Minority Entrepreneurship and Alternative Opportunities inside Established Organizations

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ABSTRACT

Questions about racial disparities in entrepreneurship have garnered major attention in the literature. Past research has primarily focused on independently-owned ventures, but individuals can also engage in startup activities via intrapreneurship – by launching and operating new ventures inside established organizations. We propose that these internal routes of new venture formation offer a more inclusive pathway for racial minorities than external routes. Specifically, focusing on African- Americans, we argue that minorities will disproportionately sort into intrapreneurship due to both demand-side processes with regard to discrimination and the supply-side processes concerning self-selection. Analyzing a longitudinal dataset that tracks a representative sample of American entrepreneurs from 2005 to 2011, we find evidence that blacks, relative to whites, are more likely to become intrapreneurs than entrepreneurs and that such tendencies are amplified when discrimination against minorities increases or when opportunities to launch independent startups become more limited. Overall, we offer evidence that organizations increase the inclusion of racial minorities in entrepreneurial ecosystems.

INTRODUCTION

Successful creation of entrepreneurial ecosystems, regions, and economies critically depends on the participation and contribution of diverse individuals (Audia et al. 2006, Decker et al. 2014, Feldman and Florida 1994, Florida 2005, Greenberg 2019, Malecki 2018, Urbano et al. 2019). Yet racial minorities appear to be frequently excluded from the entrepreneurial economy. For example, relative to whites, blacks exhibit consistently lower rates of entry into entrepreneurship and lower chances of success as founders of new ventures (Bates 1997, Freeland and Keister 2016, Kacperczyk et al. 2018, Kim et al. 2006, Triana et al. 2015). For the most part, researchers have attributed such disparities to the demand-side processes of discrimination by investors or customers, thought to prevent racial minorities, including African-Americans, from successfully launching or operating new ventures (Blanchflower et al. 2003, Fairlie and Robb 2007, Greenberg 2019, Kuppuswamy and Younkin 2019, Leung 2017, Younkin and Kuppuswamy 2017).

Despite this ample research, however, we still lack a clear understanding of the extent to which racial minorities are excluded from entrepreneurial ecosystems in a broader economy. The most salient shortcoming of the extant literature pertains to the exclusive consideration of business *ownership* as the sole mode of pursuing startup activities. The process of founding new ventures, however, needs not be restricted to business ownership. Indeed, beyond entrepreneurship, or launching and running independent ventures, individuals can exploit new-market opportunities via intrapreneurship, or launching and running a new venture in conjunction with an established organization (Burgelman 1983, Chen and Nadkarni 2017, Hellmann 2007, Kacperczyk 2012). Importantly, intrapreneurship has been found to be as central to an entrepreneurial economy as entrepreneurial activities organized through independent ventures (Antoncic and Hisrich 2003, Covin and Slevin 1991, Lumpkin and Dess 1996); indeed, the act of founding and growing internal ventures is highly pervasive across industries and institutional settings, and its positive impact on firm growth and profitability has been well documented (e.g., Antoncic 2007, Chen and Nadkarni 2017, Ireland et al. 2009, Zahra 1996). Given the prevalence and the key importance of intrapreneurship in the startup economy, a more complete understanding of racial diversity and inclusion in the entrepreneurial ecosystem needs to take intrapreneurship into account more fully.

In this study, we therefore turn our attention to intrapreneurship as an alternative mode of opportunity exploitation, and examine racial disparities inside established firms. Based on the premise that the pursuit of new-market opportunities, within or outside established organizations, is simultaneously driven by the demand-side availability of resources and the supply-side willingness and motivation of prospective founders (Aldrich and Yang 2012, Hwang et al. 2018, Kacperczyk 2009, Kacperczyk and Marx 2016, Sørensen and Sharkey 2014), we develop a set of simple predictions about how both forces affect the participation of racial minorities in intrapreneurship relative to entrepreneurship.

First, on the demand side, we expect that obstacles against black entrepreneurs will be mitigated or less acute inside established firms. Drawing on theories of statistical discrimination, which posit that negative bias against minorities arises mainly due to uncertainty about the underlying individual quality, and that information on the individual competences will mitigate discrimination (Bielby and Baron 1986, Foschi et al. 1994, Gorman 2005, Ridgeway and Correll 2004), we expect discrimination to subside in a corporate setting because employers will be less likely than resource holders in the marketplace (i.e., investors) to use race as a heuristic when evaluating the underlying competences of their employees (Arcidiacono et al. 2010, Lang and Manove 2011, Petersen and Saporta 2004).

Second, on the supply-side, we expect racial minorities to themselves favor intrapreneurship over entrepreneurship, as they anticipate fewer obstacles and greater odds of success, when occupying intrapreneurs' roles. Career attainment theories posit that individuals from historically underrepresented groups tend to favor employment contexts that mitigate career obstacles, including demand-side discrimination (Heckman 1998, Kang et al. 2016, Lundberg and Startz 2007, Moss and Tilly 2001, Pager et al. 2009, Pager and Pedulla 2015). Accordingly, we expect racial minorities with entrepreneurial bents to view internal-venture opportunities as more favorable and to, in turn, sort into intrapreneurship at higher rates. In tandem, these processes lead to a uniform prediction that racial minorities will likely face fewer or less systematic constraints when acting as intrapreneurs and that these lower levels of perceived adversity will result in higher representation of blacks among intrapreneurs than among entrepreneurs.

To probe the theorized mechanisms, we further predict that racial minorities' greater tendency to pursue intrapreneurship will additionally be amplified when their disadvantage in entrepreneurship is more acute or more pronounced. Specifically, we expect that the concentration of racial minorities will additionally increase in regions with higher discrimination levels or more limited opportunities to found independent ventures. These conditions will further limit opportunities for racial minorities to launch and run their own businesses, and thus increase the relative appeal of internal startup activities. Finally, to probe racial minorities' preferences for intrapreneurship deeper, we assess their aspirations for new ventures as well as their fundraising behaviors. If, as our theory implies, racial minorities consider employer organizations as more supportive of their efforts to run new ventures than the market, these disadvantaged individuals will exhibit greater motivation to seek funding when they occupy the roles of intrapreneurs than when they act as founders of independent ventures. Similarly, if as we theorize, minorities anticipate greater chances of success in intrapreneurship, then these groups will exhibit higher growth aspirations when working on internal ventures than on stand-alone startups.

Testing our hypotheses poses empirical challenges, because it requires a systematic comparison of the pursuit of entrepreneurial opportunities through a startup versus on behalf of an employer organization. Yet finding a context in which researchers can observe individuals' sorting into intrapreneurship and entrepreneurship simultaneously is difficult; internal ventures are rarely recorded in a systematic manner, and large-scale data on such events are often missing. The vast majority of extant accounts of internal business formation are limited to purely theoretical insights (Hellmann 2007) or qualitative assessments (Burgelman 1985), making any systematic inferences challenging. Due to severe empirical limitations, few studies have conducted systematic examinations of internal ventures and startups (Burgelman 1985, Kacperczyk 2012, Pinchot 1985, Schumpeter 1934, Sørensen and Fassiotto 2011).

To overcome this empirical challenge, we leverage the Panel Study of Entrepreneurial Dynamics II (PSED II), which identified a representative sample of entrepreneurs in the United States in 2005, including individuals who pursued their new ventures independently through a startup and those who pursued new ventures on behalf of their current employer organizations (Reynolds and Curtin 2009, Ruef et al. 2003, Yang and Aldrich 2012). The panel dynamic data from 2005 to 2011 also provide rich information on the entrepreneurial process, including startup and financing activities, enabling us to examine disparities between racial minorities and whites in both modes of startup activity.

THEORY AND HYPOTHESES

Racial Gap in Entrepreneurship: Past Research

The creation of entrepreneurial ecosystems, regions, and economies hinges, to a large extent, on the participation and engagement of diverse individuals in a broad array of startup activities (Decker et al. 2014, Feldman and Florida 1994, Florida 2005, Greenberg 2019, Malecki 2018, Urbano et al. 2019). Yet racial minorities are often excluded from the benefits of the entrepreneurial economy because significant penalties accrue to minority entrepreneurs who start or run a new venture (Blanchflower et al. 2003, Fairlie and Robb 2007, Thébaud 2015a, Younkin and Kuppuswamy 2017). For example, mounting empirical evidence indicates that blacks are less likely to enter entrepreneurship, and that black-owned startups have lower revenues and profits, fewer employees, and higher closure rates than those owned by whites (Fairlie 2004, Fairlie and Robb 2007, Kuppuswamy and Younkin 2019, Younkin and Kuppuswamy 2018).

Researchers have attributed such disparities to systematic obstacles that racial minorities face when attempting to found or run entrepreneurial ventures. First, the "pipeline problem," or disparities in human and social capital, experience levels, family background, and initial assets, have often been thought to put racial minority groups at a systematic disadvantage in the entrepreneurial setting (Fairlie 1999, Hout and Rosen 2000, Keister and Moller 2000, Kim et al. 2006). Second, even net of quality differences, non-white entrepreneurs face substantial barriers to launching and operating new businesses, because of discrimination by key audiences, including consumers (Coyne et al. 2010, 2018, Younkin and Kuppuswamy 2017), or investors (Blanchflower et al. 2003, Heilman and Chen 2003, Thébaud 2010, Younkin and Kuppuswamy 2017). The argument has been that, in evaluating individuals' competencies as founders, resource-holders strive to reduce the uncertainty inherent in new ventures by applying evaluative standards infused with stereotypes and cultural biases against minorities (Huang and Pearce 2015, Kanze et al. Forthcoming). And because these minority groups are generally perceived as lower-status than whites (Correll and Ridgeway 2003, Ridgeway 2011), evaluators will consider them as less qualified or less competent entrepreneurs (Bigelow et al. 2014, Brooks et al. 2014, Buttner and Rosen 1989, Thébaud 2015a). In brief, past studies conclude that racial minorities, and especially African-Americans, encounter considerable obstacles in entrepreneurship, with negative bias on the basis of race being one of the most prevalent and systematic barriers preventing these individuals from succeeding as founders. Overall, obstacles such as discrimination undermine the participation of racial minorities in the entrepreneurial economy, making it challenging for individuals from historically disadvantaged groups to launch or operate their own businesses.

Past studies have documented the exclusion of blacks from the entrepreneurial economy, but in making such conclusions, scholars have predominantly focused on the pursuit of stand-alone, independent ventures, which can be easily observed and accounted for empirically. Yet the act of exploiting a new market opportunity or running a new business needs not be limited to independent ventures. Rather, innovation and strategy scholars have long recognized that established organizations can provide an alternative context for identifying and exploiting new market opportunities, enabling individuals to found new ventures on behalf of established firms, or via so-called intrapreneurship (Amit et al. 1993, Burgelman 1983, Kacperczyk 2012, Pinchot 1985, Sørensen and Fassiotto 2011). Indeed, mature firms commonly rely on intrapreneurship to develop and commercialize new ideas, and to build new businesses, which contribute to innovation, firm growth, and ultimately profitability (Antoncic 2007, Chen and Nadkarni 2017, Ireland et al. 2009, Zahra 1996). But though intrapreneurship represents an alternative mode of startup activity, studies to date have not assessed whether racial minorities might be less or more represented in such roles. Failing to account for racial disparities among intrapreneurs, however, might mask the overall extent to which racial minorities are being excluded from startup activities and, therefore, from the entrepreneurial economy, more broadly. It is precisely this need to assess the racial gap in startup activities and the segregation into different venturing paths within and outside firms that motivates our theoretical development.

Intrapreneurship: An Alternative Path to Explore Entrepreneurial Opportunities

Beginning with Schumpeter (1950), scholars have considered intrapreneurship to be an important mode of startup activity, which involves identifying and exploiting market opportunities on behalf of an established firm (Burgelman 1983, Chen and Nadkarni 2017, Dess et al. 2003, Hitt et al. 2001, Kacperczyk 2012, Sørensen and Fassiotto 2011). At the firm level, intrapreneurship encompasses a set of strategic, entrepreneurial behaviors, designed to facilitate a firm's introduction of new processes, ideas, or products to the market (Simsek et al. 2007, Zahra 1996). Accordingly, intrapreneurship has been found to enhance a firm's financial performance, innovation, and strategic renewal (Zahra, 1996; Ling et al., 2008). Although internal businesses are owned by the parent organization, reflecting its strategic initiatives, goals, and resources (Klepper and Sleeper 2005, Parker 2011), their launch, survival, and day-to-day operation critically depends on the engagement of individual employees. Early administrative research, for example, has recognized the crucial role of employees in driving a firm's tendency to start and run new ventures. Indeed, internal ventures are typically driven by the combination of top-down processes, which involve deliberate planning on the part of the firm (Burgelman and Sayles 1986, Jelinek 1979, Jelinek 1990), and bottom-up processes, which emphasize employees' autonomous strategic initiatives, experimentation, and a self-directed pursuit of opportunities (Bower 1986, Burgelman 1983, Burgelman 1991). Intrapreneurs are therefore workers who act entrepreneurially within a broader opportunity structure of the organization, seeking new opportunities, mobilizing resources, building founding teams, as well as operating and leading a new business. Indeed, a broader consensus has emerged that intrapreneurs take somewhat autonomous initiatives, while also facing some uncertainty and risk associated with developing and running a new venture (Burgelman 1994, Burgelman 1983, Lumpkin and Dess 1996, Pinchot 1985, Stevenson and Jarillo 1990).

Despite the potential downsides, however, assuming the role of an intrapreneur can be attractive to employees because running a new business inside the firm can help advance to corporate leadership roles, by placing workers in the position of manager or other senior positions (Burgelman and Sayles 1986, Kirzner 1973). Evidence suggests, for example, that individuals with entrepreneurial bents perceive intrapreneurship as a path equivalent to entrepreneurship and often choose to pursue the former, when opportunities and resources to do so are available in the firm or when founding one's own new business seems more challenging (Antoncic and Hisrich 2003, Covin and Slevin 1991, Hellmann 2007, Kacperczyk 2012, Lumpkin and Dess 1996, Parker 2011). In brief, given that entrepreneurial opportunities need not only be exploited by independent founders of stand-alone ventures (i.e., entrepreneurs) but can also be brought to the market by employees within established organizations (i.e., intrapreneurs), who can collaborate with their parent firm to launch and run a new venture, the question arises as to whether the representation of racial minorities varies across these two types of venues of new-venture creation.

Racial Disparities in Entrepreneurship vs. Intrapreneurship

In the following, we propose that racial minorities will disproportionately sort into intrapreneurship due to the demand and supply processes, both inclining non-whites to favor intrapreneurship over entrepreneurship. First, the demand-side discrimination will be weaker within firms than in the marketplace. Second, the supply-side processes of higher anticipated odds of success will incline racial minority groups to place greater weight on intrapreneurship when pursuing startup activities.

First, to the extent that demand-side discrimination acts as a key barrier preventing racial minorities from successfully starting a new venture, we expect this obstacle to be mitigated inside established organizations, consequently inclining these disadvantaged groups to exploit new-market opportunities internally. In this respect, theories of statistical discrimination posit that discriminatory behaviors arise mainly due to uncertainty about the underlying individual quality (Bielby and Baron 1986, Foschi et al. 1994, Gorman 2005, Ridgeway and Correll 2004). Accordingly, any supplemental cues of individual merit—derived from individual achievements—mitigate the uncertainty inherent in evaluation processes, decreasing reliance on demographic attributes, such as race, to infer the underlying competences (Foschi et al. 1994, Gorman 2006, Ridgeway 2011, Yang and Aldrich 2014). Importantly, information about individual competences becomes more easily appraised by employers due to the more frequent employer-employee interactions taking place inside the firm (Arcidiacono et al. 2010, Lang and Manove 2011, Lazear 1991, Petersen et al. 2000, Petersen and Saporta 2004). For example, Petersen et al. (2000) argues that racial discrimination is most acute at the point of hire and becomes mitigated in later stages of the employee-employer relationship, such as promotion to higher levels. And indeed, empirical studies consistently show that black workers face stronger discrimination in labor markets and earn substantially lower salaries than observationally equivalent white workers, when employers have less information on observable investments in human capital (Arcidiacono et al. 2010). By contrast, evidence of individual quality reduces uncertainty about racial minorities' competence and significantly narrows the wage gap between black and white workers (Arcidiacono et al. 2010, Lang and Manove 2011).

Applied to the entrepreneurial setting, these theories suggest that racial minorities will likely have a more equitable access to opportunities and resources within an established firm because statistical discrimination is relatively weaker in a corporate setting than in the marketplace, given that information about individual competences is less easily available to decision makers in the former than in the latter context. Whereas the key resource holders in the market, such as investors, will rely on race to infer the underlying competences of non-white founders, such reliance will be mitigated in the case of employers; as information about individual employees become more easily available within organizations, negative bias on the basis on race will play a less significant role in influencing the ability of non-whites to mobilize resources to pursue new ventures.

Second and on the supply-side, we expect that racial minorities will disproportionately favor intrapreneurship over entrepreneurship, considering internal ventures as more favorable venues to exploit new opportunities. Career attainment theories posit that individuals from historically underrepresented groups, such as blacks, are often more motivated than whites to circumvent labor-market obstacles, favoring opportunities that mitigate unfavorable career outcomes, including the demand-side discrimination (Heckman 1998, Kang et al. 2016, Lundberg and Startz 2007, Moss and Tilly 2001, Pager and Quillian 2005, Pager et al. 2009, Pager and Pedulla 2015). Thus, when racial minorities evaluate the decision to pursue new-market opportunities, they will likely place greater weight on roles they associate with lower anticipated exposure to discrimination or adversity, such as intrapreneurship. For example, members of racial minority groups may view internal venturing opportunities more favorably, based on the premise that launching internal ventures can help conceal a stigmatized status or reduce the salience of racial identity as an evaluative criterion for a new venture. Consistent with this claim, past studies have found that stigmatized LGBT groups sort into occupations wherein avoiding discrimination or its detrimental consequences is more feasible (Tilcsik et al. 2015). In the context of entrepreneurship, racial identity will be salient for founders of independent ventures, serving as a primary signal on the basis of which investors and customers evaluate the founder (Aldrich and Fiol, 1994; Stinchcombe, 1965). But its prominence will decline within the firm because an internal venture's status or reputation is constructed, in part, from the identity of the parent organization. The anticipated benefits of concealing the stigmatized status and reducing investor or customer discrimination might thus incline racial minorities to pursue intrapreneurship at higher rates than entrepreneurship.

Overall, based on these arguments, we expect blacks to be more highly represented in intrapreneurial roles because obstacles such as discrimination -- the key barrier preventing racial minorities from succeeding as founders of new ventures -- are less prevalent or less acute within organizations. Moreover, members of these historically disadvantaged groups will themselves be more motivated and more willing to sort into intrapreneurial roles, anticipating lower exposure to employer discrimination and/or greater chances of concealing the stigmatized status from customers. Hence, we expect racial minorities to be more highly concentrated in the roles of intrapreneurs, and thus the gap in entrepreneurial activities to decrease within established firms.

Hypothesis 1: The racial disparities will be smaller in intrapreneurship than in entrepreneurship: racial minorities will be more highly concentrated in the roles of intrapreneurs than in the roles of entrepreneurs.

Moderating Conditions

The core tenet of our theory suggests that minorities will be more concentrated in intrapreneurship than in entrepreneurship and that lower chances of discrimination will underlie this pattern. To further probe these mechanisms, we examine whether the relationships we propose vary systematically with the strength of disadvantage that racial minorities face. Presumably, the relative appeal of intrapreneurship will increase when the perceived disadvantage in entrepreneurship, or founding an independent, stand-alone venture, intensifies.

First, barriers to entrepreneurship become more prominent and more daunting in states where discrimination against minorities is more prevalent or more widespread, in general. For example, analyzing a crowdfunding platform, Younkin and Kuppuswamy (2017) find that African-Americans are less likely to procure funding when crowds rely on negative stereotypes to assess individual competences. It follows, therefore, that racial minorities will be additionally motivated to engage in intrapreneurship in states with higher levels of market discrimination.

Second, founding an external venture is less feasible when opportunities and resources required to launch a stand-alone firm are more difficult to access within a given state. For example, because uncertainty increases when startup opportunities are limited, key resource-holders might be additionally inclined to rely on status cues when appraising individual competences. Indeed, Thébaud and Sharkey (2014) find that female founders were less likely than their male counterparts to procure entrepreneurial resources during the economic recession, presumably because an increase in uncertainty intensifies investors' discrimination against female entrepreneurs.

Taken together, these arguments imply that racial minorities' tendency to place a stronger weight on intrapreneurship will be additionally amplified when obstacles to launching an independent startup intensify. In short, when the act of founding and running a stand-alone venture is more difficult – because discrimination levels are higher or opportunities for startups are limited– the propensity of racial minorities to favor intrapreneurship over becoming a founder of an independent startup, when exploiting new market opportunities, will increase. Hence, we propose the following:

Hypothesis 2a: *Racial minorities will be additionally more likely to become intrapreneurs than entrepreneurs when state-level discrimination is higher.*

Hypothesis 2b: *Racial minorities will be additionally more likely to become intrapreneurs than entrepreneurs when state-level opportunities for entrepreneurship are more limited.*

A corollary of our argument is that employers are less prone than markets to discriminate based on race, either because they face greater regulative and normative pressures or because differences in productivity can be more easily assessed within an organization, reducing the need to rely on indirect (i.e., status-based) evidence for quality (Podolny 1994, Podolny 1993). Status-based theories of discrimination posit that supplemental cues of merit can reduce the uncertainty inherent in evaluation processes and therefore decrease the reliance on demographic attributes, such as race, to infer the underlying competences (Foschi et al. 1994, Gorman 2006, Ridgeway 2011, Yang and Aldrich 2014). Thus, to the extent that discrimination arises mainly due to uncertainty about individuals' unobserved quality differences (Foschi et al. 1994, Gorman 2005, Ridgeway and Correll 2004), it follows that racial minorities will be additionally compelled to engage in intrapreneurship when they are unable to signal their competence or skills through alternate means.

Educational credentials represent a frequent quality signal that can offset minorities' disadvantage, revealing to the audiences in the market information about the abilities and competences of these historically disadvantaged individuals (Arcidiacono et al. 2010, Lang and Manove 2011). Indeed, within labor markets, blacks have been found to benefit from demonstrating educational credentials, since uncertainty about racial minorities' competences, and the resulting wage gap between black and white workers nearly disappears among individuals with college degrees (Arcidiacono et al. 2010, Lang and Manove 2011). Given the more significant signaling role of educational credentials for these disadvantaged groups, we expect that minorities who lack such quality signals will be additionally likely to sort into intrapreneurship. Hence, we propose the following:

Hypothesis 2c: *Racial minorities will be additionally more likely to become intrapreneurs than entrepreneurs when their educational credentials are lower.*

RESEARCH DESIGN

Assessing racial disparities across different modes of new venture formation is empirically challenging. Because instances of intrapreneurship are generally not visible to researchers and are difficult to observe on a large scale, opportunities to examine these outcomes are rare, and prior research on this subject remains scant. This empirical challenge is compounded to the extent that race has rarely been studied in entrepreneurship, and empirical contexts conducive to such studies are equally scarce.

To overcome these empirical challenges, our study uses data from the Panel Study of Entrepreneurial Dynamics II (PSED II), which track a representative sample of entrepreneurs in the United States from 2005 to 2011. PSED II has several key advantages for our research. First, the data can identify whether individuals have launched a new business, and more importantly, whether a new business is pursued through an independent startup (i.e., entrepreneurship) or on behalf of an employer organization (i.e., intrapreneurship). PSED II is the first large-scale dataset to include both entrepreneurs who start their own businesses and intrapreneurs who start new businesses as part of their wage employment inside an established organization.

Second, PSED II was designed to study entrepreneurs and their new businesses, offering a large representative sample of individuals who choose to launch new ventures. The research design for the PSED II consists of two phases. In the first stage, a large representative sample of U.S. adults (i.e., 31,845 individuals living in the contiguous 48 states and the District of Columbia) was interviewed in 2005 to screen for entrepreneurs. Specifically, when an adult 18 years or older was identified and agreed to respond to the survey, a screening interview was conducted to identify people who were currently starting a business. The screening interview used four criteria: (1) a general criterion regarding their entrepreneurial/intrapreneurial status, (2) an action criterion to ascertain if respondents had taken any action in creating a new business, (3) an ownership criterion to ascertain if they would share ownership of the new businesses, and (4) a criterion to ascertain whether the new businesses were still being created or if they had become fledging firms. By applying these selection criteria, PSED II improved upon previous research designs by identifying a sample of valid nascent entrepreneurs and intrapreneurs who were active in business creation.

In the second phase, the individuals who reported starting a new business from the first phase were then followed for the period of six years from 2005 to 2011. Specifically, full interviews were conducted to collect information on all the individuals who were pursuing entrepreneurial opportunities internally or externally. If respondents indicated others would share ownership in the venture, they were asked to identify up to five people who would have the highest level of ownership, and the ownership percentage to be held by each team member. Respondents were then asked to provide information about each cofounder, including ascribed and achieved characteristics.[1]

Finally, PSED II collects rich information on the entrepreneurial process, allowing us to compare individuals' efforts in seeking and obtaining financial support and the subsequent outcomes. The initial interview in 2005 was followed by six yearly follow-up interviews from 2006 to 2011. At each follow-up interview, respondents were asked about their startup activities, performance, and the survival of the business. For each type of startup activity or event, PSED II asked whether and when an event happened, generating rich dynamic data on these activities. The same research questions were repeated in each follow-up interview until a business was terminated. Thus, PSED II is a longitudinal study of entrepreneurs and their new businesses, which serves our research purpose to investigate entrepreneurial process and business outcomes.

Dependent Variables

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[1] A representative sample of nascent entrepreneurs can be obtained by applying sampling weights. The final weights for the PSED II sample were developed following three steps: survey weights were developed to adjust non-coverage and non-response; after screening interviews were conducted, post-stratification weights were developed given respondents' information on income, sex, age, and race; and the final weights were obtained by multiplying survey weights and post-stratification weights, $WT_{respondent} = WT_{survey} * WT_{post-strat}$. If we apply the final weights, we have a representative sample of nascent entrepreneurs in the United States (i.e., owners of emerging organizations), and the unit of sampling is a nascent entrepreneur.

Entrepreneurial/intrapreneurial entry. The PSED II screening interview asked a set of three general qualification questions to identify individuals who were engaged in a startup: (1) "*Are you, alone or with others, currently trying to start a new business, including any self-employment or selling any goods or services to others?*" (2) "*Are you, alone or with others, currently trying to start a new business or a new venture for your employer, an effort that is part of your normal work*?" (3) "*Are you, alone or with others, currently the owner of a business you help manage, including self-employment or selling any goods or services to others?*" Questions 1 and 3 identify entrepreneurial entry; question 2 identifies intrapreneurial entry. We created a categorical variable coded "0" for absence of startup activity if an individual answered "no" to all three questions; coded "1" for intrapreneurial entry, if an individual answered "yes" to question 2; and coded "2" for entrepreneurial entry, if an individual answered "yes" to questions 1 or 3. Our focus is on new businesses that will eventually become fledging firms and that exhibit clear organizational boundaries (Aldrich and Ruef 2006, Yang and Aldrich 2017). Thus, we restrict our sample by excluding individuals who are simply self-employed. We considered a number of criteria for the sample restriction: (1) only including entrepreneurs/intrapreneurs whose businesses have made fully developed product or service ready for sale; and (2) only including entrepreneurs/intrapreneurs whose new business has generated income from the sale of goods or services. Both criteria allow us to focus on new businesses that have made serious effort and commitment to establish, as opposed to business entities that are in a "limbo" status, showing no serious effort or commitment from the founders.

Independent Variables and Moderators

Race. We focus on blacks because ample research suggests that blacks face persistent discrimination in entrepreneurship (Blanchflower et al. 2003, Heilman and Chen 2003, Thébaud 2010, Younkin and Kuppuswamy 2017) as well as in the labor market (Pager and Pedulla 2015; Pager and Quillian 2005), making this group especially relelvant for our theory.[2] Moreover, our data contain small

[2] Nearly half of the new businesses in PSED II are owned by multiple owners, typically two to three owners. Among the multi-member teams, 75% are same-race teams, and 25% are mixed-race teams, with team members coming from two difference racial groups (primarily Whites and Asians). Only 18% of the mixed-race teams (4.5% of multi-member teams) have Black and White team members. These descriptive findings are consistent with previous

percentages of all other racial groups except whites and blacks. Among respondents included in the initial screening interview, self-reported race falls into the following categories: white/Caucasian (87.74%), black/African American (7.10%), Asian/Asian American (1.24%), and some other race (6.93%). Only 1.24% of respondents are Asian, so we combine them with the "other race" group. Among individuals who started a new business, racial composition is as follows: White (66.54%), Black/African American (20.62), American Indian (4.96%), Asian (1.60%), Pacific Islander (0.27%), and other (6.00%). Given our focus on blacks, we create a dummy variable, coded "0" for White and "1" for Black.[3]

State-Level Discrimination. To separate states with higher and lower levels of discrimination, we used a recent ranking that measures U.S. states' discrimination. The ranking is based on the overall number of discrimination complaints filed with the Office of Fair Housing and Equal Opportunity for the period in our sample, divided by 100,000s of residents. Discrimination by real estate agents and landlords directed against minority home-seekers, including racial minorities, occurred and continues to occur throughout U.S. metropolitan areas. Following other studies, we use this measure to proxy for general discrimination levels by state (Ross and Galster 2005). The higher value of the variable, the higher level of discrimination in a state.

State-level opportunities for entrepreneurship. To proxy for the availability of entrepreneurial opportunities, we turn to state-level heterogeneity in founding rates. Presumably, states with higher founding rates have more opportunities and more resources conducive to startup founding. The screening data from PSED II identifies each respondent's residential state. We use this information to compute *State*

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research that shows substantial racial segregation in the small business sector among Blacks and Whites (Ruef et al. 2003).

[3] We used an alternative measure for the Black variable, coded based on race of the lead entrepreneur in charge of daily business operations. Respondents were asked, "*Which of the owners would be considered in charge of day to day operations of the new business?"* and allowed to report (1) one individual owner is in charge; (2) several owners jointly are in charge; or (3) all owners are equally in charge. Although multiple lead entrepreneurs can be reported, only 9% of multi-member teams have more than one owner taking the lead. We compared the two measures—race of the responding entrepreneur and race of the lead entrepreneur for a new business. Results are highly consistent across the two measures. In the final results, we use the responding entrepreneur's race for all analyses, but our results are robust to the alternative measure.

Entrepreneurship, defined as the percentage of individuals who found a new business independently (i.e., through a startup) in a given state in 2005 when the individuals in our sample were surveyed about their entrepreneurial status.

Educational credentials. Evidence shows that Black workers face discrimination in labor markets, and earn substantially lower salaries than observationally equivalent White workers, when the investments in their human capital are not observable—that is, when they do not have a college degree (Arcidiacono et al. 2010). Following prior research, we use a dummy variable to indicate whether an individual holds a college degree. We construct a dummy variable *No College Degree* equal to "1" when an individual does not hold a college degree, and "0" otherwise. For robustness, we used a continuous measure for education level, and we obtained consistent results (available upon request).

Control Variables

Human capital. An important identification challenge is that blacks might differ from whites with respect to human capital and that these differences might influence sorting into different paths to explore entrepreneurial opportunities. However, to mitigate these concerns, we include in our models extensive controls for human capital. First, we account for six merit-based characteristics theorized to be important for entrepreneurship and possibly correlated with race: (1) years of work experience in the same industry where a new firm has been created; (2) years of managerial experience; (3) startup experience, indicated by the number of other new businesses created; (4) the number of other businesses owned; (5) the highest level of education an owner has completed; and (6) years of full-time paid work experience. The first four measures directly concern task competence relevant to leading or managing a new business; these items have significant effects on new ventures' performance and survival (Brüderl et al. 1992, Cassar 2014, DeTienne and Cardon 2012). Thus, we expect these measures to be salient in entrepreneurs' decisions regarding leadership. The last two measures—education and general paid work experience—are not specific to the context of starting a new business, but they proxy for basic human capital qualifications in capitalist labor markets (Pager and Shepherd 2008). Because these measures could be correlated with race as well as the propensity to found a new venture, we take an inclusive approach, considering both general and specific human capital variables in our models.

Household conditions. In addition to human capital, heterogeneity in household conditions might influence sorting into entrepreneurship versus intrapreneurship. Most importantly, household income levels could correlate with race as well as the willingness to enter entrepreneurship as well as the entry mode (Chatterjie and Seamans, 2012). For example, individuals with higher earnings in paid employment might be less likely to launch external startups because the opportunity cost of doing so is higher (e.g., Kacperczyk and Marx, 2016). We therefore control for household income level, using bands of income and the number of adults and children in a household.[4] We use an ordinal variable with twenty-two income levels. We also control for the number of children because entrepreneurs, especially men, may feel more pressure to create successful businesses when they have more dependents at home (Bianchi et al. 2006). Moreover, household income and the number of adults in a household tend to correlate with the amount of financial resources to start a business.

Full-time employment. We control for responding entrepreneurs' employment status, measured by whether they have another full-time wage job outside the business. Having a full-time wage job may signal lack of commitment to a new business, and thus affect entrepreneurs' persistence. This measure may directly affect how much time an entrepreneur can spend on the new business, but it may also be correlated with race—therefore potentially confounding the associations we document.

Position in last job. We control for the respondent's last position prior to founding a new business. We created three dummy variables for (1) worker, (2) manager, supervisor, or executive, and (3) support staff. The reference group is jobs that combine managerial and staff functions.

Characteristics of last job. As a robustness check, we control for a few other characteristics of respondents' last position that may correlate with the propensity to start an internal venture or an independent startup: (1) the number of people between the individual and the Chief Operating Officer, (2) the number of people employed in the employer organization, (3) the number of people the individual

[4] We use household income level rather than the absolute household income because some respondents refused to report absolute household income but were willing to share the level of their income.

supervises, and (4) whether the employer is a public-sector government organization, a non-profit organization, or a private organization.

Startup activities. We control for two types of activities startups have conducted to develop routines for their startups: whether they have started preparing a business plan, and whether they have signed an agreement regarding ownership shares. Prior studies show that these activities increase business survival (Delmar and Shane 2003, Yang and Aldrich 2012). Both indicators are time-varying variables, coded using time information updated monthly.

Team size. We additionally control for the team size, which is measured by the number of owner-founders. We control for size because prior studies suggest that new ventures founded by larger teams are more likely to succeed than those founded by small teams (Ruef et al. 2003). Our descriptive results show that the majority of individuals, either starting internal ventures or independent ventures, work as solo entrepreneurs. There is no statistically significant difference in team size across the two types of venture types.

Team type. We control for the type of entrepreneurial team based on relationships between team members: solo entrepreneurs, spousal teams, teams that only include friends, teams that include spouse and other, teams that have relatives and friends, teams that only have relatives, and teams that have strangers.

Model Specification

Our hypotheses involve different dependent variables, thus we estimate different models. First, to examine racial disparities in intrapreneurship and entrepreneurship, we analyze the first phase of PSED II that surveys a representative sample of American individuals whether they are starting a new business, either independently or within an established organization. We estimate multinomial logit regressions to first compare racial disparity in the two separate events -- creating an independent new business and creating an internal venture inside an organization – and then compare racial disparities across these two modes of new-venture development. These models include dummies for each state to account for unobserved heterogeneity at the state level. Second, among those who are either entrepreneurs or intrapreneurs, we investigate, conditional on founding a new business, whether blacks and whites differ in seeking financial support. Given that information on both the event of seeking financial support and the timing is available in our data, we estimate Cox proportional models to examine whether and when individuals have asked for funding for the businesses they created.[5] These models include state-fixed effects, as well as calendar-year fixed effects, and industry dummies. Finally, we conduct longitudinal analyses to examine racial disparities in future expectations for the new business. Similarly here, we include calendar-year fixed effects, industry dummies, and state-fixed effects in these models.

RESULTS

Racial Disparities in Entrepreneurial/Intrapreneurial Entry

Our first proposition suggests that, relative to whites, racial minorities will be more likely to start ventures inside established organizations (i.e., intrapreneurship) than to launch their own new business (i.e., entrepreneurship). Results in Table 1 report the likelihood of entrepreneurship (Model 1) and the likelihood of intrapreneurship (Model 2). Model 1 shows findings consistent with prior studies (Bates 1997, Freeland and Keister 2016, Kacperczyk et al. 2018, Triana et al. 2015): There is a stark racial gap in entrepreneurship, whereby blacks are 35 percent less likely than whites to start an independent new business [=1-exp(0.-428), $p<0.001$]. Without any further analyses, this finding may be easily interpreted as evidence that blacks are severely underrepresented in the entrepreneurial economy.

To further investigate blacks' exclusion from the field of entrepreneurship, we next turn to the representation of these racial minorities in intrapreneurship. These analyses produced two important findings. First, as expected, blacks are more disproportionately concentrated in intrapreneurship than in entrepreneurship: the ratio of intrapreneurship versus entrepreneurship for African-Americans is twice the ratio for whites [=exp(0.845)-1), $p<0.001$]. Put differently, consistent with our expectation, the racial gap

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[5] Event history analysis is suitable to examine discrete events because the technique uses information on both events and time. Comparing three available models—non-parametric models, parametric models, and semi-parametric models (Cox proportional hazards model)—we chose the Cox proportional hazards model because it leaves the baseline probability function unspecified (Blossfeld et al. 2007), easily incorporates time-varying variables (Allison 2014), appropriately handles left-truncated and right-censored data (Guo 1993), and effectively deals with survival time with ties (Collett 2003).

typically observed in entrepreneurship diminishes significantly in intrapreneurship. This higher concentration of blacks in intrapreneurship indicates that, relative to markets, organizations increase the inclusion of racial minorities in the entrepreneurial ecosystem, in part because of: (1) the demand-side process that mitigates discrimination against racial minorities in a corporate setting when information for quality appraisal is more available; and (2) the supply-side process that enhances racial minorities' perception of intrapreneurship as a more favorable option for startup activities.

Second, the rate of intrapreneurship is higher for blacks than for whites: the former are 51 percent more likely than the latter to found an internal venture inside established organizations [=exp(0.417)-1), $p<0.05$]. This finding might be interpreted as indicating that whites are relatively less likely to seize internal venture opportunities because they face more abundant or more attractive options outside established organizations. Overall, these results suggest that the racial gap, commonly seen in entrepreneurship, decreases significantly in intrapreneurship. Our results suggest, therefore, that organizations function to mitigate the exclusion of racial minorities from the entrepreneurial economy with African-Americans being relatively more likely to favor intrapreneurship over entrepreneurship.

[Insert Table 1]

Barriers to Entrepreneurship and Intrapreneurial Entry

After confirming that racial minorities exhibit a higher likelihood of pursuing venture opportunities within their employer organizations than whites, we now probe deeper the mechanisms that drive blacks' higher propensity to start internal ventures.

We first assess whether the differential propensity to turn to internal venturing increases when market barriers to entrepreneurship are more pronounced. Table 2 reports estimates for the cross-state heterogeneity in discrimination (Model 1) and the state-level rate of entrepreneurship (Model 2). Results in Model 1 show that blacks tend to engage in internal venturing more in states with higher levels of discrimination against minority groups, as indicated by the positive and significant interaction between *Black* and *State Discrimination*. Moreover, a comparison across the two modes of business formation shows that, relative to whites, blacks are 6 percent more likely to transition to intrapreneurship than to entrepreneurship, when the state-level discrimination ranking increases by 1 point, indicating that discrimination against minorities is higher [=exp(0.058), $p<0.001$]. Recall that the state-level ranking ranks all 51 states in terms of discrimination. We interpret our results based on the ranking for Arkansas (43) and New Jersey (14). The black-to-white racial gap in the ratio of intrapreneurship versus entrepreneurship in Arkansas would be five times the gap in New Jersey, with blacks much more likely to pursue internal ventures than whites in Arkansas than in New Jersey. This finding supports Hypothesis 2a, suggesting that racial minorities will be more inclined to engage in internal startup activities when exposure to discrimination is higher, making attempts to found an independent venture more challenging for racial minorities.

Hypothesis 2b states that racial minorities will be more likely to pursue internal ventures rather than entrepreneurship when opportunities or resources required to found independent startups are scarcer, as indicated by the rates of independent startups. Results in Model 2 of Table 2 support this hypothesis. First, blacks are more likely to enter intrapreneurship than they are to enter entrepreneurship, and this tendency is amplified as the rate of entrepreneurship decreases in their state, as indicated by the negative and statistically significant coefficient of the interaction between *Black* and *State Entrepreneurship* in Column (5). In particular, relative to whites, blacks are 23 percent more likely to transition to intrapreneurship than to entrepreneurship, when the state-level founding rates decrease by 1 percent [=exp(0.266)-1, $p<0.001$]. As an illustration, consider California and Virginia, with entrepreneurship rates of 5.49% and 3.19%, respectively. In both states, blacks are more likely than whites to become intrapreneurs, but the odds ratio of blacks pursuing intrapreneurship compared to whites are 45% higher in Virginia than in California. That is, relative to whites, racial minorities are additionally more likely to pursue intrapreneurship in states with limited entrepreneurial opportunities. More generally, this finding is consistent with our expectation that the whites-black gap in intrapreneurship further decreases in states with greater exposure to discrimination.

[Insert Table 2]

Hypothesis 2c suggests that, compared to white workers, racial minorities will be more inclined to engage in internal venturing opportunities when they lack other quality signals, such as educational credentials. As shown in Table 3, a comparison of the two modes of new venture formation reveals that, relative to whites, black respondents are more likely to pursue intrapreneurship over entrepreneurship, when they do not have educational credentials (i.e., college degree) and when signaling quality is therefore more difficult. Specifically, blacks are additionally less likely to pursue entrepreneurship when they do not have educational credentials, but we do not find the same moderating role of credentials when their tendency to pursue intrapreneurship is considered. Indeed, among respondents without a college degree, the odds ratio of intrapreneurship versus entrepreneurship is 50 percent higher for blacks than for whites [=exp(0.394)-1, $p<0.05$]. Overall, we interpret these results as being consistent with the notion that discrimination against racial minorities underlies our main effects: when clear quality signals, such as educational credentials, are absent or difficult to observe, racial minorities become more highly concentrated within the roles of intrapreneurs than entrepreneurs, since the former tends to be associated with lower discrimination than the latter.

[Insert Table 3]

Additional evidence and robustness checks

Our results so far suggest that racial minorities will be more concentrated and thus more included in intrapreneurial than in entrepreneurial roles, in part because the disadvantage that racial minorities face is more considerable in the marketplace than within an established firm (Blanchflower et al. 2003; Freeland and Keister 2016). To probe these theoretical mechanisms more deeply, we conduct supplementary analyses to obtain additional evidence and rule out alternative explanations.

Outcomes Associated with Intrapreneurship

If, as we theorize, racial minorities tend to favor internal environments, seeing them as a more favorable or a more supportive setting, then we would expect these individuals to report greater willingness to seek funding or to grow a new venture. To assess this possibility empirically, we first examined whether, conditional on the pursuit of a new venture, blacks reported higher willingness to seek funding when they acted in the roles of intrapreneurs than entrepreneurs. We focused on the following question asked of respondents: "*Have financial institutions or other people been asked for funds for this new business, do you expect to ask for funds in the future, or is outside financial support not relevant for this new business?*" We coded the variable "ask for funds" as "1" if a respondent answered "yes" to this question, and "0" otherwise. If a respondent answered "yes," a follow-up question was asked: "*In what month and year did you first seek outside funding for this new business*?" We use both event and time information in the event history analysis.

Model 1 of Table 4 includes the two main effects of being black and pursuing intrapreneurship, and the interaction of the two variables to test whether racial minorities are more likely to seek financial support when they engage in intrapreneurship. As expected, relative to whites, blacks are less likely to seek funds, in general, when they start a new business on their own: The odds ratio of the coefficient for blacks is 0.04 [=exp(-3.196), $p<0.001$], indicating that these disadvantaged individuals are 96% less likely to seek financial support than are whites. However, a comparison across the two types of startup activity – internal versus external – reveals that blacks are 30% more likely to seek funds when they pursue internal ventures [=exp(3.439), $p<0.001$]. Based on this finding, we conjecture that blacks exhibit greater willingness and motivation to seek funds when they launch internal ventures than when they start independent firms, and that these differences are relatively greater for blacks than for whites. Overall, we interpret this finding as consistent with the notion that blacks tend to perceive the current employer as being a more favorable environment than the marketplace to secure financial resources.

[Insert Table 4]

As another test, we assessed whether blacks reported greater aspirations to grow their business when acting in the role of intrapreneurs than entrepreneurs. We consider the following question asked of respondents: "*Which of the following two statements best describes your preference for the future size of this (new) business: I want this (new) business to be as large as possible, or I want a size I can manage myself or with a few key employees?*" Based on this question, we created a dummy variable indicating high-growth orientation (i.e., an aspiration for a business to be as large as possible): "1" for "yes" and "0" for “no.” Second, respondents were asked to estimate the aspired size of a new venture by indicating how many managers or employees, including exclusive subcontractors, would be working for the new business when it is five years old, not counting the owners. We use this continuous variable to measure entrepreneurs’ aspirations for future business growth.

Model 1 of Table 5 examines individuals’ expectations of future growth. The results seem to lend strong support to our predictions. First, our results indicate no differences between blacks and whites in their propensity to grow new ventures, in general: the coefficient of *Black* is not statistically significant. However, preferences for growing their businesses become significantly higher for blacks when they pursue new ventures through intrapreneurship than through entrepreneurship. In particular, relative to whites, blacks are 14% more likely to be growth-oriented when they pursue internal opportunities, as indicated by the interaction term between *Black* and *Intrapreneurship* in Model 1. These findings are robust to an alternative growth orientation measure: the number of employees a focal individual expects to hire in five years. Results in Model 2 of Table 5 show that black respondents expect their new businesses to be larger, when they pursue entrepreneurial opportunities inside their employer organizations, compared to founding an independent startup. Together, results in Table 5 confirm our expectations that blacks tend to reveal higher growth aspirations when they act as intrapreneurs. We interpret these findings as suggesting that organizational support and the ability to draw on resources from their employers rather than the market may dramatically boost the confidence of these disadvantaged individuals in their ability to build a business.

[Insert Table 5]

Alternative explanations

Discrimination through Intrapreneurship. Our findings document racial disparities in entrepreneurship but we also find that these gaps close when intrapreneurship is considered. Whereas we theorize that these differences are due to the fact that barriers to venturing are relatively lower for minorities within established firms than in the market, an alternative explanation for our finding, might be that intrapreneurship positions within established firms reflect another form of employer discrimination.

For example, it could be that intrapreneurial roles might indicate low-level jobs in the firm. Although plausible, this explanation is unlikely for several reasons. First, from the perspective of the firm, intrapreneurship is strategically important and therefore unlikely to be left in the hands of workers perceived as incompetent and unqualified (Burgelman and Sayles 1986, Dess et al. 2003, Hitt et al. 2001). Similarly, because building and running new businesses is complex and time-consuming, involving many interrelated events and processes (Floyd and Lane 2000, Katila and Ahuja 2002), only individuals with high competences will likely be in charge of such tasks. From the individual perspective, intrapreneurship offers opportunities to advance within the corporate ladder and to assume high-responsibility positions of a corporate leader or a manager (Kirzner 1973). Burgelman (1991), for example, argues that the motivation to become an intrapreneur reflects a "consequential logic," related to an individual's belief that his or her initiatives involve favorable tradeoffs between risks and rewards in light of his or her skills. Intrapreneurship is thus generally perceived as an attractive career route, which tends to attract ambitious, entrepreneurial workers (Burgelman 1991, Stevenson and Jarillo 1990).

Nevertheless, to additionally probe this explanation, we conducted supplemental analyses to examine if blacks are appointed to lower positions in their employer organizations to start internal ventures. If employers discriminate against blacks by assigning them to less-desirable positions, such as intrapreneurship, we would then expect them to discriminate against these employees also through other means. To probe this claim, we assessed cross-sectional heterogeneity in organizational ranks as evidence that employers might hold negative bias against blacks by appointing them disproportionately less to other higher-rank or managerial positions. As a way to gauge individuals' ranking in established organizations, our data asked respondents "*Following the chain of command, how many people (are/were) between you and the Chief Operating Officer*?" We find no significant differences, however, in the rank distance between the focal individual and the Chief Operating Officer across Black and White employees ($t = -.76, p = 0.446$). This finding is inconsistent with the speculation that black employees were appointed to "bad" jobs.

Risk preferences. Another alternative explanation of our findings might be that blacks are more risk-averse than whites, and that heterogeneity in risk aversion leads these minorities to pursue internal ventures at a higher rate than entrepreneurship. To assess differences in revealed preferences for risk, we used the PSED II questions that probe an individual's risk-taking propensity. Specifically, the survey asked respondents creating a new business if they "*enjoy the uncertainty of going into a new situation without knowing what might happen*." Chi-square tests show that Black and White respondents share similar risk-taking attitudes ($\chi = 9.06, p = 0.060$), and more importantly, they do not differ in the extent to which seeking uncertainty motivates their pursuit of either intrapreneurship ($\chi = 5.21, p = 0.266$) or entrepreneurship ($\chi = 4.403, p = 0.354$). Because these descriptive patterns do not reveal any racial differences in risk taking, they mitigate the concern that blacks and whites disproportionately sort into different kinds of ventures due to their preferences for risk.

***Sorting into Parent Firms**.* A related concern might be that blacks are more likely than whites to self-select into firms with certain characteristics that correlate with access to venturing opportunities. For example, one might worry that Black workers sort into larger and older organizations which, by default, tend to offer more ample, or more accessible venturing opportunities (Cohen and Klepper 1996, Kacperczyk 2012). If so, then our findings are simply an artifact of Black respondents being employed at higher rates at larger or older firms. Although this concern is unlikely given the evidence for the mechanisms, we nevertheless assessed whether Black employees reveal a higher propensity to be hired or represented in larger and older firms (Burgelman 1983, Kacperczyk 2012). However, we found no significant difference in employer size between Black and White employees ($t = 0.05, p = 0.960$). Furthermore, our analyses reveal that Black and White employees work for comparable organizations: Black respondents were equally represented across public/government organizations, as well as stable, growing, and declining domains of the private sector ($\chi = 7.056, p = 0.1329$). Together, these findings suggest that it is unlikely that our results simply reflect higher representation of Black employees in the kinds of firms associated with internal venturing opportunities.

To further assess the effects of firm characteristics, we include a battery of firm-level covariates likely to correlate with both race and opportunities for internal venturing. Specifically, we accounted for a variety of organizational conditions that prior research has found to be conducive to intrapreneurship, such as firm size, the industry, an individual's rank in the organization, and the number of employees a person supervises (Burgelman 1983, Kacperczyk 2012). Because the interview data include information only for individuals who are either entrepreneurs or intrapreneurs, we re-estimate all baseline models in Tables 5, controlling for employer characteristics. These models assess individuals' attempts at acquiring financial resources and their aspirations for new businesses. Our results are robust to these additional controls, supporting our argument that Black employees are more active in seeking funding, and hold higher aspirations for new businesses, when they pursue internal ventures. These results provide additional reassurance that (at least for firm characteristics we can observe in PSED II) our estimates are unlikely to reflect underlying characteristics of the employer organization.

Finally, we mitigate the possibility that Black employees are more likely to sort into the types of organizations that foster intrapreneurship by matching Black and White respondents based on observables using Coarsened Exact Matching to compare equivalent individuals (Iacus et al. 2012). We match Black and White respondents on their tenure in the employer organization, the rank distance between them and the COO, employer size, the number of people they supervise, and the sector of their organization.[6] Our matching criteria result in a sample of 115 (of 124) Black and 793 (of 852) White individuals. Results reported in Table 6 show that, even when matching on unbalanced covariates, the racial disparities we found among intrapreneurs remain largely the same: relative to White intrapreneurs, Black intrapreneurs aspire for larger businesses and are more likely to view intrapreneurship with a greater promise for

[6] In implementing CEM, we acknowledge the trade-off between match precision and the resulting sample size: the closer the match between blacks and whites, the fewer observations from both groups will be included. Thus, we attempt to match the groups closely, but we also try to retain a significant proportion of our observations. We iterate by increasing the number of bins in the key variables and by examining the matched results to assess the percentage of observations remaining in the matched sample.

success and business growth. In fact, some of the coefficients become slightly larger, perhaps because the matched sample now includes more observationally equivalent Black and White respondents.[7]

[Insert Table 6]

DISCUSSION

Entrepreneurship is the key engine of economic growth and propensity for regions and nations (e.g., Audia et al. 2006, Greenberg 2019, Haltiwanger et al. 2013). But whereas fostering entrepreneurial economy hinges on including a broad set of creative individuals, growing evidence suggests that racial minorities are excluded from such entrepreneurial ecosystems, being less likely to participate or succeed in exploiting new-market opportunities (Aldrich 2005, Dobrev and Barnett 2005, Fairlie 2004, Fairlie 1999, Ruef et al. 2003, Yang and Aldrich 2014). In assessing the contribution on non-whites to entrepreneurial ecosystems, however, past research has mostly focused on one mode of opportunity exploitation: i.e., the act of launching an independent venture. In this study, we depart from this predominant focus in past research and argue that new opportunities can also be exploited in less easily observed ways. In particular, ample research in organization theory and strategy suggests that new ventures can also be launched within established firms and that individuals can therefore act not only as entrepreneurs but also as intrapreneurs (e.g., Chen and Nadkarni, 2017; Hellman, 2007; Kacperczyk, 2012; Burgelman, 1983; 1984; Pinchot, 1985). Given that a complete assessment of participation in entrepreneurial activities requires taking intrapreneurial routes into consideration, we turn our attention to these paths and examine whether the well-established gap between minorities and non-minorities continues to exist in intrapreneurship.

We propose and find support for the prediction that, compared to entrepreneurship, racial disparities – or differences between whites and blacks – become diminished in intrapreneurship. Specifically, we integrate insights from theories of discrimination and research on career mobility (Heckman 1998, Pager and Shepherd 2008, Pager and Pedulla 2015, Sterling and Fernandez

[7] We do not implement CEM for the analysis predicting the likelihood of entrepreneurship versus intrapreneurship because measures of organizational characteristics are not available in the screening interview data.

Forthcoming) to argue that racial minorities will have greater access to opportunities and resources to start new ventures internally and that such options will likely be more appealing to these individuals than the option of becoming an entrepreneur.

Analyzing interview screening data of U.S. adults and the full-interview data on entrepreneurs/intrapreneurs from PSED II, we document that blacks are more highly concentrated in intrapreneurial than in entrepreneurial roles. We interpret this finding as evidence that employer organizations appear to minorities as more favorable contexts to found a new venture, in part, because obstacles arising due to discrimination against founders of standalone businesses, tend to be less acute or less salient within organizations (Baron et al. 1991, Dobbin et al. 1993, Dobbin and Sutton 1998, Donohue and Heckman 1991, Kalev et al. 2006, Leonard 1984, Skaggs 2008, Stainback et al. 2010). We further find that minorities' tendency to engage in internal venturing is amplified when they face more barriers to founding their own new ventures. First, our results show that, relative to whites, blacks are more likely to pursue intrapreneurship in states where discrimination against minorities is more prevalent. Second, minority intrapreneurship increases when state-level founding rates decline, consistent with the notion that African-Americans' tendency to pursue intrapreneurship rises when market opportunities to launch an independent startup appear more restricted. Finally, we find that blacks' proclivity for internal venturing is amplified when they do not have educational credentials (e.g., a college degree) to signal their quality to the market. We interpret this latter finding as suggesting that racial minorities are more inclined to take advantage of this alterative venturing path when entrepreneurship appears more difficult (Heckman 1998, Lundberg and Startz 2007, Pager and Pedulla 2015). More generally, these results lend additional support to our underlying assumption: members of disadvantaged groups are more likely to turn to internal startup activities when barriers to external startup activities are stronger.

As additional evidence for the proposed mechanisms, we find support for our predictions regarding minorities' aspirations and resource-seeking behaviors when they engage in intrapreneurship. Past studies suggest that, relative to whites, racial minorities are more likely to face disadvantage when seeking financial resources from investors (Burgelman 1983, Burgelman 1984, Hellmann 2007, Kacperczyk 2012, Lumpkin and Dess 1996, Morris et al. 2010, Stevenson and Jarillo 1990); we found, however, that racial minorities are more likely to seek funding when launching a new venture on behalf of an employer organization, as opposed to through an independent startup. This finding is consistent with the notion that minorities consider internal rather than external environments to be more supportive of their entrepreneurial efforts. Similarly, we find that blacks hold greater aspirations for internal than external ventures, associating the internal path with higher growth aspirations, possibly because they anticipate greater chances of success and better outcomes internally.

Overall, we propose and empirically demonstrate that racial disparities – differences between blacks and whites – are less significant and less stark for intrapreneurship (the creation of internal ventures that operate as part of an existing firm) than for entrepreneurship (the creation of external ventures that operate as standalone startups). Our study therefore complements past research by shedding more light on inequality in entrepreneurship and investigating alternative, less observable ways in which racial minorities tend to participate in the entrepreneurial economy. Building on the view that minorities will likely pursue new ventures in contexts they perceive most favorable and least likely to give rise to discriminatory behaviors (Goldsmith et al. 2004, Heckman 1998, Lundberg and Startz 2007, Pager and Pedulla 2015, Sterling and Fernandez Forthcoming), we contribute to prior research on entrepreneurship by highlighting a novel path that members of disadvantaged groups will follow, given the barriers that persist in the entrepreneurial setting.

Moreover, we contribute to the literature of organizational careers by examining the relationship between career opportunities in established organizations and entrepreneurial opportunities in the market. In building a strong link between organizational careers and entrepreneurship, scholars have begun to examine whether individuals turn to entrepreneurship when facing limited career opportunities in employment (Arum and Müller 2004; Kacperczyk and Marx 2016; Sørensen and Sharkey 2014; Hellmann 2007). Extending this line of work, we theorize and empirically demonstrate that individuals adjust to perceived disadvantage by placing greater weight on alternative entrepreneurial opportunities in contexts they perceive as more favorable toward their efforts, and established organizations are one such context.

Finally, our findings highlight opportunities for future research. For example, our theory explicitly focused on racial gaps in the entrepreneurial economy, but questions may naturally arise with regard to gender differences. We suspect that men's and women's decisions about entrepreneurship may largely be influenced by gender differences in their family considerations (Budig 2006, Thébaud 2015b). For example, women might be relatively more concerned about intensified work-family conflict and thus less likely to start internal ventures. Consistent with our conjecture, results in Table 1 suggest that men are both more likely to become intrapreneurs and entrepreneurs. But future research may want to further probe the mechanisms underlying gender differences in intrapreneurship. Similarly, whereas our study takes the first step to document racial gaps in intrapreneurship while benchmarking such differences against entrepreneurship, future studies may want to further disentangle the mechanisms underlying these sorting patterns. Finally, our study has several implications for policymakers. First, policy interventions to promote minority entrepreneurship should be directed toward conditions in established firms, rather than solely targeting investors in the marketplace. Encouraging entrepreneurship by racial minorities within mature organizations may be a more effective way to foster their participation in economic growth. Second, our findings also point to specific areas, such as intrapreneurship, in which the gap between racial minorities and whites in launching startups might be relieved with greater efficacy. Overall, our study implies that to alleviate inequality in entrepreneurship, and therefore in the economy, more broadly, policymakers must take into consideration not only the act of launching a startup but also any alternative paths for building new ventures.

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Table 1. Coefficients from Multinomial Logistic Regression Testing Racial Disparities in the Model 1

	Ent Entry		Intra Entry		Intra-Ent Difference	
	(1)		(2)		(3)	
Intercept	4.131	***	-2.750		-6.882	***
	(0.773)		(1.816)		(1.974)	
Black	-0.428	***	0.417	*	0.845	***
	(0.130)		(0.206)		(0.243)	
Male	-0.413	***	0.914	**	1.326	***
	(0.095)		(0.133)		(0.163)	
Full-time employed besides running a business	0.067		0.534	*	0.468	
	(0.135)		(0.260)		(0.293)	
Part-time employed besides running a business	-0.299		0.712	*	1.011	***
	(0.164)		(0.302)		(0.344)	
Retired	1.103	***	0.162		-0.941	
	(0.237)		(0.549)		(0.598)	
Married	-0.242		-0.349		-0.106	
	(0.138)		(0.235)		(0.272)	
Living as Married	-0.050		0.662		0.713	
	(0.285)		(0.394)		(0.486)	
Single	-0.282		0.203		0.485	
	(0.327)		(0.493)		(0.591)	
Divorced	-0.468	**	-0.248	*	0.220	
	(0.181)		(0.312)		(0.360)	
Separated	0.486		0.784		0.298	
	(0.375)		(0.607)		(0.714)	
Owning a house	-0.012		-0.427	*	-0.415	
	(0.115)		(0.190)		(0.223)	
No. of People in the household	-0.043	***	0.017		0.060	
	(0.034)		(0.059)		(0.068)	
Last grade in school	-0.114	***	0.023		0.137	**
	(0.031)		(0.054)		(0.062)	
Age	0.061	**	0.312	**	0.251	*
	(0.024)		(0.118)		(0.120)	
Age squared	-0.001	**	-0.027	**	-0.027	**
	(0.000)		(0.010)		(0.010)	
No. of Business-Month Observations	25799					
-2 Log L	7094					

Note: * p< 0.05; ** p<0.01; *** p<0.001 (two-tailed tests); Standard errors are in parentheses; State fixed effects are included

Table 2. Coefficients from Multinomial Logistic Regression Testing Racial Disparities in the Likelihood of Entrepreneurial/Intrapreneurial Entry: Panel Study of Entrepreneurial Dynamics II, 2005-2012

	Model 1 (Discrimination)						Model 2 (Ent Opportunity)					
	Ent Entry		Intra Entry		Intra-Ent Diff		Ent Entry		Intra Entry		Intra-Ent Diff	
	(1)		(2)		(3)		(4)		(5)		(6)	
Intercept	-4.577	***	-6.2186	***	-1.642	***	-5.2246	***	-6.375	***	-1.150	*
	(0.260)		(0.439)		(0.511)		(0.309)		(0.501)		(0.589)	
Black	0.9444	***	0.0337		-0.911	*	0.3713	*	2.1073	***	1.736	***
	(0.237)		(0.347)		(0.420)		(0.534)		(0.589)		(0.795)	
State's State Discrimination	0.00411		-0.0096		-0.014							
	(0.004)		(0.006)		(0.007)							
Black * State Discrimination	-0.0237	*	0.0347	***	0.058	***						
	(0.010)		(0.012)		(0.015)							
State Entrepreneurship							0.1605	***	-0.0149		-0.175	***
							(0.041)		(0.061)		(0.073)	
Black * State Entrepreneurship							0.00143		-0.2648	**	-0.266	*
							(0.104)		(0.127)		(0.164)	
Male	0.4109	***	0.8679	***	0.457	***	0.4074	***	0.873	***	0.466	***
	(0.094)		(0.142)		(0.170)		(0.094)		(0.142)		(0.170)	
Full-time employed besides running a	-0.0444		0.4401	*	0.485		-0.0425		0.4443		0.487	
	(0.135)		(0.223)		(0.261)		(0.135)		(0.223)		(0.260)	
Part-time employed besides running a	0.3046		0.9951	***	0.691	***	0.3196	***	0.9854	*	0.666	**
	(0.163)		(0.256)		(0.303)		(0.163)		(0.256)		(0.304)	
Retired	-1.0818	***	-0.9617		0.120		-1.0826	***	-0.9556	***	0.127	
	(0.237)		(0.495)		(0.548)		(0.237)		(0.495)		(0.549)	
Married	0.2826	*	-0.1167		-0.399		0.2621		-0.1079		-0.370	
	(0.137)		(0.191)		(0.235)		(0.137)		(0.191)		(0.236)	
Living as Married	0.0557		0.6906	*	0.635		0.0604		0.6762	*	0.616	*
	(0.284)		(0.278)		(0.398)		(0.284)		(0.279)		(0.398)	
Single	0.3249		0.456		0.131		0.3037	*	0.4866		0.183	
	(0.326)		(0.375)		(0.496)		(0.326)		(0.375)		(0.497)	
Divorced	0.5056	**	0.2303	*	-0.275		0.4907	*	0.2274	*	-0.263	
	(0.180)		(0.255)		(0.313)		(0.180)		(0.255)		(0.313)	
Separated	-0.4487		0.2941		0.743		-0.4684		0.3125		0.781	
	(0.375)		(0.479)		(0.609)		(0.375)		(0.480)		(0.609)	
Owning a house	0.0153		-0.3759	*	-0.391		0.0248		-0.3778	*	-0.403	*
	(0.115)		(0.152)		(0.191)		(0.115)		(0.152)		(0.191)	
No. of People in the household	0.0363	**	0.065	**	0.029		0.0395	*	0.0625	***	0.023	
	(0.034)		(0.048)		(0.059)		(0.034)		(0.047)		(0.058)	
Last grade in school	0.1159	***	0.1257	***	0.010		0.1121	***	0.1268		0.015	***
	(0.030)		(0.044)		(0.053)		(0.030)		(0.044)		(0.053)	
Age	-0.0653	**	0.2583	*	0.324		-0.0629	***	0.2539	***	0.317	***
	(0.024)		(0.115)		(0.118)		(0.024)		(0.115)		(0.118)	
Age squared	0.000622	**	-0.0273	**	-0.027		0.0006	***	-0.0271	*	-0.028	***
	(0.000)		(0.010)		(0.010)		(0.000)		(0.010)		(0.010)	
No. of Business-Month Observations		25799						25799				
-2 Log L		7195					7598					

Note: * p< 0.05; ** p<0.01; *** p<0.001 (two-tailed tests); Standard errors are in parentheses.

Table 3. Coefficients from Multinomial Logistic Regression Testing Racial Disparities in the Likelihood of Entrepreneurial/Intrapreneurial Entry: Panel Study of Entrepreneurial Dynamics II, 2005-2012

	Ent Entry		Intra Entry		Intra-Ent Diff	
	(1)		(2)		(3)	
Intercept	-3.7666	***	-5.7075	***	-1.941	***
	(0.216)		(0.399)		(0.183)	
Black	0.6076	***	0.9629	***	0.355	
	(0.139)		(0.181)		(0.042)	
No college degree	-0.5017	***	-0.4428	*	0.059	
	(0.118)		(0.180)		(0.062)	
Black * No College Degree	-0.6572	*	-0.2633		0.394	*
	(0.279)		(0.318)		(0.040)	
Male	0.4289	***	0.8768	***	0.448	***
	(0.094)		(0.142)		(0.048)	
Full-time employed	-0.079		0.4336		0.513	
	(0.133)		(0.221)		(0.088)	
Part-time employed	0.2642		0.9674	***	0.703	***
	(0.163)		(0.256)		(0.093)	
Retired	-1.111	***	-0.9863	*	0.125	
	(0.237)		(0.495)		(0.258)	
Married	0.2602		-0.0983		-0.359	
	(0.136)		(0.190)		(0.054)	
Living as Married	0.0543		0.7055	*	0.651	
	(0.284)		(0.278)		0.006	
Single	0.3378		0.4838		0.146	
	(0.326)		(0.374)		(0.048)	
Divorced	0.4805	***	0.2183		-0.262	
	(0.180)		(0.255)		(0.075)	
Separated	-0.4552		0.2655		0.721	
	(0.375)		(0.479)		(0.104)	
Last grade in school	-0.047		0.024		0.071	
	(0.046)		(0.068)		(0.022)	
Owning a house	0.00275		-0.386	*	-0.389	
	(0.114)		(0.151)		(0.037)	
No. of People in the household	0.0393		0.0612		0.022	
	(0.034)		(0.047)		(0.013)	
Age	-0.0614	**	0.2511	*	0.313	
	(0.024)		(0.115)		(0.092)	
Age squared	0.00058	*	-0.0265	**	-0.027	
	(0.000)		(0.010)		(0.009)	
No. of Business-Month Observations			25799			
-2 Log L			7610			

Note: * p <0.1; ** p< 0.05; *** p<0.01; **** p<0.0001 (two-tailed tests); Standard errors are in parentheses

Table 4. Coefficients from Event History Analysis Testing Racial Disparities in the Likelihood of Seeking Financial Fund: Panel Study of Entrepreneurial Dynamics II, 2005-2012

Variables	Model 1	
Black	-3.196	***
	(1.121)	
Intrapreneurship	-0.561	
	(0.367)	
Black * Intrapreneurship	3.439	***
	(1.255)	
No. of Entrepreneurs on the team	0.329	
	(0.410)	
Total household income level	0.004	
	(0.005)	
No. of adults in the household	-0.097	
	(0.169)	
No. of children in the household	-0.220	
	(0.142)	
Made a business plan	0.971	*
	(0.409)	
Signed an agreement on ownership	0.320	
	(0.480)	
Having a full-time wage job besides the business	-0.076	
	(0.312)	
Years of managerial experience	-0.245	
	(0.183)	
Education level	-0.040	
	(0.104)	
Years of paid work experience	-0.167	
	(0.195)	
No. of startups owned before	-0.053	
	(0.279)	
Years of experience in the industry of the startup	0.245	
	(0.128)	
No. of startups created before	0.075	
	(0.098)	
Worker	0.338	
	(0.395)	
Manager, supervisor, or executive	-0.144	
	(0.407)	
Support staff	0.469	
	(0.496)	
Years in the last task position	0.015	
	(0.027)	
No. people between the ind. and the COO	0.001	***
	(0.000)	
No. of people in the employer organization	0.000	
	(0.000)	
No. of people supervised	0.000	*
	(0.000)	
Obs (Business-month)	2891	
-2Log	629.636	

Note: * p <0.05; ** p< 0.01; *** p<0.001 (two-tailed tests); Standard errors are in parentheses; include fixed effects for team type, calendar year, and industry

Table 5. Coefficients from Longitudinal Analyses testing Racial Disparities in Future Expectations for the Business

Variables	DV=To Grow the Business Model 1		DV=No. of Employees Expected to Hire in Five Model 2	
Intercept	0.102	*	-0.945	
	(0.052)		(10.563)	
Black	0.011		0.053	
	(0.034)		(7.190)	
Intrapreneurship	0.032		-3.422	
	(0.022)		(4.515)	
Black * Intrapreneurship	0.124	*	60.125	***
	(0.059)		(12.539)	
No. of Entrepreneurs on the team	0.067	**	7.176	
	(0.021)		(4.248)	
Total household income level	0.001		-0.069	
	(0.000)		(0.076)	
No. of adults in the household	-0.007		0.568	
	(0.010)		(2.006)	
No. of children in the household	0.003		-1.374	
	(0.008)		(1.562)	
Made a business plan	0.070	***	6.566	
	(0.018)		(3.843)	
Signed an agreement on ownership	0.092	**	15.561	*
	(0.030)		(6.226)	
Having a full-time wage job besides the business	-0.017		-0.132	
	(0.017)		(3.622)	
Years of managerial experience	0.000		0.319	
	(0.001)		(0.252)	
Education level	-0.014	*	0.929	
	(0.006)		(1.271)	
Years of paid work experience	0.000		-0.430	*
	(0.001)		(0.200)	
No. of startups owned before	0.000		-0.420	
	(0.013)		(2.833)	
Years of experience in the industry of the startup	-0.003	***	-0.104	
	(0.001)		(0.181)	
No. of startups created before	0.017	**	3.905	**
	(0.006)		(1.188)	
Years since Initial Interview	0.000		-2.425	**
	(0.005)		(0.772)	
Worker	0.011		2.841	
	(0.023)		(4.731)	
Manager, supervisor, or executive	0.034		-1.491	
	(0.021)		(4.402)	
Support staff	0.031		20.668	**
	(0.029)		(6.324)	
Years in the last task position	0.001		-0.456	
	(0.001)		(0.305)	
No. people between the ind and the COO	0.000		0.000	
	(0.000)		(0.001)	
No. of people in the employer organization	0.000	***	0.000	
	(0.000)		(0.000)	
No. of people supervised	0.000		0.000	
	(0.000)		(0.000)	
Obs (Business-Year)	1966		1966	

Note: * p< 0.05; ** p<0.01; *** p<0.001 (two-tailed tests); Standard errors are in parentheses; Models include fixed effects for team type and industries.

Table 6. Coefficients from Longitudinal Analyses Testing Racial Disparities in Future Expectations for the Business, Using the Sample from Coarsened Exact Matching

	DV=To Grow the Business		DV=No. of Employees Expected to Hire in Five Years		DV= No Better Choice	
Intercept	0.115		-7.833		0.201	***
	(0.056)		(9.233)		(0.055)	
Black	-0.019		2.500		-0.111	***
	(0.033)		(7.427)		(0.032)	
Internal venture	.0.276		-1.893		0.011	
	(0.022)		(4.944)		(0.021)	
Black X Internal venture	0.170	**	61.000	***	0.120	**
	(0.022)		(13.360)		(0.058)	

Note: * p< 0.05; ** p<0.01; *** p<0.001 (two-tailed tests). Standard errors are in parentheses. Models include all variables from the original models.