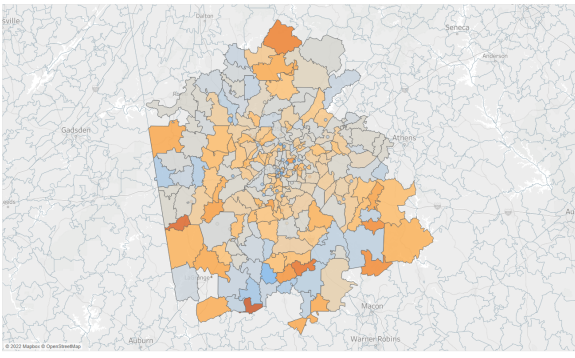
Figure 5: Changes in Entrepreneurship for NYC and Atlanta ZIP Codes



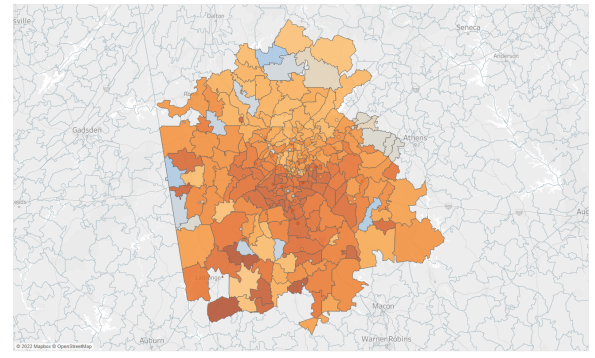
(a) Changes in Entrepreneurship by New York City ZIP Code: Feb 2020 vs Feb 2019.



(b) Changes in Entrepreneurship by New York City ZIP Code: June 2020 vs June 2019.



(c) Changes in Entrepreneurship by Atlanta ZIP Code: Feb 2020 vs Feb 2019.



(d) Changes in Entrepreneurship by Atlanta ZIP Code: June 2020 vs June 2019.

Note: We report the increase in zip code entrepreneurship comparing the levels of 2019 and 2020 for each zip code. (a) and (c) compare February, before COVID. (b) and (d) compare June, once COVID started. Red indicates entrepreneurship increased while blue that it decreased (cooled off).

Table 4: Entrepreneurship Increased for Neighborhoods with Higher Black Percent Residents

	(1)	(2)	(3)	(4)
	All Startups 2019 vs 2020	All Startups 2019 vs 2020	All Startups 2019 vs 2020	All Startups 2019 vs 2021
Perc. Non-Hispanic Black [2018]	0.621** (0.0211)	0.631** (0.0237)	0.643** (0.0262)	0.636** (0.0272)
<i>Controls</i>				
Perc. Hispanic [2018]	0.102** (0.0197)	0.159** (0.0264)	0.172** (0.0307)	0.219** (0.0322)
Log(Median Income) [2018]	-0.0358** (0.0115)	0.00733 (0.0145)	0.0137 (0.0167)	-0.0564** (0.0183)
Log(Population) [2018]	0.0166** (0.00421)	0.0139** (0.00446)	0.0126** (0.00504)	0.0116** (0.00509)
Population Density [2018]	-6.484** (1.020)	-1.119 (1.407)	-1.327 (1.383)	-2.370 (1.729)
State F.E.	Yes	No	Yes	Yes
ZIP3 F.E.	No	Yes	No	No
ZIP4 F.E.	No	No	Yes	Yes
Observations	5999	5999	5999	5999
R^2	0.236	0.321	0.526	0.601

Note:

Table 5: Entrepreneurship Increased for Neighborhoods with Higher Black Percent Residents: Corporate Form

	(1) Corps. DHS Increase 2019 vs 2020	(2) LLCs DHS Increase 2019 vs 2020	(3) Del. Corps. DHS Increase 2019 vs 2020
Perc. Non-Hispanic Black [2018]	0.452** (0.0670)	0.677** (0.0397)	0.504 (0.340)
<i>Controls</i>			
Perc. Hispanic [2018]	0.108 (0.0843)	0.304** (0.0498)	0.0373 (0.336)
Log(Median Income) [2018]	0.0703 (0.0446)	-0.0735** (0.0160)	0.149 (0.158)
Log(Population) [2018]	0.0438** (0.0159)	0.0141** (0.00513)	-0.0865 (0.0621)
Population Density [2018]	-0.259 (1.984)	-2.366 (1.351)	-24.23** (11.29)
State F.E.	Yes	No	Yes
ZIP4 F.E.	Yes	Yes	Yes
Observations	5878	5999	2555
R^2	0.375	0.603	0.440

Note:

Table 6: Migration and COVID Increase in Neighborhood Entrepreneurship

	(1)	(2)	(3)
Perc. Non-Hispanic Black [2018]	0.642** (0.0263)	0.657** (0.0265)	0.630** (0.0267)
Perc. in Same House 1 Year Ago [2021]	0.192** (0.0881)		
Perc. Non-Hispanic Black [2018] × Perc. in Same House 1 Year Ago [2021]	0.520* (0.293)		
Perc. Moved from Same City 1 Year Ago [2021]		-0.572** (0.167)	
Perc. Non-Hispanic Black [2018] × Perc. Moved from Same City 1 Year Ago [2021]		-0.424 (0.443)	
Perc. Moved from Same State 1 Year Ago [2021]			-0.455** (0.183)
Perc. Non-Hispanic Black [2018] × Perc. Moved from Same State 1 Year Ago [2021]			-0.963 (0.631)
State F.E.	Yes	Yes	Yes
ZIP4 F.E.	Yes	Yes	Yes
Observations	5999	5999	5999
R^2	0.528	0.529	0.528
Controls	Included	Included	Included

Note: OLS regression. ZIP4 reflects a measure that is equal to the first four digits of a zip code, making the variation stem simply from differences in 10 nearby zipcodes. Startup data from the Startup Cartography Project. For each zip code, we estimate the Davis-Hatiwanger-Shu growth estimate between entrepreneurship in a year and entrepreneurship in a previous year. For example, the DHS growth estimate for a variable x between years 2020 and 2109 is computed as $(x_{2020} - x_{2019}) / (.5 * (x_{2020} + x_{2019}))$. Data from migration is from the American Community Survey estimates for 2021. Standard errors clustered at ZIP4 level in parenthesis. Significance noted as * $p < 0.05$, ** $p < .01$, *** $p < .001$

Table 7: Housing Costs and COVID Increase in Neighborhood Entrepreneurship

	(1)	(2)
Perc. Non-Hispanic Black [2018]	0.706** (0.0440)	0.652** (0.0281)
$\Delta \text{Log}(\text{Rental Price})[2020-2019]$	0.627** (0.295)	
Perc. Non-Hispanic Black [2018] \times $\Delta \text{Log}(\text{Rental Price})[2020-2019]$	-1.283* (0.727)	
$\Delta \text{Log}(\text{Home Values})[2020-2019]$		0.564** (0.195)
Perc. Non-Hispanic Black [2018] \times $\Delta \text{Log}(\text{Home Values})[2020-2019]$		-1.037** (0.454)
State F.E.	Yes	Yes
ZIP4 F.E.	Yes	Yes
Observations	1303	5925
R^2	0.810	0.534
Controls	Included	Included

Note: OLS regression. ZIP4 reflects a measure that is equal to the first four digits of a zip code, making the variation stem simply from differences in 10 nearby zipcodes. Startup data from the Startup Cartography Project. For each zip code, we estimate the Davis-Hatiwanger-Shu growth estimate between entrepreneurship in a year and entrepreneurship in a previous year. For example, the DHS growth estimate for a variable x between years 2020 and 2019 is computed as $(x_{2020} - x_{2019}) / (.5 * (x_{2020} + x_{2019}))$. Standard errors clustered at ZIP4 level in parenthesis. Home value and rent data come from the Zillow Home Value Index, at the zip code level. We aggregate the monthly series by obtaining the mean (geometric) of values in each zip code and year. Not all zip codes report a value. Significance noted as * $p < 0.05$, ** $p < .01$, *** $p < .001$

Table 8: Income Growth and COVID Increase in Neighborhood Entrepreneurship

	(1)	(2)
Perc. Non-Hispanic Black [2018]	0.679** (0.0290)	0.653** (0.0284)
Log(Median Income) [2020]	-0.106** (0.0430)	
Perc. Non-Hispanic Black [2018] \times Log(Median Income) [2020]	0.176** (0.0647)	
Δ Log(Median Income) [2020 - 2015]		-0.0799 (0.0514)
Perc. Non-Hispanic Black [2018] \times Δ Log(Median Income) [2020 - 2015]		-0.149 (0.210)
State F.E.	Yes	Yes
ZIP4 F.E.	Yes	Yes
Observations	5991	4321
R^2	0.526	0.610
Controls	Included	Included

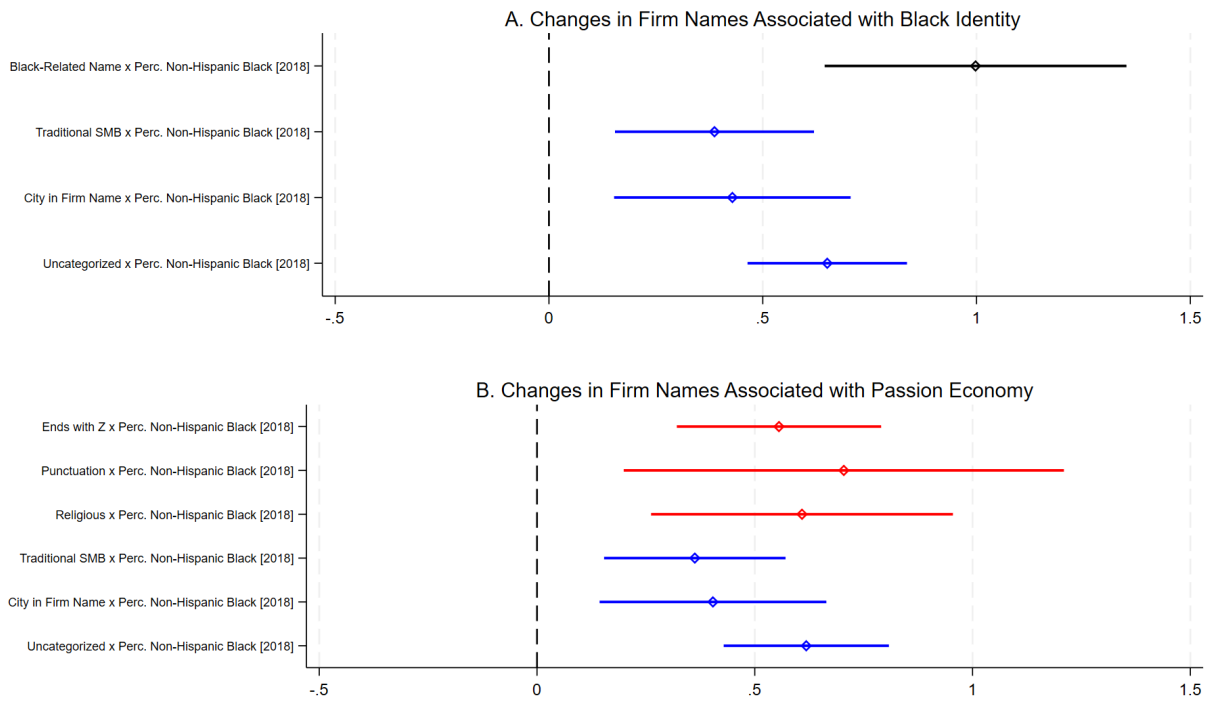
Note: OLS regression. ZIP4 reflects a measure that is equal to the first four digits of a zip code, making the variation stem simply from differences in 10 nearby zipcodes. Startup data from the Startup Cartography Project. For each zip code, we estimate the Davis-Hatiwanger-Shu growth estimate between entrepreneurship in a year and entrepreneurship in a previous year. For example, the DHS growth estimate for a variable x between years 2020 and 2109 is computed as $(x_{2020} - x_{2019}) / (.5 * (x_{2020} + x_{2019}))$. Data from migration is from the American Community Survey estimates for 2021. Standard errors clustered at ZIP4 level in parenthesis. Significance noted as * $p < 0.05$, ** $p < .01$, *** $p < .001$

Table 9: PPP Loans and COVID Increase in Neighborhood Entrepreneurship

	(1)	(2)	(3)	(4)	(5)
Main Effect					
Perc. Non-Hispanic Black [2018]	0.619** (0.0269)	0.633** (0.0273)	0.626** (0.0330)	0.654** (0.0404)	0.611** (0.0309)
All Loans					
Num. PPP Loans ('000s)	-0.0905** (0.0119)				
Perc. Non-Hispanic Black [2018] × Num. PPP Loans ('000s)	-0.0494 (0.0531)				
Log(\$ PPP Loans)		-0.0295** (0.00454)			
Perc. Non-Hispanic Black [2018] × Log(\$ PPP Loans)		-0.00250 (0.0188)			
Loans to Black Owners					
Num. PPP Loans Black Owners			0.697 (0.432)		
Perc. Non-Hispanic Black [2018] × Num. PPP Loans Black Owners			-0.529 (0.487)		
Log(\$ PPP Loan Black Owners)				-0.000182 (0.00258)	
Perc. Non-Hispanic Black [2018] × Log(\$ PPP Loan Black Owners)				-0.00891 (0.0140)	
Share of PPP Dollars to Black Owners					0.551** (0.270)
Perc. Non-Hispanic Black [2018] × Share of PPP Dollars to Black Owners					-0.114 (0.451)
State F.E.	Yes	Yes	Yes	Yes	Yes
ZIP4 F.E.	Yes	Yes	Yes	Yes	Yes
Observations	5998	5998	5998	3542	5998
R^2	0.531	0.532	0.526	0.714	0.527
Controls	Included	Included	Included	Included	Included

Note: OLS regression. ZIP4 reflects a measure that is equal to the first four digits of a zip code, making the variation stem simply from differences in 10 nearby zipcodes. Startup data from the Startup Cartography Project. For each zip code, we estimate the Davis-Hatiwanger-Shu growth estimate between entrepreneurship in a year and entrepreneurship in a previous year. For example, the DHS growth estimate for a variable x between years 2020 and 2109 is computed as $(x_{2020} - x_{2019}) / (.5 * (x_{2020} + x_{2019}))$. Standard errors clustered at ZIP4 level in parenthesis. PPP data is obtained directly from the Small Business Administration website. We focus on PPP loans in 2020 as those that were particularly relevant during COVID. Significance noted as * $p < 0.05$, ** $p < .01$, *** $p < .001$

Figure 6: Growth in Firms Based on Name-Based Markers



Note: We report coefficients from a stacked regression in which each observation is the increase in zip code entrepreneurship from 2019 to 2020 for a specific group of firms. The effects reported represent the relationship of percent black with the increase in each category. Panel A focuses on black identity measures, panel B on passion economy measures. More details on how these are built are reported in our Data section.

Table 10: Changes after COVID

	(1)	(2)	(3)	(4)
	All Startups DHS Increase 2021 vs 2020	All Startups DHS Increase 2022 vs 2021	All Startups DHS Increase 2023 vs 2021	All Startups DHS Increase 2023 vs 2019
Perc. Non-Hispanic Black [2018]	0.0314 (0.0233)	-0.429** (0.0255)	-0.611** (0.0293)	0.0746** (0.0327)
<i>Controls</i>				
Perc. Hispanic [2018]	0.0596** (0.0292)	0.0619** (0.0278)	0.0245 (0.0304)	0.237** (0.0344)
Log(Median Income) [2018]	-0.0703** (0.0140)	-0.0499** (0.0154)	-0.107** (0.0161)	-0.158** (0.0197)
Log(Population) [2018]	-0.000625 (0.00471)	0.00597 (0.00488)	0.0154** (0.00502)	0.0265** (0.00524)
Population Density [2018]	-1.200 (1.321)	-3.502* (1.820)	-2.024 (2.133)	-4.270* (2.291)
State F.E.	Yes	Yes	Yes	Yes
ZIP4 F.E.	Yes	Yes	Yes	Yes
Observations	5999	5999	5999	5999
R^2	0.423	0.438	0.531	0.551

Note: OLS regression. ZIP4 reflects a measure that is equal to the first four digits of a zip code, making the variation stem simply from differences in 10 nearby zipcodes. Startup data from the Startup Cartography Project. For each zip code, we estimate the Davis-Hatiwanger-Shu growth estimate between entrepreneurship in a year and entrepreneurship in a previous year. For example, the DHS growth estimate for a variable x between years 2020 and 2019 is computed as $(x_{2020} - x_{2019}) / (.5 * (x_{2020} + x_{2019}))$. Standard errors clustered at ZIP4 level in parenthesis. Significance noted as * $p < 0.05$, ** $p < .01$, *** $p < .001$

Appendix

Table A1: First 40 Firms in 2019 and 2020 in Kirkwood Neighborhood by Alphabetical Order

2019 Firms

A & G SOLUTIONS LLC	AIRPORT RETAIL MANAGEMENT LLC
A DAUGHTER'S PROMISE LLC	AKAN INC.
A EVANS HOMES, LLC	AKRON AUTOMOTIVE LLC
A GOOD TRUCKING LLC	ALAN JACKSON CONCEPTS LLC
A ONE RENOVATIONS LLC	ALEIMAN LLC
A TEAM HOLDINGS, LLC	ALEXANDER CARVELL INC.
A. D. F. PROPERTY MANAGEMENT, LLC	ALISON BEAVERS CONSULTING, LLC
A.A SEEDING LLC	A-LIST SOLUTIONS LLC
A.ROBINSON LLC	ALL DRESSED UP TO DIE LLC
A.S.M. BLESSED HANDS TRANSPORTATION LLC	ALL SCARR PRESSURE WASHING, LLC
AAA AFFORDABLE MOVERS LLC	ALL TO WELL CONSULTING, LLC
AAC CORPORATION	ALLATOONA LAKE ESCAPES, LLC.
ABLOOM LIFE, LLC	ALLISON LOCKHART REALTOR, LLC
ACCOLADE PAINTING LLC	ALLRICH AUTOMOTIVE LLC
ACS PROPERTY LIFE LLC	ALOI SERVICES LLC
ADAM LIPUS CONSULTING, LLC	ALONG CAME THE DEVIL 2, LLC
ADVANCE QUALITY CLEAN PLUS LLC.	AMANDA'S HELPING HANDS LLC
AEGLE BIOTECH, LLC	AMAZING SEAMS, LLC
AG PROPERTIES GROUP LIMITED	AMAZINGDIOR LLC
AIRE PHYSICAL THERAPY, LLC	AMBITIOUS INVESTMENTS LLC

2020 Firms

A BETTER LIFE CREDIT PROFESSIONALS LLC	ACADEMIC PIPELINE PROJECT LLC
A HOT BENCH, LLC	ACCELER8 STAFFING, INC.
A LOYAL JURNEE LLC	ACQUANTERGY LLC
A LYST VIRTUAL SOLUTIONS LLC	ACE GLOBAL ENTERTAINMENT LLC
A MILLION WHEELS PRODUCTIONS LLC,	ACJ TOWING LLC
A SERVANT'S SHIELD, LLC	ADA COURIERS LLC
A SPOTLIGHT PUBLISHING HOUSE, LLC	ADOBOHOBLO LLC
A SQUARED COLLECTIVE, LP	ADOPTED ALIEN ATHLETICS, LLC
A TOUCH OF SILK, LLC	ADORE LUXURY EXPERIENCE LLC
A WALKER HOMES LLC	ADORN YOU, LLC
A,DOR WEALTH L.L.C	ADRIENNE L. RICE, LLC
A.P. RECORDS LLC.	AEON BRIMS LLC
A.T.L.2ND CHANCE THRIFT STORE AND MORE INC	AFFIRMATION BOWS LLC
AA 786 LLC	AFRICA ONE +, LLC
ABALONE WIRELESS COMMUNICATIONS CORP.	AFROMENTALS, LLC
ABBILAW GLOBAL AND ARTWORKS LLC	AFSANA GAS INC
ABBILAW GLOBAL TECH & SERVICES LLC.	AGAPE LOCS LLC
ABDULLAH FATHER AND SON L.L.C.	AGEA ENTERPRISE HOLDINGS LLC.
ABERDEEN ROAD, LLC	AGILE LEARNING COMPANY, LLC
ABOVE THE HORIZONZ LLC.	AH COLLECTION CLEARING LLC.

Note: This table reports the first 40 firms by alphabetical order registered in Kirkwood, an African American neighborhood in Atlanta, GA. Differences in the names from 2019 to 2020 motivate our empirical analysis studying firm names.

Table A2: Percent Black and Number of Firms by ZIP Code before COVID. 2011 to 2019

	(1)
Pct. Black	-147.1** (46.38)
Population Density [2011]	-1070.6 (4313.2)
Log(Population) [2011]	97.85** (3.907)
Log(Median Income) [2011]	156.1** (15.94)
State F.E.	Yes
ZIP4 by Year F.E.	Yes
Observations	50769
R^2	0.656

Note:

Table A3: Comparison of Correlation of Neighborhood Black to Variation Across ZIP Codes. 2011 to 2019

Estimated Effect	Coefficient	Std. Error
Perc. Non-Hispanic Black [2011]	-147.1	46.4
Num. Startups	Mean	Std. Dev.
All Variation	183.5	274.7
<i>Within Variation</i>		
Within MSA		219.2
Within Year		272.8
Within MSA & Year		216.5
Within ZIP4 & Year		183.2

Table A4: Black Neighborhood Startup Deficit or Surplus (Relative to Alternative Control Groups) 1989 - 2019

	(1)	(2)	(3)
year=1989 × Pct. Black in 1990	9.355 (13.36)	-55.78** (10.08)	-10.08 (12.91)
year=1990 × Pct. Black in 1990	10.11 (13.38)	-57.09** (10.15)	-11.42 (12.82)
year=1991 × Pct. Black in 1990	10.10 (13.37)	-62.17** (10.80)	-16.56 (13.13)
year=1992 × Pct. Black in 1990	12.83 (13.33)	-70.13** (12.07)	-24.36* (13.93)
year=1993 × Pct. Black in 1990	9.882 (13.18)	-77.42** (12.98)	-31.68** (14.55)
year=1994 × Pct. Black in 1990	9.349 (12.89)	-85.37** (13.54)	-39.64** (14.79)
year=1995 × Pct. Black in 1990	7.878 (12.55)	-98.65** (14.90)	-52.99** (15.85)
year=1996 × Pct. Black in 1990	5.847 (12.41)	-106.6** (15.66)	-60.73** (16.45)
year=1997 × Pct. Black in 1990	3.873 (12.09)	-114.7** (16.10)	-68.81** (16.93)
year=1998 × Pct. Black in 1990	1.786 (12.03)	-121.7** (16.94)	-75.68** (17.67)
year=1999 × Pct. Black in 1990	-1.788 (11.81)	-132.9** (17.87)	-86.91** (18.42)
year=2000 × Pct. Black in 1990	-8.965 (11.51)	-142.2** (19.47)	-96.28** (19.69)
year=2001 × Pct. Black in 1990	-4.276 (11.71)	-145.2** (19.80)	-99.19** (20.03)
year=2002 × Pct. Black in 1990	-7.182 (11.92)	-169.3** (22.34)	-123.3** (22.14)
year=2003 × Pct. Black in 1990	-12.12 (13.05)	-191.9** (23.56)	-145.7** (23.05)
year=2004 × Pct. Black in 1990	-16.98 (14.76)	-215.9** (26.85)	-169.6** (26.30)
year=2005 × Pct. Black in 1990	-16.91 (16.35)	-237.5** (31.07)	-191.0** (30.26)
year=2006 × Pct. Black in 1990	-1.980 (17.61)	-225.1** (30.84)	-178.7** (30.09)
year=2007 × Pct. Black in 1990	-0.222 (17.89)	-224.3** (30.95)	-177.8** (30.43)
year=2008 × Pct. Black in 1990	2.975 (16.25)	-201.4** (25.38)	-155.2** (24.92)
year=2009 × Pct. Black in 1990	8.355 (16.27)	-212.5** (28.62)	-166.4** (28.07)
year=2010 × Pct. Black in 1990	24.15 (17.80)	-219.3** (31.64)	-173.1** (31.19)
year=2011 × Pct. Black in 1990	30.76 (19.42)	-244.9** (38.96)	-198.6** (38.32)
year=2012 × Pct. Black in 1990	32.76 (20.65)	-265.9** (43.03)	-219.6** (42.29)
year=2013 × Pct. Black in 1990	33.11 (21.46)	-280.5** (49.60)	-234.2** (49.07)
year=2014 × Pct. Black in 1990	42.04* (23.46)	-298.4** (54.05)	-252.0** (53.43)
year=2015 × Pct. Black in 1990	54.29** (25.23)	-294.3** (52.49)	-247.6** (51.78)
year=2016 × Pct. Black in 1990	64.56** (27.06)	-294.8** (55.64)	-248.4** (54.73)
year=2017 × Pct. Black in 1990	78.57** (29.91)	-299.8** (59.50)	-253.3** (58.68)
year=2018 × Pct. Black in 1990	109.9** (33.48)	-267.3** (46.37)	-220.6** (44.84)
year=2019 × Pct. Black in 1990	138.3** (34.38)	-241.7** (45.57)	-194.9** (44.10)
log(Median Income)[1990]			70.28** (10.14)
Population Density [1990]			-2801.8** (1208.2)
Log(Population)1990			40.10** (2.480)
State F.E.	No	Yes	Yes
ZIP4 by Year F.E.	No	Yes	Yes
_cons	Yes	No	No
Observations	167865	156240	156209
R ²	0.001	0.637	0.666

Table A5: Black Neighborhood Startup Deficit or Surplus (Relative to Alternative Control Groups) Before and During COVID-19

	(1)
year=2011 \times Perc. Non-Hispanic Black [2011]	-136.9** (39.12)
year=2012 \times Perc. Non-Hispanic Black [2011]	-153.8** (42.89)
year=2013 \times Perc. Non-Hispanic Black [2011]	-171.7** (49.03)
year=2014 \times Perc. Non-Hispanic Black [2011]	-182.6** (52.67)
year=2015 \times Perc. Non-Hispanic Black [2011]	-169.5** (51.16)
year=2016 \times Perc. Non-Hispanic Black [2011]	-159.2** (54.08)
year=2017 \times Perc. Non-Hispanic Black [2011]	-150.0** (57.74)
year=2018 \times Perc. Non-Hispanic Black [2011]	-103.9** (44.13)
year=2019 \times Perc. Non-Hispanic Black [2011]	-72.35 (44.45)
year=2020 \times Perc. Non-Hispanic Black [2011]	224.5** (62.85)
year=2021 \times Perc. Non-Hispanic Black [2011]	249.5** (81.02)
year=2022 \times Perc. Non-Hispanic Black [2011]	4.652 (67.54)
year=2023 \times Perc. Non-Hispanic Black [2011]	-94.89 (73.63)
Population Density [2011]	-39.68 (3874.1)
Log(Population) [2011]	128.3** (5.017)
Log(Median Income) [2011]	185.8** (18.58)
State F.E.	Yes
ZIP4 by Year F.E.	Yes
Observations	73333
R^2	0.585

Note:

Table A6: Growth Based on Firm Changes

	(1) Comparison: <i>Black Identity vs Traditional Sectors</i>	(2) Comparison: <i>Passion Economy vs Traditional Sectors</i>
Black-Related Name	0.113** (0.0478)	
Traditional SMB	0.0287 (0.0296)	0.0257 (0.0298)
City in Firm Name	-0.179** (0.0338)	-0.179** (0.0342)
Ends with Z		0.119** (0.0373)
Punctuation		0.247** (0.0776)
Religious		0.142** (0.0505)
Black-Related Name × Perc. Non-Hispanic Black [2018]	0.998** (0.180)	
Traditional SMB × Perc. Non-Hispanic Black [2018]	0.387** (0.119)	0.362** (0.106)
City in Firm Name × Perc. Non-Hispanic Black [2018]	0.429** (0.141)	0.404** (0.133)
Uncategorized × Perc. Non-Hispanic Black [2018]	0.651** (0.0950)	0.618** (0.0967)
Ends with Z × Perc. Non-Hispanic Black [2018]		0.556** (0.120)
Punctuation × Perc. Non-Hispanic Black [2018]		0.704** (0.258)
Religious × Perc. Non-Hispanic Black [2018]		0.608** (0.177)
Observations	17971	23224
R^2	0.142	0.106

Note: Stacked regression considering the growth in the emotion of different types of firms. For each category of firms, we estimate independently the Davis-Hatiwanger-Shu growth rate. We then append all groups and include an indicator for each group in our regression. The category All controls and fixed effects included. Standard errors are clustered at the zip4 level to account for potential correlation across firm types and contiguous zip codes. Reference category is uncategorized firms.