BLACK AND WHITE:
ACCESS TO CAPITAL AMONG MINORITY-OWNED STARTUPS

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ABSTRACT

We use confidential and restricted-access data from the Kauffman Firm Survey and matched administrative data on credit scores to explore racial disparities in access to capital for new business ventures. The novel results on racial inequality in startup financing indicate that black-owned startups start smaller and stay smaller over the entire first eight years of their existence. Black startups face more difficulty in raising external capital, especially external debt. We find that disparities in credit-worthiness constrain black entreprenuers, but perceptions of treatment by banks also hold them back. Black entrepreneurs apply for loans less often than white entrepreneurs largely because they expect to be denied credit, even when they have a good credit history and in settings where strong local banks favor new business development.

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1   Introduction

More than half a century after the passage of the Civil Rights Act, economic differences between whites and African-Americans continue to be a source of social and political tension in the United States. Median black and white households live under substantially different economic circumstances. For example, the median household income for black families is $37,000; for white families the number is $63,000. One out of four black families live in poverty; the poverty rate for white families is 9 percent (U.S. Census Bureau 2016). Inequality is even higher for wealth and financial assets. For example, the ratio of median household net worth for black families to that of white familes is 11 to 1, and only 7 percent of black families own stocks or mutual funds compared with 23 percent of white families (U.S. Census Bureau 2019).

Entrepreneurship is often viewed as a mechanism for promoting economic mobility, wealth accumulation and job creation in minority communities, representing a potential tool for alleviating these racial disparities (Bradford and Osborne 1976; Borjas 1999; Boston, 1999, 2006; Bradford 2003). Yet, access to financial capital is a critical element of new business formation (Kerr and Nanda 2011; Simoes et al. 2016). This paper explores racial differences in capital market outcomes associated with launching a new businesses. Although previous research provides evidence that *established* minority-owned firms experience higher loan denial probabilities, we know little about the racial differences in financing that occur when firms are initially started.[1] To our knowledge, our analysis is the first to provide a detailed analysis of race, financing, and creditworthiness at the time a business is first launched.

To explore these racial differences, we use the confidential, restricted-access version of the Kauffman Firm Survey (KFS) with matched administrative data on credit scores. The KFS is the only dataset that provides panel data on startups with detailed information on financing outcomes, credit worthiness and credit expectations. The panel structure of

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[1]See Bostic and Lampani 1999, Cole 1999, Cavalluzzo, Cavaluzzo and Wolken 2002, Blanchflower, Levine and Zimmerman 2003, and Blanchard et al. 2008 for evidence of racial disparities in loan outcomes among established businesses in the SSBF. See Bates (1989, 1991) for evidence of racial disparities in total capital and loan outcomes from a sample of businesses started in the past 6 years in the 1987 CBO.

the KFS allows us to focus on both the initial capital that firms receive in their founding year, as well as later capital injections secured over the firm's next seven years of operations. Ultimately this allows us not only to measure initial differences, but also study whether any differences diminish or persist over time as a startup builds an observable track record of performance.

The panel structure of our data offers two key advantages relative to previous work on racial differences in funding, which has focused on cross-sectional differences in firms that are already operating. First, it allows us to avoid problems with restropective question recall bias and survival bias found with cross-sectional data. Second, if we restrict our analysis to the sample of firms that survive eight years, the initial racial differences in startup capital are considerably smaller than if we look at the full sample, which includes firms that do not survive. This suggests that conditioning on survival understates the degree of racial differences in access to capital. Previous research has highlighted the differences in rates of job creation, responsiveness, and growth between young firms and small firms (Hurst and Pugsley, 2011; Haltiwanger, Jarmin and Miranda, 2013; Adelino, Ma and Robinson, 2016). Previous research showing racial differences in capital access in a cross-section of established businesses could be attributed to racial differences in human capital that have played out over time, inducing sorting of minority-owned businesses into low-growth industries where small firms are the dominant mode of organization. Our work instead demonstrates that there are within-industry, within-geography differences in access to capital at firm inception, which may have important implications for understanding racial differences in regional economic growth and employment.

Our analysis proceeds in three steps. In the first step we demonstrate large racial differences in the sources and amounts of financial capital that are used to launch businesses. Black-owned startups start smaller in terms of overall financial capital and invest less on average as they mature. Racial differences in outside debt account for more than half of the difference in total financial capital. Indeed, the ratio of debt to total capital (i.e., the leverage ratio) for black-owned startups is persistently below that observed for white-

owned startups. But, the disparities do not end here: alternative sources of capital such as loans from friends and family, personal equity and credit cards do little to attenuate these differences. Black-owned startups also have lower levels of all other major sources of funding than do white-owned startups.

The second step is to explore the underlying causes of these financing patterns. Throughout the paper, we use the term *access to capital* to capture the amount of capital obtained by a particular business, understanding that this quantity is an equilibrium capital market outcome affected by both supply-side and demand-side factors. Large racial disparities in access to capital could reflect racial differences in either demand for capital, in the underlying quality of the business opportunity, or in attitudes towards credit markets. Under these demand-side explanations, black borrowers obtain less capital because they need or want less, because they are more risk averse (perhaps the stigma of bankruptcy affects them more greatly) or because they anticipate rejection when they apply for credit. There are also supply-side channels, through which race matters to lenders. A long literature in economics going back to Becker (1971) and Phelps (1972) debates whether this ultimately traces back to taste-based discrimination rooted in racial animus or instead statistical discrimination based on differences in endowments and incomplete information. Under both sets of explanations the race of the borrower affects the level of capital they receive.

Although we cannot definitively rule out any particular explanation, our data allow us to paint a rich descriptive picture of racial differences in access to capital by exploring these potential explanations in considerable detail. First, because we have new confidential administrative data on credit ratings from Dun & Bradstreet that have been matched to all businesses in the restricted-access version of the KFS, as well as information on founder net worth, we can condition on an extensive set of founder and business characteristics that are correlated with race, and likely affect lending decisions. Thus, we can identify key traits contributing to inequality and can examine whether correlated traits are the primary source of racial disparities. After we control for industry, business credit

scores, founder net worth, education and experience, as well as many business characteristics that may ultimately be endogenous to the amount of funding received, we can explain about one-third of the initial funding gap between black-owned and white-owned startups. Lower credit scores among black startups contribute the most among correlated traits.

Nevertheless, as is common with much work that attempts to explain firm-level differences in capital structure, our analysis cannot fully account for the unobserved differences in opportunity sets that might drive firm-level differences in borrowing. Including fixed effects for business location dramatically increases the explanatory power of our regressions, but does little to alter the estimated differences between black- and white-owned businesses in initial size. That is, including a fixed effect for the core-based statistical area (CBSA) of the business raises the regression R^2 from around 15% to around 30%, and specifications including zipcode fixed effects produce R^2 values over 60%.[2] In short, racial differences across neighborhoods within the same city are as large as racial differences across cities.

Moreover, the initial differences in funding are not erased by later injections of capital. In order for black- and white-owned businesses to converge in size, black-owned businesses would need substantially larger capital injections in the years after inception to make up for differences at founding. Racial differences in the size of later injections of new funding are smaller than the initial differences, but they remain significantly smaller in later years. Thus, on average, businesses started by black founders do not converge to the size of white-owned businesses as they age.

This persistent difference in funding is driven primarily by differences in the amount of bank loans and other bank credit products, which in turn are not substituted by other sources of capital. Lower amounts of banking services could reflect worse treatment by banks, less demand for banking services, or could reflect differences in borrower attitudes

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[2]Core-based statistical areas include metropolitan statistical areas (MSAs) but also include "micropolitan" statistical areas, defined by the US Census as "areas that have at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties."

and expectations, and ultimately less willingness to approach banks. One important advantage of our data is that they include measures of loan application expectations, even among those who did not seek funding. Typically, differential average participation rates confound the measurement of discrimination; here, detailed questions in the KFS measuring the demand for loans, the rate of loan rejections, and the expected fear of denial among borrowers who chose not to attempt to borrow allow us to explore how *expectations* of discrimination may impact participation in financial markets.

Black entrepreneurs apply for bank loans less frequently than white entrepreneurs. This stems largely from differences in the fear of rejection. Overall, black entrepreneurs are about three times more likely to state that they did not apply for credit when needed for fear of having their loan application denied. Similarly, black-owned startups are about three times less likely than white-owned startups to report that their loan requests are always approved. These differences persist even after controlling for credit scores and net worth: indeed, even black founders in the top quartile of the credit score distribution are more than twice as likely to report a fear of denial than white founders with below median credit scores. These effects are stronger in areas where historical and current racial tension is higher, and weaker in areas where racial tensions are less severe, which suggests that actual or perceived statistical or taste-based discrimination could be a factor in these results.

Banks use both hard information (objective, easily codified and transmitted information like credit scores) and soft information (potentially more precise, but subjective and difficult to verify information) in their lending decisions, and to varying degrees based on bank characteristics. Because black-owned startups tend to be at a hard-information disadvantage relative to white-owned startups, we next explore whether they face fewer constraints in settings where soft information is potentially more actionable. Given that large national banks tend to rely more on hard information when making lending decisions, while local banks tend to rely more on soft information (Berger, Miller, Petersen, Rajan, and Stein, 2005; Petersen and Rajan, 2002), we exploit regional variation in the

strength of local banks to ask whether these attitudes and outcomes are different in regions where soft information could play a bigger role in the lending decision. Areas with stronger local banks are indeed areas where the average founder is less afraid of loan denial, and where average business loan amounts to startups in our sample is higher. But these effects are exclusive to white-owned startups. Black founders are not less afraid of loan denial in these markets; if anything, they are somewhat more likely to report that they did not apply for fear of denial in regions with stronger local banks. In these areas, white-owned startups receive larger amounts of bank debt on average but black-owned startups do not.

The third step and final piece of our analysis attempts to assess the importance of these differences to cumulative capital disparities. For this, we use decomposition techniques developed by Blinder (1973) and Oaxaca (1973) to assess how much of the size difference between black-owned and white-owned businesses is attributable to the characteristics we observe. We can explain around one-half of the total difference in firm size with observables. Of these, business credit scores and founder net worth (which presumably measures collateral) account for about two-thirds of the difference. Differences in education and experience account for only a modest portion of the difference. If the average black-owned business had the observable characteristics of the average white-owned business, it would be about 75% larger.

This paper adds to the literature on racial differences in financial market outcomes. Chatterji and Seamans (2012) find that the expansion of credit card availability stimulated entry into entrepreneurship especially for black entrepreneurs, and find that the strongest results in areas with high rates of historical racial discrimination. Dougal, Gao, Mayew and Parsons (2017) find that historically black colleges pay higher issuing costs for bonds than other higher-education bond issuers, and attribute these higher spreads to racial animus among wealthy white bond purchasers. Earlier studies provide cross-sectional evidence from the SSSBF of racial differences in lending markets for established businesses (Bostic and Lampani 1999; Cole 1999; Cavalluzzo, Cavaluzzo and Wolken 2002;

Blanchflower, Levine and Zimmerman 2003; Blanchard et al. 2008; Mitchell and Pearce 2011). Apart from our study being the first to focus on new business ventures, rather than more-established, existing businesses, our work departs from earlier work in the breadth and depth of our empirical measures of overall capital sources, creditworthiness and loan expectations, and use of longitudinal data on a cohort of firms.

The balance of the paper is organized as follows. In Section 2, we describe the restricted-access KFS panel that follows startups from their founding through seven years of operations after their startup year and the matched Dun and Bradstreet (D&B) administrative data on credit scores. In Section 3, we examine whether there are differences in the use of financial capital (levels and detailed sources) between black and white firms at startup and in the years following startup. Section 4 explores potential causes of racial differences in financial capital. In Section 5, we explore racial differences in credit market explanations. Section 6 explores the potential role of racial bias in capital markets, and Section 7 explores the question of how much of the racial gap in funding disappears after controlling for startup characteristics. Section 8 concludes. An online appendix provides additional details regarding racial differences in survival, profitability, and funding sources.

2   The Kauffman Firm Survey

We use the confidential, restricted access version of the Kauffman Firm Survey (KFS) to study how startups access capital markets. The KFS is a longitudinal survey of new businesses in the United States, collecting annual information for a sample of 4,928 firms that began operations in 2004. The underlying sample frame for the KFS is Dun and Bradstreet (D&B) data.

The KFS data contain unprecedented detail on the financing patterns of startups, as well as detailed information on both the firm itself and up to ten business owners of the firm. In addition to the 2004 baseline year data, we also use the seven years of follow up data covering calendar years 2005 through 2011. Detailed information on the owners

includes race, gender, age, education, previous startup experience, and previous work experience. Detailed information on the firm includes industry, physical location, employment, sales, intellectual property, and financial capital used at start-up and over time. The detailed financing information in the KFS allows us to examine the relative importance of each source of financing at start up and over time. The confidential, restricted-access version of the KFS includes credit scores, continuous measures of key variables, such as financing, and more detail on industries and geographic locations than the publicly-available KFS. The KFS was also designed using sample weights to be representative of all new businesses in the U.S. economy and not restricted to a narrow set of industries or business types.

Our administrative data on credit scores from D&B for all firms in the KFS allows for a novel analysis of racial differences among startups. Credit scores are not available on most surveys, perhaps because most entrepreneurs do not know readily know what their scores are. To be sure, the Survey of Small Business Finances (SSBF) includes information on credit scores, but only for larger, more established, and older businesses (Cavalluzo and Wolken 2005). While the KFS contains unprecedented detail on the business formation process, the availability of business credit scores allows us to control for many differences in firm characteristics that would be observable by bank lending personnel but typically unobservable to the econometrician.

The KFS is the only large, nationally representative, longitudinal dataset providing detailed information on new firms and their financing activities. Most previous research on the use of financial capital among small businesses has relied on cross-sectional data on existing businesses. For example, the Survey of Business Owner (SBO) data provide information on the amount of startup capital, but provide only retrospective information for surviving businesses and do not provide information on the relative importance of the different sources of financing. Another commonly-used dataset, the Federal Reserve Board's Survey of Small Business Finances (SSBF), provides information on recent financing, but does not provide information on financing at startup or the early stages of firm

growth (and was discontinued after 2003). Furthermore, both the SBO and the SSBF are cross sectional surveys that do not provide information on firm financing over time for the same sets of firms. Finally, fundraising levels in the KFS are measured annually, and are thus less prone to recall bias as is the case with both the SBO and the SSBF.

We restrict our attention to the set of firms that either survived over the sample period or that have been verified as going out of business over the sample period. In most analyses, we condition on survival in that year, but we also conduct robustness checks taking alternative approaches to addressing survival. Our main results are not sensitive to the approach, and we discuss the robustness check results below. We also specifically focus on firms that have a white or black primary owner. These restrictions result in a sample of 3,551 startups out of the total sample of 4,124 startups with owners of any race that began operations in 2004 and either continued through the final year in the sample period (2011) or can be verified to have exited sometime over the period.

We assign owner demographics at the firm level based on the primary owner. For firms with multiple owners (35 percent of the sample), the primary owner is designated by having the largest equity share in the business. In cases where two or more owners owned equal shares, hours worked and a series of other variables are used to create a rank ordering of owners in order to define a primary owner following the algorithm proposed in Ballou et al (2008). We include businesses with owners of all races in the regression analysis, but focus our comparisons on black- and white-owned businesses. Following standard conventions in the literature, the white category includes only non-Hispanic whites. Using these definitions, we find that 9.1 percent of the KFS sample of startups is black-owned. The percentage of black-owned startups does not notably change over time indicating similar survival rates. In the seventh year after startup we find that 8.4 percent of the KFS sample is black-owned.

Because so much of our analysis centers around founder net worth and creditworthiness, we also compare the distribution of net worth among startup owners in our data with that of the broader U.S. population as a whole. The most recent government source

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for data on U.S. net worth is from the 2013 Survey of Income and Program Participation (SIPP). Figure 1 compares the KFS and SIPP net worth distributions. Solid bars represent the U.S. population and dotted bars represent startup owners. The bottom two quartile categories are collapsed because of reporting restrictions. Additionally, the quartiles are inexact due to data availability in the published net worth statistics from SIPP.

Insert Figure 1 here

There are two key findings here. First, both black and white owners have net worth distributions to the right of their respective population net worth distributions. Thus, both black and white startup owners are less likely to be from the lower tail of the wealth distribution than the population as a whole. Second, the wealth disparity between whites and blacks found in the overall U.S. population also holds among startup owners. Black startup owners have a wealth distribution to the left of the white startup owners distribution, and the same holds for the U.S. population.

3   Are There Racial Differences in Access To Startup Capital?

Table I reports average amounts of capital by type of capital for startups (and Figures 1 and 2). The KFS contains finely detailed sources of funding for startups, which are reported along with summary statistics in Appendix Table I. To facilitate an analysis of broad patterns in the data, in most of our analysis we follow Robb and Robinson (2014) and group the detailed categories into six broad buckets based on the source of capital and the structure of the capital (reported in Table I). The three alternative sources of capital are owners, insiders, and outsiders; the two alternative types of capital are debt and equity. The distinction between sources captures whether the funding source is the founder, informal channels such as friends or close associates of the founder who are not direct owners of the business, or formal channels such as banks, venture capital firms, and angel investors. Robb and Robinson (2014) make distinctions along these lines because the personal balance sheets of business owners and the balance sheets of the firms

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themselves are often deeply intertwined at the time the business is founded, and therefore there is little practical distinction between, for instance, a business credit card and a personal credit card, or a personal bank loan and a business bank loan.

Insert Table I Here

In the initial year of the KFS, black-owned startups are started with substantially less capital than white entrepreneurs. The average level of startup capital among black entrepreneurs is $35,205 compared with $106,720 for white entrepreneurs. Racial differences in the sources of capital are also pronounced. In the year the business is founded, black owners contribute around $19,500 of personal equity, compared with around $34,500 for white business owners. Inside equity–equity stakes taken by family members or other business insiders–are relatively modest for both groups, but are about five times larger for white-owned than black-owned startups.

Differences in outside equity—venture capital, angel financing, and the like are even more stark. The average black-owned startup has around $500 of outside equity, whereas the average white-owned business has more than $18,500 from outside equity at founding. These numbers are a reflection of the fact that while outside equity is relatively uncommon for white-owned businesses, it is exceedingly rare for black-owned startups.

Owner debt includes personal loans extended to the business by the founder. These are small on average for both black-owned and white-owned firms, but white-owned businesses have higher average amounts here as well, by a factor of five in the initial year. Inside debt–money lent to the firm by family members or business insiders–is about the same order of magnitude as owner debt, although there is no statistically significant difference across racial groups.

The largest quantitative difference between white- and black-owned startups is in the amount of outside debt associated with their businesses. Outside debt includes personal loans, business loans, personal and business credit cards, as well as other types of loans made by banks either directly to business owners for the purpose starting their business or else to the business itself. Robb and Robinson (2014) show that on average, this is

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the largest source of financing for firms in the KFS. Here, we see that this is only true of white-owned firms. At startup, black-owned firms borrow about one-half as much as they put in of their own capital, whereas white-owned firms borrow about 1.7 times what they put in of their own capital. In the year of founding, white-owned firms on average borrow nearly six times as much black-owned firms. Although the amount of outside debt accessed by black-owned startups grows steadily over time, average outside debt for black-owned startups is substantially lower than that seen among white-owned firms.

Insert Figure 2 here

In the later years of the survey, there is significant convergence in the average amounts of personal equity injected into the business, but this largely reflects the fact that personal equity injections from white startup owners dramatically decline in the years after founding: the average amount drops to around $11,000 in years 1-3 after startup and to around $4,000 by years 4-7 after startup on average for white-owned businesses. On average, insider equity (that is, equity injections from friends, family or other non-business owner acquaintances) is a negligible source of financing for most firms after founding, and the differences between white- and black-owned startups is not statistically significant. Indeed, across most of the individual categories, differences in new capital cease to be statistically different after the initial founding year. Because these numbers track *new* dollars coming into the firm, however, this means that the accumulated difference in size grows over time.

Insert Figure 3 here

In the appendix, we dig deeper into the differences in access to debt for minority and white-owned startups by looking at the specific sources of debt financing. This is presented in Table A.4 digs. In the founding year, there are differences between black and white owned businesses across a wide array of debt sources. Only one percent of black owners obtain business loans, compared with 7% for white-owned firms. While 30% of

white-owned businesses use business credit cards in their founding year, only 15% of black owned businesses do. Similarly, 18% of white business owners rely on personal loans for their business in the founding year, while only 14% of black-owned startups do. All these differences are statistically significant.

What sources offset these differences? As we show in the Appendix, it is not the case that black-owned startups rely more on personal credit cards. In fact, the opposite is true. Instead, black-owned startups appear to rely more on informal borrowing from family members: 14% of black-owned startups relied on family loans in their founding year, while only 9% of white-owned businesses do. Interestingly, the average amounts borrowed from family and other sources are not statistically different between minority and non-minority businesses. This could be a reflection of liquidity constraints in the network of family members that are stronger for black-owned startups than for white-owned firms (Fairlie and Robb 2008). Average amounts of capital from personal bank loans and business bank loans are statistically smaller for black-owned startups. Black-owned startups continue to rely on family loans to a greater degree than white-owned firms in the three years following the firm's founding. This suggests that access to formal debt channels remains limited for minorities.

All told, the descriptive evidence thus far indicates that black-owned startups access less formal credit. It suggests that they partially substitute for this with a heavier reliance on informal channels and personal equity, but this substitution is an imperfect one (perhaps due to lower levels of personal and family wealth). This results in businesses that start with smaller amounts of financial capital and that do not converge over time. To illustrate this, Figure 4 reports average firm size, for all firms as well as white- and black-owned firms, over time from startup to seven years after startup.

4   What Explains Racial Differences in Access to Capital?

In this section, we investigate the causes of racial inequality in financial capital reported in the previous section. We focus on the question of whether credit scores, and other founder

and business characteristics limit the ability of black startups to obtain comparable levels of financial capital as white startups. We first examine differences in access to capital in the firm's initial year, then examine differences as the startup ages.

4.1 Differences in Initial Capital

We begin by examining the difference in total capital raised across all sources. Given its importance, we then turn to examining differences in the amount of outside debt. The final step is to examine differences in business bank loans.

4.1.1 Total Financial Capital

Table II models variation in the natural log of the total amount of capital (from all sources) in the startup year based on race, owner characteristics and business characteristics. Industry fixed effects at the two-digit NAICS level are included in all specifications to capture general differences in capital levels based on types of businesses started. The inclusion of industry fixed effects partly addresses the concern that black and white businesses differ in their need for capital because they cluster in industries with different capital requirements.

In column (1) we report the baseline specification, which includes only a dummy for the race of the founder and industry fixed effects with no additional controls. The loading on the black-owned startup dummy variable illustrates that black-owned startups have total capital investments that are roughly 0.73 log points lower in terms of initial total capital than white-owned businesses.

Insert Table II Here

The remaining columns of the table in some sense seek to explain away this difference with a variety of control variables. Including the credit score lowers the loading on the black-owned startup dummy from -0.73 to -0.60. Credit scores are much lower among black startups than white startups, and the loading on the credit score indicates that credit

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scores have a large positive effect on the amount of capital raised.[3] We find that moving up 10 percentile points in the credit score distribution is associated with an increase in financial capital by roughly 20 percent. These results are consistent with previous research focusing on larger, established businesses, which finds that credit scores have a negative effect on loan denial rates (Cavalluzzo and Wolken 2005). But, even after controlling for credit scores, the black indicator estimate remains large and statistically significant.

In Column (3) we introduce founder net worth. Although founder net worth is not available in the survey until the fourth followup year, we rely on the high persistence in net worth, especially as measured categorically in the KFS. We treat this as a proxy of owner's net worth in the startup year and note some caution in interpreting the estimates. The net worth categories included in Column (3) indicate that high net worth individuals launch businesses at a much larger scale than others. Controlling for net worth attenuates the loading on the black-owned startup indicator variable but does not diminish its statistical significance.

Next we include measures of formal education (in the form of dummy variables for levels), prior work experience to starting the business (both industry specific and non-industry specific), and previous entrepreneurial experience. These are included in Column (4), and capture the human capital of the entrepreneur. Education and prior work experience in the same industry have been found to be important determinants of business success in previous research (Van Praag et al. 2005; Parker 2009). We find some evidence that education is important, but no evidence of important effects for prior work experience. Previous entrepreneurial experience is positively associated with capital investments, perhaps due to prior knowledge of finding capital. Rather than further erase the difference between white-owned and black-owned startups, controlling for human capital widens the racial difference slightly. The loading on the black-owned startup dummy remains statistically significant in these specifications.

Columns (5) and (6) introduce a range of detailed additional controls for business

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[3]In unreported regressions, we tested whether credit scores had a different effect for white and black owned startups and found no statistically significant difference.

type, growth goals and performance. These variables may be endogenous to the amount of capital the firm was able to raise, but including them does not diminish the racial difference in total capital. In column (5) we add controls for firm characteristics to condition on the fact that black and white founders may open different types of businesses with different capital needs. We include dummies for whether the firm sells a product or service, whether it is based out of the founder's home, and whether it has patents or other intellectual property. In column (6) we include a dummy for whether the business is full-time or part-time, its incorporation status, and employment level (i.e. employees). Interestingly, when we control for the type of business started (i.e., whether it sells a product or service, whether it has intellectual property, and whether it is incorporated) the effect of prior startup experience drops in half and becomes statistically insignificant: serial entrepreneurs, on average, start observationally different types of businesses than first-time entrepreneurs.

The inclusion of controls for business characteristics in Columns (5) and (6) has little affect on the measured racial difference in startup capital, but the controls themselves indicate that home-based businesses invest less capital, and product-centered businesses and businesses with intellectual property invest more capital, as would be expected. When we further add additional controls for firm performance and growth goals, such as whether the business is full-time or part-time, its incorporation status, and employment level, the black-founder loading does not change. Although many of these controls may well be endogenous, the stability of the black-owner loading across different specifications suggests that remaining black/white differences in capital use are not primarily driven by easily observable differences in firm characteristics. Moreover, the addition of these variables does not substantially change the coefficient estimates on credit scores and human capital measures, which suggests that credit scores are not simply proxying for the type of business.

In the remaining two columns we attempt to control for the effect that business location may have on demand conditions, unobservable business quality, and hence demand

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for capital. In Column (7) we introduce Core-Based Statistical Area (CBSA) fixed effects. CBSAs include the standard MSAs but add to them 'micropolitan' statistical areas, which the Census describes as 1a new set of statistical areas that have at least one urban cluster of at least 10,000 but less than 50,000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties.' As column (7) shows, including a CBSA fixed effect does little to change the point estimates on the main initial lending outcomes. This suggests that unobserved differences in business quality captured by coarse location measures—the difference between being located in Duluth, Minnesota instead of Mobile, Alabama, for example—does little to explain away the observed racial difference in startup capital.

In Column (8) we include zipcode-level fixed effects. Because this results in an extremely large number of model parameters, we cannot use the sampling weights included in Columns (1)-(7), thus we urge caution in comparing the point estimate on the Black-owned Startup indicator with the preceding estimates. In addition, this parameter is only identified using survey zipcodes which contain both black and white survey respondents, limiting the sample size. Nevertheless, there remains a statistically significant racial difference in total capital. Thus, black-owned startups access less capital than their white-owned neighbors in the same zip code.

4.1.2 Outside Debt

Given the importance of outside debt as illustrated in Section 3, we now turn to exploring the potential causes of racial differences in access to outside debt. Exploring potential explanations for differences in outside debt may also be useful for shedding further light on the importance of credit scores and provide a useful consistency check on this variable. Credit ratings are undoubtedly one of the most important pieces of information used by banks and other financial institutions in loan determination. Table III reports regression results, which follow the same format as Table II, except that the dependent variable is the log of total outside debt instead of the log of total financial capital.

Insert Table III Here

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The results for the determinants and patterns across the regression specifications for outside debt are similar to those for total financial capital. Credit scores exert a strong influence on the ability of businesses to find outside debt. Even controlling for an extensive list of business characteristics proxying for need and ability to raise capital (i.e. make products, intellectual property, home-based, part-time, incorporated, and employment) the coefficient on credit scores is large, positive and statistically significant. The results for human capital measures are also similar, with previous startup experience demonstrating the strongest association with outside debt capital, but also some evidence of the influence of education and work experience. Wealth is a stronger predictor of outside debt, which may be due to the importance of personal wealth as collateral in obtaining loans. Racial differences persist even after controlling for business location using either coarser CBSA fixed effects or narrower zipcode fixed effects.

4.1.3 Business Bank Loans

To zero in on borrower/lender effects, we refine our analysis one step further by examining only business bank loans. Whereas total capital includes all sources of debt and equity financing, and total outside debt includes many forms of debt (e.g. credit cards) that do not require any interaction between a borrower and a loan officer, by studying business bank loans separately we are honing in on the empirical setting in which there is the greatest scope for personal interactions between the borrower and lender to influence outcomes.

Insert Table IV Here

Table IV reports regressions of the log of business bank loans on the same set of observables that were used to explain total capital and total outside debt. The results are largely consistent with the previous analysis, in that about 1/3 of the initial industry-adjusted racial difference is attenuated with controls for credit score, net worth, and business characteristics. The raw magnitude of the racial difference is smaller for business bank loans than for total debt, which reflects the fact that differences in access to business bank loans

are not attenuated by access to other forms of outside debt. These results remain statistically significant in the presence of location fixed effects.

4.2 Differences in Capital at Later Stages

The previous tables examine racial differences in the year of founding and demonstrate that controlling for a rich set of observable characteristics only partially removes the large difference in funding between white-owned and black-owned startups. In Table V we ask whether these racial differences abate over time, as startups build track records that might help them overcome information asymmetries with lenders. We repeat the same basic specification from Column (6) of the previous three tables, but form two groups, one for years 1-3 and one for years 4-7 after startup. We include followup year fixed effects in each model to absorb variation over time in access to capital.[4]

In Columns (1) and (2), the dependent variable is the log of business bank debt that the business received; this is the narrowest of the three sources of capital investigated in the preceding tables, the source of capital with the greatest scope to be influenced by direct, personal borrower/lender interactions. In both the years 1-3 period and the years 4-7 period, there continues to be a statistically significant difference between black-owned and white-owned businesses in the amount of business bank debt they receive. In terms of magnitudes, the years 4-7 point estimate is about 1/3 the size of the point estimate in the initial survey year, meaning that the black-white funding gap persists but is considerably smaller.

Columns (3) and (4) focus on total outside debt from all sources. In the years 1-3 sample, the point estimate is about half as large as the comparable point estimate in the initial year, meaning that about half the black-white difference is erased over the next

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[4]These followup year fixed effects also capture differences in survival rates between black and white startups. The results are not sensitive to their inclusion. We also examine the sensitivity of the results to survival bias by conditioning the sample on including only firms surviving through the last year in the survey (year 7 after startup). Taking this approach, we also find similar results. To push the analysis further, we also take an approach that is in the spirit of a bounds analysis (e.g. Fairlie, Karlan and Zinman 2015). We estimate the regressions assuming as a lower bound that all non-surviving businesses would have used zero financial capital in that year. And, as a potential upper bound we alternatively impute all non-surviving firm observations as equal to the median level of financial capital among surviving firms. The regression results are not sensitive to this imputation.

three years of the firm's life. In the years 4-7 period, the difference between black-owned and white-owned businesses is no longer statistically significant. The final two columns broaden the scope further to include all forms of financial capital. Here the differences between black-owned and white-owned businesses ceases to be statistically significant, even in the years 1-3 sample.

Taken together, these point estimates illustrate that differences in bank lending to black-owned and white-owned businesses persist over time, but that over time black borrowers are able to substitute into other forms of capital. The fact that we are able to condition on a rich set of observables means that the remaining differences are unlikely to be explained by creditworthiness, collateral, aspects of the business operating strategy, or the industry in which operates. It is important to recognize that the dependent variable here is measured in terms of new dollars flowing in during a given survey year: it is a measure of the flow of new capital, not the outstanding stock of capital. This in turn means that the initial differences in funding do not dissipate; they do not converge in the level of cumulative total capital over time. In the Appendix we provide estimations that include zipcode-level fixed effects. These specifications produce results that are quality similar to those presented here.

5   Do Black Borrowers Expect To Be Treated Differently

The previous section asks whether observable differences in borrower characteristics that might be important for lenders can explain the large unconditional differences in the levels of capital that white-owned and black-owned businesses receive. In this section, we ask whether differences in attitudes and expectations about the bank borrowing experience are important for understanding differences in access to capital. To explore this question, we use survey information in the KFS that gauges demand and unmet need for credit among entrepreneurs.

Access to measures of attitudes towards borrowing among entrepreneurs is rare in survey data sets, but beginning in the third followup year, the KFS included a series

of questions gauging borrowing intentions. The new questions ask whether the startup business applied for a loan that year, and whether it did not apply for a loan that year because of a fear of rejection. Among those startups that did apply, a follow-up question asks whether they were always approved, always denied, or sometimes approved and sometimes denied.

Racial differences in responses to these questions are analyzed in Table VI. We report survey-weighted averages by minority ownership status, both for the sample as a whole, as well as splits based on notable points in the distribution of credit scores. White entrepreneurs are more likely to apply for loans than black entrepreneurs, which potentially reflects different capital needs, but could also reflect different attitudes and expectations of the loan application process. When we focus on borrowers with below-median credit scores, there is no statistical difference in the rates of loan application, but among above-median borrowers, loan application rates are lower for blacks than for whites.

Turning to those who did not apply for loans that year, we also study racial differences in whether they did not apply for fear of rejection in Table VI.[5] There are massive differences in fear of rejection between white and black business owners. Overall, black business owners are about three times more likely to not apply for loans because of fear of rejection than white business owners. This difference is highly statistically significant. Although it is even more pronounced among below-median credit borrowers, even among credit worthy borrowers we find that blacks are more than twice as likely than whites to fear rejection. Black business owners whose credit scores are above the 75th percentile for the entire sample are still more than twice as likely as white business owners of similar creditworthiness to not apply for a loan for fear of having their loan application denied.

Another measure of unmet financing needs is whether loans are always approved, always denied, or sometimes approved and sometimes denied. Here, the results mirror those from the discussion above. Black business owners are significantly less likely to

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[5]Although the question, did not apply for fear of rejection, is asked of all respondents, some owners who applied for loans might have wanted to apply for additional loans. We do not include these owners and focus on only those firms who did not apply for a new loan for clarity. The results are unchanged if we examine all responses to this question.

report that they are always approved for loans. This holds throughout the distribution of credit scores.

A useful summary measure of whether a startup experiences unmet capital need combines responses to being denied a loan application and not applying for a loan because of fear of rejection. Affirmative answers to these two questions imply that the startup did not obtain all of the capital it needed. Using this measure, black startups are much more likely to face unmet need for capital than are white startups.

Taken together, these results provide further evidence that the lower levels of borrowing among black-owned businesses are a reflection of unmet need, stemming at least in part from different attitudes and perceptions of the banking process, and not simply because black-owned startups need or want less capital. But they are still unconditional in nature; to address this, Table VII examines these findings in a multivariate setting.

Even controlling for a detailed set of firm and founder characteristics, we still observe pronounced differences in the fear of denial and loan denial rates based on the race of the firm founder. These findings are consistent with previous findings for larger, more established and older businesses (i.e. SSBF data) that minority-owned firms experience higher loan denial probabilities than white-owned businesses even after controlling for differences in credit-worthiness and other factors (Bostic and Lampani 1999; Cole 1999; Cavalluzzo, Cavaluzzo and Wolken 2002; Blanchflower, Levine and Zimmerman 2003; Blanchard et al. 2008; Bates and Robb, 2014). Finally, these findings also provide evidence that racial differences in financing patterns are not simply due to lower levels of financing needs among black startups.

Of course, one reason why a borrower might fear denial is because they had already received a lot of debt in prior years, so that they were near their maximum debt capacity for the business. Thus, one reason why black founders might be fearful of borrowing is that they had already borrowed. To explore this possibility we split the sample into black-owned businesses and all other businesses and regressed a dummy variable for fear of denial or denied credit on the amount of prior accumulated debt as well as the

same set of controls we have used throughout the preceding analysis.

The results are presented in Table VIII. Columns (1) and (2) focus on the fear of denial. Among white-owned businesses, high levels of past borrowing are a strong predictor of failing to apply for a loan for fear of denial. The opposite is true for black borrowers; those with more past borrowing are less likely to indicate that they are afraid to apply. Similarly, in Columns (3) and (4) we find that among white-owned businesses, high past borrowing is associated with a greater likelihood of being denied credit. Among black borrowers, there is no statistically significant relationship, and the sign of the relation is the opposite of what we find in the white-owned sample.

These results suggest that not only are there pronounced racial differences in the fear of loan denial, but the determinants of having this fear are a function of race. Among white borrowers, fear of denial is correlated with remaining debt capacity: white borrowers are more likely to fear denial when they have borrowed heavily in the past and perhaps worry about perceived debt levels being too high. Among black borrowers, fear of denial is correlated with past borrowing experience: those who have borrowed in the past are less afraid of denial than those who have not perhaps because they perceive discrimination to have declined.

6   Do Banks Treat Black Borrowers Differently

The previous sections demonstrate pronounced differences in capital access based on the race of the business founder. This section attempts to discern whether discrimination is the root cause of the differences we find. We do this in three steps. First, we make use of the fact that small, local banks rely more on soft information, while larger, national banks rely more heavily on credit scores and other types of quantifiable borrower characteristics to examine whether differences in local banking conditions exacerbate or alleviate racial differences. Next, we develop two measures of regional variation in the degree of racial bias and ask how perceptions about access to capital by black borrowers vary according to these measures. One is based on a historical measure of racial inequality, the other a

contemporaneous measure. Both measures provide evidence that areas where racial bias is stronger are areas where black business founders are more likely to anticipate being denied credit.

6.1 Do Stronger Local Banks Help?

A large literature in banking draws a distinction between soft information and hard information. Hard information—like that contained in credit scores—is quantitative and impersonal, and can be easily transmitted, while soft information is qualitative, and while it may be very precise, it is difficult to communicate credibly (see Petersen and Rajan, 2002). While large, national banks have been shown to have an advantage in obtaining hard information, small banks tend to have a comparative advantage in lending to small businesses, which are traditionally more informationally opaque, since small banks tend to rely more on soft information than do large banks (Berger, Cerquiero and Penas, 2014; Berger, Miller, Petersen, Rajan, and Stein, 2005; Brickley, Link, and Smith, 2003).

In this section we ask whether racial differences in startup funding vary with the strength of local banks. On the one hand, minority-owned businesses should face fewer financing hurdles in areas with stronger local banks if the main source of their disadvantage is that they have good ideas but little ability to signal their quality objectively. In this case, the funding gap between black- and white-owned startups would be smaller in areas with stronger local banks, because local banks, with their increased reliance on soft information, would award capital to minority borrowers with good ideas but potentially weaker verifiable credit history. On the other hand, a greater reliance on soft information might create greater scope for lenders to cater to racial preferences or biases, which could mean that black-owned businesses face greater funding challenges in environments where more objective creditworthiness criteria might receive less weight in lending decisions.

Table IX explores these issues. In Panel A, we estimate models for did not apply for fear of denial. Column (1) verifies the previous finding that black startups have higher rates of fear of denial than white startups. In column (2) we add the share of county bank

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deposits held by local banks and find that areas with higher local bank concentration are areas in which new businesses are much less likely to report that they do not apply for fear of denial. [6] This comports with a wide body of evidence suggesting that small, informationally opaque businesses have an easier time securing bank loans in areas where local bank concentrations are higher. Column (2) suggests that startups recognize that they will face an easier time in markets where local banks are stronger.

Column (3) introduces an interaction term to explore whether black and white-owned businesses experience different outcomes in high local bank concentration areas. If black-owned startups found it easier to borrow in these markets, presumably because they expected lenders acting on soft information to be easier to work with, then we would expect the interaction term to be negative–their reluctance to apply for loans for fear of denial would be attenuated in these markets.

Instead, we do not find evidence that black-owned startups receive more financing in these markets. The interaction term is statistically significant, but has the wrong sign. Of course, we cannot rule out the possibility that borrower perceptions of their own creditworthiness differ according to bank market structure, nevertheless, the results do not provide evidence that minority business owners expect it to be easier to obtain bank loans in markets where local banks are stronger.

To guard against the possibility that black borrowers fear rejection due to concerns about underlying credit quality, in Columns (4)-(6) repeats the analysis of columns (1)-(3) but includes the borrowers credit score and net worth as controls. This effectively holds constant the hard information available to lenders. This has no qualitative impact on the findings. Black founders continue to be more afraid of denial, not less afraid of denial, in higher soft information environments when we condition on available hard information.

To examine how these perceptions are correlated with financing, in Panel B of Table IX, we report regressions of log business bank debt on race and interactions with the local banking variables. In keeping with prior research, areas with higher local bank

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[6]We follow Cortes (2015) and Adelino, Ma and Robinson (2017) and define a local bank as one with at least 75% of its deposits coming from that MSA. Deposit data are taken from the FDIC Summary of Deposits. See `https://www5.fdic.gov/sod/`.

concentration are areas with higher bank lending to startups. But while entrepreneurs in areas with stronger local banks receive larger amounts of bank loans, this is an effect that is confined almost entirely to white borrowers. Comparing the main effect of local bank share with the interaction term between race and local bank share suggests that the effect of stronger local banks is almost zero for black-owned businesses.

As a further check, we also examine whether the competitiveness of the local banking market affects our results. A more competitive local banking market could make it more likely that black borrowers obtained loans in those markets by increasing a borrower's ability to shop for a loan. These results are presented in the Appendix. Here, we also find no impact on the black dummy variable after including a Herfindahl index of local banking competition.

In sum, areas with stronger local banks are areas where banks are perceived, and indeed act, more favorably towards startups. But there is no evidence that areas with stronger local banks are areas where black-owned businesses have an easier time raising capital. Black founders are not less afraid of loan denial in these markets, nor do they receive larger amounts of capital in these markets. The pro-startup effects of a strong local banking community do not appear to accrue to minority business founders.

6.2 Historical Inequality and Racial Bias

Because contemporaneous measures of inequality are likely to be correlated with contemporaneous business conditions, we use a measure of historical inequality obtained from Braggion, Dwarkasing, and Ongena (2015). They instrument current measures of income inequality at the MSA level with data on the historical distribution of farm plot-sizes in 1890. Braggion, Dwarkasing and Ongena (2015) show that this historical distribution of plot sizes in 1890 is highly correlated with current measures of inequality and use this measure to show that more historically unequal regions have lower rates of self-employment. Based on the fact that areas with high degree of skewness in the historical size distribution of landholdings are areas in which slavery was common, we build on their insight and ask whether racial differences in borrowing attitudes and outcomes are

more pronounced in these areas by exploring interactions of the Gini coefficient with the business owner's race.

The main idea is to ask whether perceptions of lending outcomes are different in areas with high historical inequality. The first three columns of Table X indicate that they are. In Panel A, we report regression results for the fear of denial on race, the historical Gini coefficient, and the race/gini interaction, along with all the variables listed in Table IV. Local areas with high levels of historical inequality have much higher levels of the fear of denial among black entrepreneurs relative to white entrepreneurs than areas with low levels of inequality. In columns (4) through (6), we repeat the analysis in the first three columns but include the business credit score as an independent variable. The results are qualitatively identical.

In Panel B of Table X, we report a probit analysis for unmet capital need on race, the historical Gini coefficient, and the race/gini interaction. Regions with high levels of historical inequality have higher average levels of respondents reporting that they have unmet capital need, and these effects are more pronounced among black borrowers in areas with high inequality. As in Panel (A), this conclusion holds even when we include the business credit score as a control variable in Columns (4) through (6).

6.3 Contemporary Inequality and Racial Bias

Next we turn to a contemporaneous measure of potential discrimination that varies regionally and is likely to be correlated with racial bias, but not necessarily with contemporaneous business conditions. Views about interracial marriage and resulting actual rates of interracial marriage are likely to be associated with racial prejudice. Racial prejudice measured along other dimensions and wage disparities are higher and when views against interracial marriage are more negative (Charles and Guryan 2008). Thus, a finding of lower levels of fear of denial and unmet capital needs in geographical areas with high interracial marriage rates provides evidence that is at least consistent with black entrepreneurs perceiving and facing racial bias in lending markets.

To create regional interracial marriage rates we use Census 2000 5 Percent PUMS mi-

crodata. We condition the sample on married couples that involve at least one black or white partner.[7] At the state level, we calculate the percentage of blacks who have white marital partners. We then normalize the interracial marriage rate by the probability of marriage to a white partner that would occur if this were random. For example, if 10 percent of blacks are married to white partners and the population is 90 percent white then the normalized interracial marriage rate is $\frac{0.10}{0.90}$=0.11, whereas the normalized interracial marriage rate for an area with 10 percent of blacks married to whites and a population that is 70 percent white would have a higher normalized rate (0.14) because the underlying probability of an interracial marriage for a black is lower.[8]

Table XI reports the same set of specifications as Table X. In Panel A, we report regression results for the fear of denial on race, the interracial marriage rate coefficient, and the race/marriage interaction, along with all the variables listed in Table IV.

Local areas with high levels of interracial marriage have much lower levels of fear of denial among black entrepreneurs relative to white entrepreneurs than areas with low levels of interracial marriage. In Panel B of Table XI, we report a probit analysis for unmet capital need on race, the interracial marriage coefficient, and the race/marriage interaction. Regions with high levels of interracial marriage have lower average levels of unmet capital need among black borrowers relative to white borrowers. Overall, fear of denial and unmet capital are lower among black entrepreneurs relative to white entrepreneurs in areas where interracial marriage is higher, and thus potentially racial bias is lower.

7 What if Black-owned Startups Looked Like White-Owned Ones?

The final part of our analysis asks how much of the racial gap in funding documented above would disappear if black-owned startups had similar observable characteristics to white-owned startups. To explore this, we use a technique pioneered by Blinder (1973)

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[7]We use the Census microdata to match heads of households to their spouses using household identifier codes.

[8]The normalization also results in similar rates when the focus is shifted to the percentage of whites married to blacks. In these two examples, we would have 1.11 and 1.43 percent of whites married to blacks, with the same normalized interracial marriage rates of 0.11 and 0.14.

and Oaxaca (1973) that decomposes the inter-group differences in a dependent variable into those due to different observable characteristics across groups (sometime referred to as the endowment effect) and those due to different "prices" of characteristics of groups. Consider a regression $Y = X\beta + \epsilon$ with group means of the independent variables for the black and white subpopulations given by $\bar{X}^B$ and $\bar{X}^W$. To implement the standard Blinder-Oaxaca decomposition, we begin by writing the inter-group difference in the average value of a dependent variable, Y, as:

$$\bar{Y}^W - \bar{Y}^B = \left[\bar{X}^W - \bar{X}^B\right] \hat{\beta}^W + \bar{X}^B \left[\hat{\beta}^W - \hat{\beta}^B\right] \tag{1}$$

The first term, $\left[\bar{X}^W - \bar{X}^B\right] \hat{\beta}^W$, reflects the part of the inter-group difference that can be attributed to differences in the group averages of the independent variables X—differences in observables. The second term reflects the different "prices" or factor loadings of the characteristics across the two groups.

There are two issues associated with implementing Equation 1. The first concerns how to deal with the second term of the equation, $\bar{X}^B \left[\hat{\beta}^W - \hat{\beta}^B\right]$. This "unexplained" component of the decomposition partly captures contributions from group differences in unobserved characteristics. This part is sensitive to the choice of omitted characteristics making the results difficult to interpret. Another issue that arises is the "index" problem is that the decomposition itself can either be written using coefficient weights β^W or β^B.[9]

To deal with this issue, we use an alternative method developed by Oaxaca and Ransom (2004), which is to weight the first term of the decomposition expression using coefficient estimates from a pooled sample of the two groups. Following this approach, we calculate the decompositions by using coefficient estimates from regressions that includes a sample of all racial groups. We thus calculate the first term in the decompositions as:

$$\left[\bar{X}^W - \bar{X}^B\right] \hat{\beta}^* \tag{2}$$

where X^j are means of firm characteristics of race j, $\hat{\beta}^*$ is a vector of pooled coefficient

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[9]Note that an alternative formulation of Equation 1 is $\bar{Y}^W - \bar{Y}^B = \left[\bar{X}^W - \bar{X}^B\right] \hat{\beta}^B + \bar{X}^W \left[\hat{\beta}^W - \hat{\beta}^B\right]$.

estimates, and $j = W$ or B for white or black, respectively.

We report estimates using pooled estimates from a regression that includes both white and black observations (Oaxaca and Ransom 1994). It is becoming increasingly popular when studying racial differences to use the full sample of all races to estimate the coefficients (Fairlie and Robb 2007). This version of the pooled sample is advantageous in that it incorporates the full market response and does not exclude other racial groups. The full set of racial and ethnic dummies in the regression specification are included to allow us to remove any influence on the coefficients from racial differences that are correlated with any of the explanatory variables.

Table XII reports Blinder/Oaxaca decompositions of the difference in business size in the seventh year after startup, which is the final year of the KFS.[10] The top panel of Table XII shows that the accumulated difference in business size by the end of the survey is about $336,000. Around one-half of this difference can be explained with observable characteristics. The lower panel shows how much can be attributable to each set of observable characteristics.

Roughly speaking, the explanatory components of this difference can be grouped into three equally sized categories. About one-third of the difference is attributable to differences in business credit scores. Another one-third is attributable to differences in founder net worth. And the final one-third is attributable to all other observable characteristics: gender, founder education and work experience (collectively labeled human capital), as well as business characteristics such as incorporation status, whether it generates a product or service, whether it operates in or outside the home, and whether it owns intellectual property.

Given that the average black-owned business is around $200,000 in size in year 7, assigning average white characteristics to an average black-owned business would result in it being about seventy-five percent larger. Merely assigning white credit scores to a black-owned business would result in a business about 25% larger. On the one hand, to

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[10]Similar decompositions for individual sources of capital and for individual years mirrors the results presented here and are available from the authors upon request.

the extent that this score can be improved by better financial management, rather than simply being a manifestation of circumstances that are difficult to control, these results suggest that improving credit scores would have a non-trivial impact on the racial gap in funding. These results also illustrate that about half the difference in size cannot be explained by observables, which illustrates the importance of attitudes and perceptions by and about black borrowers in credit markets.

8 Conclusion

This paper uses confidential, restricted-access microdata from the KFS and matched administrative data on credit scores to explore racial inequality in access to capital among startups. Our analysis of detailed financial data available in the KFS and panel data following startups through the first seven years of existence provides several novel findings. Black entrepreneurs start businesses at a substantially smaller scale than white entrepreneurs, and while the disparity in later-stage capital injections narrows over time, they continue to take on less capital in the early years of the firm's operation than white entrepreneurs. Thus, initial funding differences persist. We also find that black entrepreneurs access less outside debt in the founding year and in the years that follow, which is by the far the largest cause of disparities in total financial capital. Alternative sources of capital such as loans from friends and family, personal equity and credit cards also do little to attenuate these disparities. Black-owned startups have lower levels of all sources of funding than do white-owned startups.

These differences in financial capital use do not appear to be due to differences in the need for capital between black and white entrepreneurs. Black startups report substantially higher levels of loan denials and overall unmet need for capital than white startups, even after controlling for differences in credit scores and founder wealth. Moreover, industry differences, which should represent first-order differences in need for capital do not explain racial disparities. The inclusion of detailed, potentially endogenous business characteristics such as goals for growth and type of business also has little effect on the

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racial differences we find providing further evidence against need differences.

Focusing on supply-side channels, we find that racial differences in financial capital cannot be attributed entirely to white lenders looking unfavorably upon black borrowers. There are large differences in credit worthiness between black and white entrepreneurs. Detailed administrative data on credit ratings linked to all KFS businesses provides the first evidence in the literature of extensive differences in creditworthiness between black and white startups and their effects on financing outcomes. Our analysis also reveals that the relatively low credit scores for black business owners explain a substantial amount of the gaps in both financing at startup and in the years after startup. These results imply that a great deal of the capital investment differences between black- and white-owned businesses is the result of persistent differences in the founder's financial health that are present at the very inception of the firm. This connects our findings to an increasing concern over inequality in household finance and financial literacy and suggests interesting connections between household financial planning, behavioral finance, race and entrepreneurship.

At the same time, on the demand side our evidence clearly indicates an enduring belief among even the most credit-worthy black borrowers that they will be turned away by banks. The fact that many well-qualified black entrepreneurs do not apply for credit, even when they feel they need it, because they anticipate being denied credit suggests that overcoming differences between black and white borrowers is not simply a matter of expanding the supply of credit available to lower income borrowers. Interestingly, we also find that simply increasing the strength of local banks is unlikely to help – although white-owned startups receive large amounts of bank debt on average in areas with stronger local banks black-owned startups do not. [11] Getting to the root cause of racial differences in the way that new businesses are financed likely requires changes in perceptions and financial planning behaviors as much as it requires augmenting the supply of credit to traditionally underserved borrowers.

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[11]Further increases in credit card access might help reduce disparities (Chatterji and Seamans 2012), but this source provides only high interest borrowing which might be prohibitive for larger borrowing needs.

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Figure 1: Racial Differences in Wealth in the Kauffman Firm Survey

Net Worth Distribution by Race
U.S. Population (SIPP) and Startup Owners (KFS)

Legend: ■ Total Population ■ Total Startup Owners ■ White Population ■ White Startup Owners ■ Black Population ■ Black Startup Owners

X-axis categories:
- 1st+2nd Quartile (1-44%) <$50,000
- 3rd Quartile (45-70%) $50,000-249,999
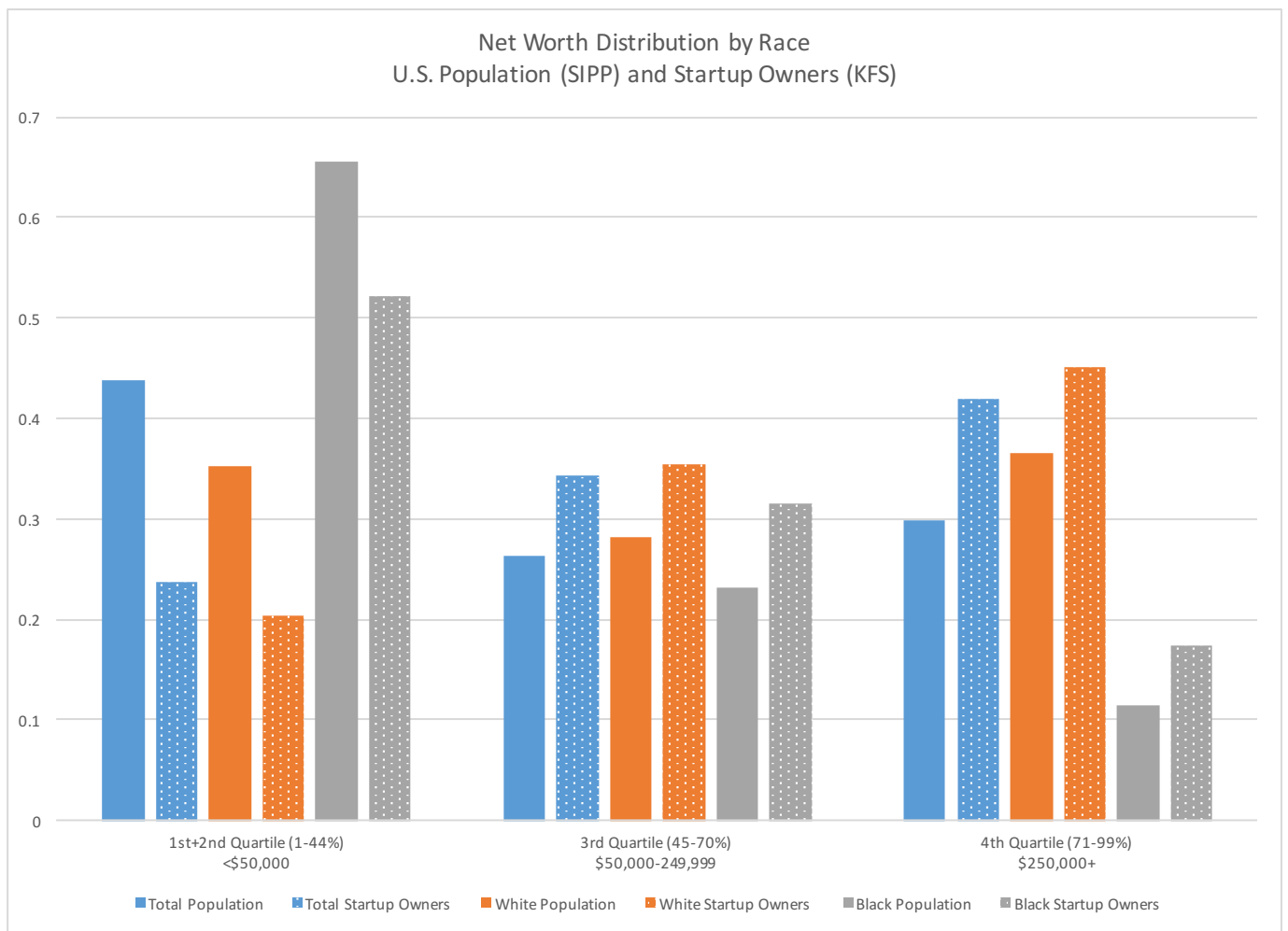- 4th Quartile (71-99%) $250,000+

Figure 2: Racial Differences in Sources of Initial Capital for Startups
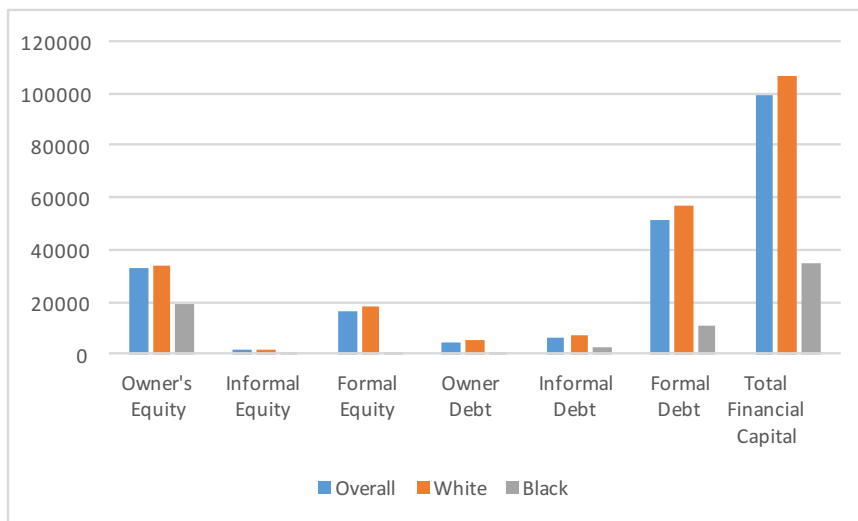
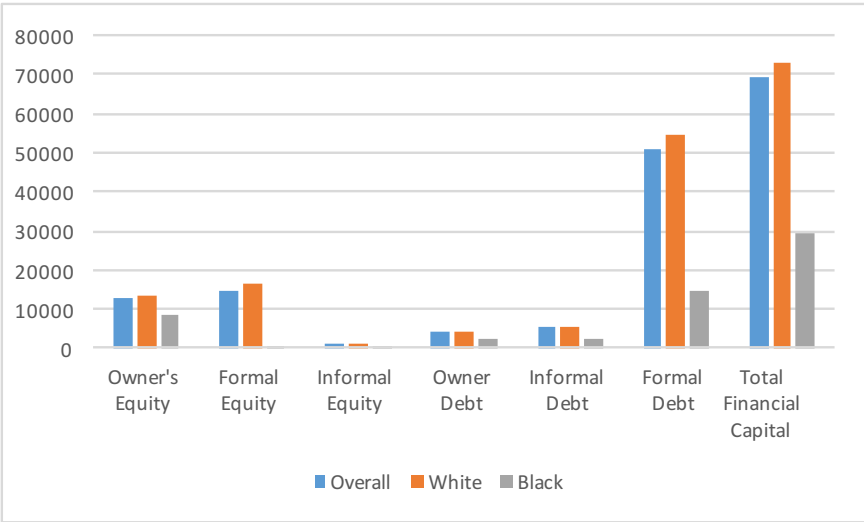**Figure 3:** Racial Differences in Sources of New Capital for Startups, Years 1-3

Figure 4: Racial Differences in the Evolution of Total Assets over Time
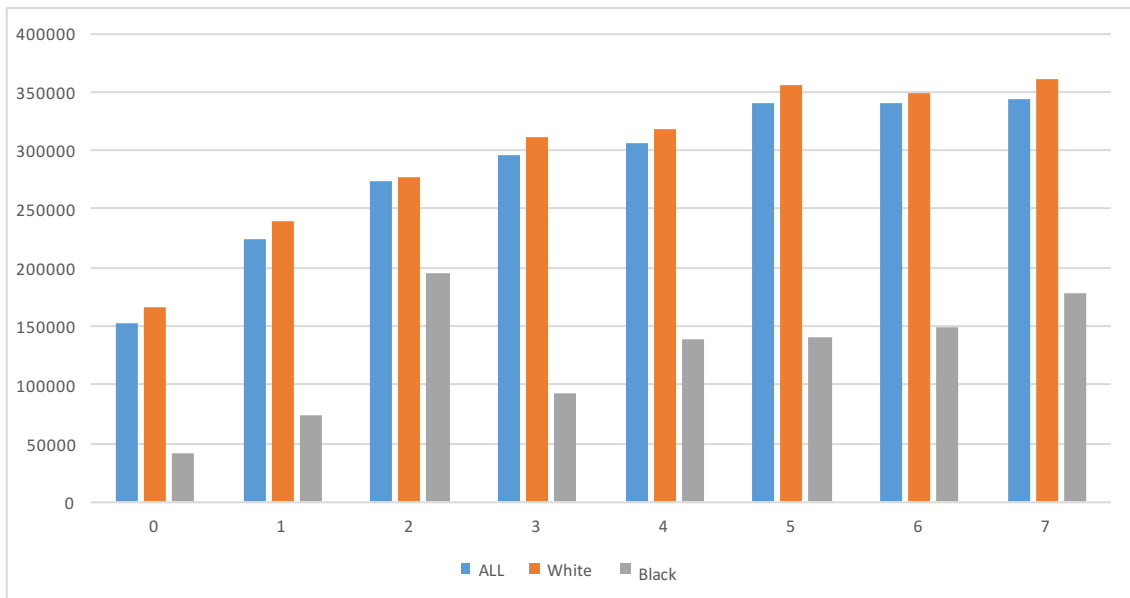
Table I: Racial Differences in Sources of Funding

This table reports survey-weighted mean values by race for broad funding categories. The components of the classifications (Owner, Insider, Outsider/Debt, Equity) are described in detail in Appendix Table A.1. The final column reports p-values from the t-test of the difference between black- and white-owned businesses.

	Overall Mean	White Mean	Black Mean	p-value(diff)
KFS Initial Survey Year				
Owner's Equity	33,078	34,426	19,562	0.00
Inside Equity	2,117	2,139	440	0.14
Outside Equity	16,768	18,543	536	0.10
Owner Debt	4,890	5,228	1,010	0.05
Inside Debt	6,663	7,195	2,849	0.17
Outside Debt	51,680	56,663	10,809	0.01
Total Financial Capital	99,344	106,720	35,205	0.00
Leverage Ratio	0.19	0.19	0.12	0.00
KFS Survey Years 1-3				
Owner's Equity	13,047	13,308	8,555	0.13
Outside Equity	14,864	16,499	551	0.07
Inside Equity	1,206	1,284	664	0.48
Owner Debt	4,200	4,336	2,297	0.15
Inside Debt	5,385	5,713	2,491	0.49
Outside Debt	51,147	54,813	14,883	0.19
Total Financial Capital	69,256	72,958	29,107	0.00
Leverage Ratio	0.29	0.30	0.21	0.00
KFS Survey Years 4-7				
Owner's Equity	8,327	7,944	4,678	0.42
Outside Equity	7,663	8,339	1,227	0.20
Inside Equity	1,037	1,047	254	0.63
Owner Debt	3,618	3,671	3,482	0.42
Inside Debt	4,898	5,176	979	0.21
Outside Debt	48,616	49,809	20,265	0.64
Total Financial Capital	58,684	59,825	27,348	0.54
Leverage Ratio	0.29	0.29	0.20	0.00

Table II: Initial Differences in Log Total Capital

This table models variation in the amount of total capital from all sources, include founder, insider and outside debt and equity. All columns include 2-digit NAICS industry fixed effects and controls for gender and other racial categories (Asian, Hispanic, and Other). Missing or negative net worth is the omitted category. Column (7) includes CBSA fixed effects, while Column (8) includes zipcode-level fixed effects. Survey weights are used in Columns (1)-(7), but not in Column (8). One, two and three asterisks denote statistical significance at the 10, 5 and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Black-owned Startup	-0.731***	-0.599***	-0.485***	-0.512***	-0.496***	-0.501***	-0.502***	-0.857***
	(0.113)	(0.111)	(0.110)	(0.109)	(0.111)	(0.102)	(0.114)	(0.330)
Credit Score		0.021***	0.020***	0.020***	0.020***	0.012***	0.012***	0.010***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)
Net Worth: Up to 50K			-0.517***	-0.498***	-0.504***	-0.313***	-0.288**	-0.465*
			(0.119)	(0.121)	(0.120)	(0.109)	(0.127)	(0.278)
Net Worth: 50-100K			-0.581***	-0.566***	-0.566***	-0.392***	-0.332**	-0.050
			(0.130)	(0.130)	(0.129)	(0.116)	(0.131)	(0.283)
Net Worth: 100-250K			-0.167	-0.151	-0.153	-0.061	-0.035	-0.167
			(0.108)	(0.108)	(0.108)	(0.103)	(0.114)	(0.241)
Net Worth: Over 250K			0.360***	0.332***	0.330***	0.277***	0.232**	0.099
			(0.100)	(0.102)	(0.101)	(0.095)	(0.104)	(0.186)
Previous Industry Experience				-0.007	-0.006	-0.006	-0.008*	-0.005
				(0.004)	(0.004)	(0.004)	(0.004)	(0.008)
Experience Outside Industry				0.001	0.002	0.011***	0.011***	0.012
				(0.004)	(0.004)	(0.003)	(0.004)	(0.008)
Some College				0.051	0.048	0.001	0.041	0.217
				(0.109)	(0.108)	(0.101)	(0.115)	(0.258)
College Deg.				0.113	0.096	0.002	0.023	0.009
				(0.121)	(0.120)	(0.115)	(0.128)	(0.276)
Grad. Deg.				0.306**	0.310**	0.139	0.182	0.028
				(0.140)	(0.139)	(0.131)	(0.143)	(0.288)
Prev. Startup Exp.				0.289***	0.264***	0.105	0.109	0.100
				(0.073)	(0.073)	(0.068)	(0.075)	(0.148)
Makes Product					0.344***	0.219***	0.211**	0.321**
					(0.083)	(0.076)	(0.085)	(0.162)
Intel. Property					0.216**	0.083	0.017	0.372**
					(0.091)	(0.081)	(0.090)	(0.173)
Home-based						-0.728***	-0.699***	-0.825***
						(0.075)	(0.082)	(0.167)
Part time Bus.						-0.821***	-0.861***	-0.854***
						(0.085)	(0.091)	(0.179)
Incorporated						0.658***	0.705***	0.506***
						(0.071)	(0.082)	(0.170)
Employment						0.060***	0.061***	0.045***
						(0.012)	(0.012)	(0.009)
Observations	4,124	4,038	4,038	3,975	3,975	3,840	3,590	1,214
R-squared	0.055	0.097	0.117	0.131	0.139	0.281	0.394	0.624

Table III: Initial Differences in Total Outside Debt

This table models variation in the log of the amount of total outside debt. All columns include 2-digit NAICS industry fixed effects and controls for gender and other racial categories (Asian, Hispanic, and Other). Missing or negative net worth is the omitted category. Column (7) includes CBSA fixed effects, while Column (8) includes zipcode-level fixed effects. Survey weights are used in Columns (1)-(7), but not in Column (8). One, two and three asterisks denote statistical significance at the 10, 5 and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Black-owned Startup	-0.654***	-0.544***	-0.442***	-0.438***	-0.419***	-0.431***	-0.417***	-0.922***
	(0.111)	(0.109)	(0.111)	(0.112)	(0.112)	(0.110)	(0.121)	(0.355)
Credit Score		0.019***	0.018***	0.018***	0.018***	0.013***	0.013***	0.011***
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.004)
Net Worth: Up to 50K			-0.406***	-0.377***	-0.380***	-0.247**	-0.216*	-0.171
			(0.121)	(0.122)	(0.122)	(0.119)	(0.129)	(0.299)
Net Worth: 50-100K			-0.296**	-0.273**	-0.268**	-0.133	-0.100	0.120
			(0.130)	(0.130)	(0.129)	(0.126)	(0.137)	(0.305)
Net Worth: 100-250K			-0.044	-0.029	-0.032	0.032	0.099	-0.245
			(0.125)	(0.125)	(0.126)	(0.124)	(0.137)	(0.260)
Net Worth: Over 250K			0.328***	0.305**	0.306**	0.258**	0.207*	0.150
			(0.117)	(0.121)	(0.120)	(0.119)	(0.125)	(0.201)
Previous Industry Experience				-0.003	-0.003	-0.004	-0.003	-0.006
				(0.005)	(0.005)	(0.005)	(0.005)	(0.009)
Experience Outside Industry				0.005	0.005	0.010**	0.011**	0.013
				(0.004)	(0.004)	(0.004)	(0.004)	(0.008)
Some College				0.069	0.072	0.032	0.101	-0.012
				(0.124)	(0.124)	(0.122)	(0.133)	(0.278)
College Deg.				0.048	0.045	-0.046	0.060	-0.124
				(0.136)	(0.136)	(0.136)	(0.147)	(0.297)
Grad. Deg.				0.318**	0.337**	0.208	0.263	-0.076
				(0.158)	(0.159)	(0.158)	(0.167)	(0.310)
Prev. Startup Exp.				0.229***	0.214***	0.093	0.133	-0.238
				(0.082)	(0.082)	(0.082)	(0.087)	(0.159)
Makes Product					0.337***	0.258***	0.206**	0.198
					(0.092)	(0.090)	(0.098)	(0.175)
Intel. Property					0.003	-0.125	-0.141	-0.130
					(0.101)	(0.097)	(0.103)	(0.187)
Home-based						-0.385***	-0.322***	-0.464**
						(0.083)	(0.090)	(0.180)
Part time Bus.						-0.326***	-0.368***	-0.659***
						(0.089)	(0.092)	(0.193)
Incorporated						0.460***	0.479***	0.249
						(0.083)	(0.093)	(0.183)
Employment						0.075***	0.072***	0.068***
						(0.013)	(0.012)	(0.010)
Observations	4,124	4,038	4,038	3,975	3,975	3,840	3,590	1,214
R-squared	0.032	0.064	0.074	0.082	0.086	0.155	0.310	0.585

Table IV: Initial Differences in Total Business Debt

This table models variation in the amount of total debt for the business. All columns include 2-digit NAICS industry fixed effects and controls for gender and other racial categories (Asian, Hispanic, and Other). Missing or negative net worth is the omitted category. Column (7) includes CBSA fixed effects, while Column (8) includes zipcode-level fixed effects. Survey weights are used in Columns (1)-(7), but not in Column (8). One, two and three asterisks denote statistical significance at the 10, 5 and 1% level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Black-owned Startup	-0.339***	-0.302***	-0.251***	-0.239***	-0.222***	-0.212***	-0.200***	-0.423*
	(0.044)	(0.044)	(0.045)	(0.047)	(0.047)	(0.048)	(0.055)	(0.218)
Credit Score		0.006***	0.006***	0.006***	0.006***	0.003**	0.004***	0.006**
		(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)
Net Worth: Up to 50K			-0.005	0.009	0.006	0.072	-0.018	0.146
			(0.079)	(0.079)	(0.079)	(0.079)	(0.073)	(0.184)
Net Worth: 50-100K			-0.074	-0.060	-0.055	0.005	-0.106*	-0.056
			(0.070)	(0.071)	(0.071)	(0.072)	(0.060)	(0.187)
Net Worth: 100-250K			-0.057	-0.045	-0.048	-0.005	-0.050	-0.179
			(0.074)	(0.073)	(0.074)	(0.075)	(0.077)	(0.159)
Net Worth: Over 250K			0.239***	0.235***	0.236***	0.210***	0.182**	0.141
			(0.079)	(0.082)	(0.081)	(0.081)	(0.083)	(0.123)
Previous Industry Experience				-0.002	-0.002	-0.003	-0.003	-0.003
				(0.003)	(0.003)	(0.003)	(0.003)	(0.006)
Experience Outside Industry				-0.001	-0.001	-0.000	-0.001	-0.001
				(0.002)	(0.002)	(0.002)	(0.002)	(0.005)
Some College				-0.119	-0.115	-0.144*	0.009	-0.219
				(0.076)	(0.075)	(0.075)	(0.075)	(0.170)
College Deg.				-0.033	-0.032	-0.082	0.100	-0.071
				(0.087)	(0.087)	(0.086)	(0.086)	(0.182)
Grad. Deg.				0.092	0.112	0.038	0.149	-0.059
				(0.105)	(0.105)	(0.105)	(0.096)	(0.190)
Prev. Startup Exp.				0.084*	0.074	0.012	0.024	-0.288***
				(0.051)	(0.050)	(0.050)	(0.051)	(0.097)
Makes Product					0.279***	0.243***	0.230***	0.217**
					(0.059)	(0.060)	(0.060)	(0.107)
Intel. Property					-0.050	-0.102*	-0.052	-0.190*
					(0.066)	(0.062)	(0.058)	(0.114)
Home-based						-0.190***	-0.127**	-0.117
						(0.048)	(0.051)	(0.110)
Part time Bus.						0.039	-0.013	-0.127
						(0.056)	(0.054)	(0.118)
Incorporated						0.144***	0.095*	-0.003
						(0.050)	(0.054)	(0.112)
Employment						0.056***	0.053***	0.069***
						(0.011)	(0.010)	(0.006)
Observations	4,124	4,038	4,038	3,975	3,975	3,840	3,590	1,214
R-squared	0.022	0.032	0.039	0.044	0.052	0.110	0.346	0.590

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Table V: Later-Stage Differences in Debt

This table models variation in the amount of total debt, outside debt, and business debt for the later survey years. The regression specifications mirror those in Column (6) of the previous three tables. All columns include industry fixed effects controls for gender and other racial categories and dummy variables for the survey years. Human capital controls include education, previous work experience and previous startup experience. Product characteristics control for whether the business sells a product or a service (or both), and whether it has intellectual property. Firm characteristics control for whether the business is fulltime or parttime, whether it is home-based, incorporated and has employees. Standard errors appear in parentheses below point estimates. One, two and three asterisks denote significance at the ten, five and one per cent level, respectively.

	Business Bank Debt		Total Outside Debt		Total Financial Capital	
	Years 1-3	Years 4-7	Years 1-3	Years 4-7	Years 1-3	Years 4-7
	(1)	(2)	(3)	(4)	(5)	(6)
Black-owned Startup	-0.163***	-0.084***	-0.260***	-0.122	-0.017	0.067
	(0.031)	(0.032)	(0.084)	(0.079)	(0.092)	(0.096)
Controls:						
Credit Score	Yes	Yes	Yes	Yes	Yes	Yes
Net Worth	Yes	Yes	Yes	Yes	Yes	Yes
Human Capital	Yes	Yes	Yes	Yes	Yes	Yes
Product Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey-Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,482	8,979	9,608	8,981	9,608	8,981
R-squared	0.157	0.124	0.135	0.139	0.051	0.046

Table VI: Racial Differences in Attitudes Towards Formal Debt

This table reports survey-weighted averages by racial group to questions in the KFS that capture attitudes and intentions with respect to borrowing. "Applied for a loan" is a dummy equaling one if the respondent applied for a loan, regardless of whether the loan was approved. "Did not apply for fear of rejection" is one for those borrowers who did not apply for a loan, but who did not only because they anticipated the loan being denied. "Loan Always Approved" is only available for those who applied for a loan: it is a dummy for whether the respondent received the full amount they were asking for, or whether sometimes their loans are denied or reduced in size. "Unmet Need" is 1 if the respondent either did not apply for fear of rejection, or else applied but did not always get the full amount. The column labeled Overall is for all respondents. The remaining columns split the sample on whether the respondent had below or above median credit score, or whether credit scores were above the 75th percentile of observed scores across the whole sample.

			Credit Score:		
		Overall	Below Median	Above Median	Above 75th
Applied for a Loan					
	White	0.1200	0.0838	0.1414	0.1617
	Black	0.0785	0.0752	0.0834	0.1125
Loan Always Approved					
	White	0.6826	0.6201	0.7038	0.7225
	Black	0.2240	0.1153	0.3862	0.2530
Did Not Apply For Fear of Rejection					
	White	0.1617	0.1666	0.1590	0.1497
	Black	0.4181	0.4746	0.3244	0.3228
Unmet Need					
	White	0.1633	0.1671	0.1611	0.1525
	Black	0.4295	0.4929	0.3246	0.3174

Table VII: Race and the Demand for Capital

This table provides a multivariate analysis of the relation between founder race and the demand for capital. In Panel A, the dependent variable is a dummy for whether the borrower did not apply for a loan for fear of denial. In Panel B, the dependent variable is a dummy for whether they applied but were denied credit or else received less than they asked for. Human capital controls include education, previous work experience and previous startup experience. Product characteristics control for whether the business sells a product or a service (or both), and whether it has intellectual property. Firm characteristics control for whether the business is fulltime or parttime, whether it is home-based, incorporated and has employees. Standard errors appear in parentheses below point estimates. One, two and three asterisks denote significance at the ten, five and one per cent level, respectively.

Panel A: Did Not Apply for Fear of Denial						
	(1)	(2)	(3)	(4)	(5)	(6)
Black-owned Startup	0.856***	0.798***	0.638***	0.621***	0.628***	0.617***
	(0.058)	(0.059)	(0.070)	(0.070)	(0.070)	(0.074)
Controls:						
Credit Score	No	Yes	Yes	Yes	Yes	Yes
Net Worth	No	No	Yes	Yes	Yes	Yes
Human Capital	No	No	No	Yes	Yes	Yes
Product Characteristics	No	No	No	No	Yes	Yes
Firm Characteristics	No	No	No	No	No	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey-Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	11,380	11,337	8,982	8,878	8,878	8,620

Panel B: Denied Credit or Received Less than Requested						
	(1)	(2)	(3)	(4)	(5)	(6)
Black-owned Startup	0.450***	0.432***	0.275**	0.288**	0.307**	0.292**
	(0.101)	(0.102)	(0.124)	(0.122)	(0.122)	(0.128)
Controls:						
Credit Score	No	Yes	Yes	Yes	Yes	Yes
Net Worth	No	No	Yes	Yes	Yes	Yes
Human Capital	No	No	No	Yes	Yes	Yes
Product Characteristics	No	No	No	No	Yes	Yes
Firm Characteristics	No	No	No	No	No	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey-Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,954	9,915	7,829	7,736	7,736	7,515

Table VIII: Past Borrowing and Credit Beliefs

This table explores the relation between prior loan balances and lack of access to capital by race. The dependent variable in the first two columns is a dummy variable for whether the respondent was afraid to apply for a loan for fear of denial. Column (1) includes all businesses that are not black-owned, while Column (2) focuses only on black-owned startups. In columns (3) and (4), the dependent variable is a dummy for whether the respondent reported that they were either denied credit or they received less than they asked for: again, the columns split the samples according to the race of the founder. Prior Accumulated Debt is the sum of all outside debt up through the previous survey round, in hundreds of thousands of dollars. Human capital controls include education, previous work experience and previous startup experience. Product characteristics control for whether the business sells a product or a service (or both), and whether it has intellectual property. Firm characteristics control for whether the business is fulltime or parttime, whether it is home-based, incorporated and has employees. Standard errors appear in parentheses below point estimates. One, two and three asterisks denote significance at the ten, five and one per cent level, respectively.

	Fear of Denial		Denied Credit	
	(1)	(2)	(3)	(4)
Prior Accumulated Debt	0.007***	-0.011*	0.007***	-0.005
	(0.002)	(0.007)	(0.002)	(0.004)
Controls:				
Credit Score	Yes	Yes	Yes	Yes
Net Worth	Yes	Yes	Yes	Yes
Human Capital	Yes	Yes	Yes	Yes
Product Characteristics	Yes	Yes	Yes	Yes
Firm Characteristics	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes
Survey-Year Dummies	Yes	Yes	Yes	Yes
Black-Owned Startup Sample	No	Yes	No	Yes
Observations	8,209	639	7,265	405

Table IX: Local Banking Conditions and Racial Differences in Access to Credit

Panel A reports Probit regressions in which the dependent variable is a dummy if the respondent answered yes to "Did Not Apply for Fear of Rejection" or if they reported that they did not always get the full amount they asked for. Panel B reports regressions (Pooled OLS with year dummies) in which the dependent variable is the natural log of total business debt. Local bank share is the share of total county-level deposits held by local banks. Standard errors in parentheses, with one, two and three asterisks denoting significance at the 10, 5 and 1percent level. Controls from Table IV included but not shown.

Panel A: Dependent variable is Did Not Apply for Fear of Denial						
	(1)	(2)	(3)	(4)	(5)	(6)
Black-Owned Startup	0.820***	0.815***	0.794***	0.621***	0.618***	0.591***
	(0.066)	(0.066)	(0.086)	(0.070)	(0.070)	(0.091)
Local Bank Share		-0.306***	-0.321***		-0.241**	-0.262**
		(0.116)	(0.121)		(0.120)	(0.127)
Local Bank Share × Black			0.146			0.192
			(0.407)			(0.414)
Credit Score	No	No	No	Yes	Yes	Yes
Net Worth	No	No	No	Yes	Yes	Yes
Human Capital	Yes	Yes	Yes	Yes	Yes	Yes
Product Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey-Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,433	8,424	8,424	8,412	8,403	8,403

Panel B: Dependent variable is log Business Bank Debt						
	(1)	(2)	(3)	(4)	(5)	(6)
Black-Owned Startup	-0.206***	-0.199***	-0.148***	-0.133***	-0.125***	-0.082***
	(0.019)	(0.019)	(0.024)	(0.020)	(0.020)	(0.025)
Local Bank Share		0.327***	0.352***		0.328***	0.350***
		(0.059)	(0.063)		(0.060)	(0.063)
Local Bank Share × Black			-0.360***			-0.309**
			(0.128)			(0.130)
Credit Score	No	No	No	Yes	Yes	Yes
Net Worth	No	No	No	Yes	Yes	Yes
Human Capital	Yes	Yes	Yes	Yes	Yes	Yes
Product Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Firm Characteristics	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Survey-Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	21,677	21,648	21,648	21,441	21,412	21,412
R-squared	0.015	0.017	0.017	0.023	0.025	0.025

Table X: Historical Inequality and Racial Bias

Panel A reports regressions (Pooled OLS with year dummies) in which the dependent variable is a dummy equaling one if the respondent answered yes to "Did Not Apply for Fear of Rejection." The dependent variable in Panel B is a dummy equaling one if they reported that they did not always get the full amount they asked for. Regional Historical Gini is the gini coefficient of the MSA in 1890; data from Braggion, Dwarkasing, and Ongena (2015). In each panel a constant is estimated but suppressed for brevity. Standard errors in parentheses, with one, two and three asterisks denoting significance at the 10, 5 and 1percent level. Controls from Table IV included but not shown.

Panel A: Dependent Variable is Did Not Apply For Fear of Denial

Black	0.8141***	0.7514***	0.2008	0.7605***	0.7022***	0.1819
	(0.058)	(0.061)	(0.276)	(0.059)	(0.061)	(0.274)
Historical Inequality		0.5565***	0.4507***		0.6057***	0.5056***
		(0.159)	(0.166)		(0.159)	(0.166)
Gini × Minority			1.1465**			1.0848*
			(0.568)			(0.563)
Credit Score				-0.0035***	-0.0032***	-0.0032***
				(0.001)	(0.001)	(0.001)
Constant	-1.0867***	-1.3712***	-1.3198***	-0.9541***	-1.2731***	-1.2252***
	(0.097)	(0.133)	(0.135)	(0.099)	(0.135)	(0.137)
Observations	11,247	9,436	9,436	11,204	9,396	9,396

Panel B: Dependent variable is Unmet Capital Need

	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.8323***	0.7622***	0.1579	0.7808***	0.7165***	0.1405
	(0.058)	(0.060)	(0.275)	(0.059)	(0.061)	(0.273)
Historical Inequality		0.5762***	0.4609***		0.6239***	0.5139***
		(0.157)	(0.164)		(0.157)	(0.165)
Gini × Minority			1.2586**			1.2012**
			(0.566)			(0.560)
Credit Score				-0.0034***	-0.0030***	-0.0030***
				(0.001)	(0.001)	(0.001)
Constant	-1.0384***	-1.3343***	-1.2784***	-0.9091***	-1.2429***	-1.1903***
	(0.096)	(0.132)	(0.134)	(0.098)	(0.134)	(0.136)
Observations	11,249	9,437	9,437	11,206	9,397	9,397

Table XI: Attitudes towards Interracial Marriage and Access to Capital

Panel A reports regressions (Pooled OLS with year dummies) in which the dependent variable is a dummy equaling one if the respondent answered yes to "Did Not Apply for Fear of Rejection." The dependent variable in Panel B is a dummy equaling one if they reported that they did not always get the full amount they asked for. "Interracial Marriage" is the state level percentage of black married persons who have white marital partners, scaled by the proportion of white married persons in the state. In each panel a constant is estimated but suppressed for brevity. Standard errors in parentheses, with one, two and three asterisks denoting significance at the 10, 5 and 1percent level. Controls from Table IV included but not shown.

Panel A: Dependent Variable is Did Not Apply For Fear of Denial

	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.8141***	0.8105***	1.0072***	0.7605***	0.7559***	0.9670***
	(0.058)	(0.059)	(0.101)	(0.059)	(0.060)	(0.102)
Interracial Marriage		0.2741	0.3860*		0.2895	0.4099*
		(0.207)	(0.210)		(0.210)	(0.213)
Black× Interracial			-2.3124**			-2.4790**
			(0.982)			(0.983)
Credit Score				-0.0035***	-0.0036***	-0.0036***
				(0.001)	(0.001)	(0.001)
Constant	-1.0867***	-1.0932***	-1.1125***	-0.9541***	-0.9596***	-0.9802***
	(0.097)	(0.101)	(0.102)	(0.099)	(0.103)	(0.104)
Observations	11,247	10,830	10,830	11,204	10,787	10,787

Panel B: Dependent variable is Unmet Capital Need

	(1)	(2)	(3)	(4)	(5)	(6)
Black	0.8323***	0.8370***	1.0509***	0.7808***	0.7848***	1.0139***
	(0.058)	(0.059)	(0.101)	(0.059)	(0.060)	(0.102)
Interracial Marriage		0.4813**	0.6007***		0.5034**	0.6315***
		(0.207)	(0.210)		(0.210)	(0.213)
Black× Interracial			-2.5134**			-2.6890***
			(0.981)			(0.982)
Credit Score				-0.0034***	-0.0035***	-0.0035***
				(0.001)	(0.001)	(0.001)
Constant	-1.0384***	-1.0696***	-1.0906***	-0.9091***	-0.9403***	-0.9627***
	(0.096)	(0.100)	(0.100)	(0.098)	(0.102)	(0.103)
Observations	11,249	10,832	10,832	11,206	10,789	10,789

Table XII: Oaxaca-Blinder Decompositions of Business Size

This table presents Oaxaca-Blinder decompositions of size differences in businesses in the final survey year based on whether or not the founder is black. The upper panel reports differences in the mean values of black-owned and white-owned size, expressed both in dollars and in log size. The bottom panel decomposes the mean difference into amounts explained by each set of independent variables. Human capital controls include education, previous work experience and previous startup experience. Business characteristics control for whether the business sells a product or a service (or both), whether it has intellectual property, and whether the business is fulltime or parttime, whether it is home-based, incorporated and has employees.

	(1)	(2)
Average Business Size, 2011:	Dollar Value	Log(Size)
White-Owned	$533,726.05	11.693
Black-Owned	$197,634.84	10.845
Difference	$336,091.21	0.848

	(1)	(2)
Explanatory Components:	Dollar Value	Log(Size)
Race and Gender	$5,459.03	0.047
Human Capital	$40,695.11	0.059
Business Characteristics	$4,966.81	0.119
Business Credit Score	$51,105.07	0.175
Founder Net Worth	$59,158.65	0.097
Total Explained	$161,384.67	0.5510

A Appendix

This appendix presents information on financing, and racial differences in owner and business characteristics in the KFS.

Table A.1 describes the detailed financing choices in the founding year for the firms in our sample (2004). The detailed sources are grouped into six broad categories, based on the source of the capital and the type of capital following Robb and Robinson (2014). These are (owner, informal, formal)×(debt, equity). The first column, labelled "Full KFS", includes all 4,928 firms in the Kauffman Firm Survey. For some of these firms, it cannot be verified that they either went out of business or remain in operations, therefore in the remaining columns we include 3,972 firms that either survived over the followup years 1-3 period or were verified as going out of business over the same period. This Column is labelled "Analysis Sample." These two columns report means that include firms with $0 amounts of a particular source of capital. The third column, labelled "Mean if > 0" reports the mean, in dollars, for only firms with positive amounts of that source of funding. The number of respondents reporting a positive amount of each source of funding is reported in the final column.

Table A.2 provides summary statistics for key variables based on the race of the firm owner.

Table A.1: Detailed Sources of Financing for All Startups in the KFS

Category	Funding Source	Full KFS	Analysis Sample	Mean if > 0	Count
Owner Equity		33,640	31,734	40,536	3,093
Total Owner Debt:		4,952	5,037	15,765	1,241
	Personal Credit Card balance, owner	2,812	2,811	9,375	1,158
	Personal Credit Card balance, others	1,906	238	7,415	132
	Personal loan, other owners	235	1,989	124,124	67
Total Insider Equity:		2,221	2,102	44,956	177
	Spouse equity	524	646	40,436	62
	Parent equity	1,697	1,456	42,509	126
Total Insider Debt:		7,257	6,362	47,873	480
	Family loan	2,760	2,749	29,232	327
	Family loan to other owners	1,719	284	34,509	29
	Personal loan to other owners	272	550	28,988	73
	Other personal loans	649	924	81,452	45
	Business loan by family	1,156	1,760	57,207	115
	Business loan by owner	635	15	9,411	5
	Business loan by other employees	52	79	22,198	9
Total Outsider Equity:		19,257	15,935	354,540	205
	Angels and other investors	5,148	6,350	244,707	110
	Business equity	6,621	3,645	321,351	56
	Govt. equity	5,242	798	146,624	27
	VC equity	701	4,804	1,162,898	26
	Other equity	1,546	337	187,046	8
Total Outsider Debt:		50,130	47,847	128,706	1,439
	Personal bank loan	18,031	15,859	92,433	641
	Owner business credit card	16,213	1,009	7,107	543
	Personal bank loan by other owners	5,017	1,859	80,650	92
	Business credit card	4,227	812	6,976	452
	Other Business credit cards	2,275	135	7,852	62
	Business bank loans	1,591	17,075	261,358	243
	Credit line balance	1,030	5,057	95,058	210
	Nonbank business loan	133	3,627	214,920	72
	Business loan from Govt.	857	1,331	154,743	34
	Other business loan	241	231	78,281	19
	Other individual loan	206	226	43,202	22
	Other debt	308	626	119,493	22
Total Financial Capital		117,458	109,016	121,981	3,536

	Overall Mean	White Mean	Black Mean	p-value(diff)
KFS Initial Survey Year				
Female	0.31	0.30	0.36	0.00
Yrs. Work Experience	11.70	11.88	9.91	0.00
Yrs. Non-Work Experience	13.54	13.57	13.23	0.21
Previous Startup Experience	0.43	0.43	0.38	0.45
Attended Some College	0.36	0.36	0.48	0.00
Graduated College	0.30	0.31	0.24	0.05
Graduate Degree	0.17	0.18	0.16	0.54
Credit Score	35.99	36.50	30.47	0.00
KFS Survey Years 1-3				
Female	0.30	0.29	0.35	0.00
Yrs. Work Experience	12.07	12.25	10.11	0.00
Yrs. Non-Work Experience	13.30	13.33	13.06	0.09
Previous Startup Experience	0.43	0.44	0.38	0.43
Attended Some College	0.36	0.36	0.48	0.00
Graduated College	0.31	0.32	0.26	0.00
Graduate Degree	0.18	0.19	0.16	1.00
Credit Score	41.39	42.27	32.28	0.00
KFS Survey Years 4-7				
Female	0.30	0.29	0.36	0.00
Yrs. Work Experience	12.70	12.84	11.12	0.00
Yrs. Non-Work Experience	12.73	12.76	12.35	0.21
Previous Startup Experience	0.44	0.44	0.40	0.43
Attended Some College	0.35	0.35	0.47	0.00
Graduated College	0.33	0.34	0.26	0.00
Graduate Degree	0.19	0.20	0.16	0.49
Credit Score	52.88	54.51	35.80	0.00
Net Worth: Neg. or Zero	0.07	0.06	0.18	0.00
Net Worth: $1-50,000	0.15	0.13	0.30	0.00
Net Worth: $51,000-100,000	0.14	0.14	0.16	0.01
Net Worth: $100,001-250,000	0.18	0.19	0.13	0.00
Net Worth: $250,000+	0.39	0.42	0.16	0.00
Net Worth: Missing	0.07	0.07	0.08	0.23

Table A.3: Summary Statistics on Key Firm and Founder Characteristics

Variable	Group	Survey Wave:							
		0	1	2	3	4	5	6	7
% Black		9.1	8.8	9.0	8.4	8.1	7.9	8.4	8.4
% Survived	ALL	100	91	78	65	60	54	48	45
		(0.0)	(0.5)	(0.8)	(0.9)	(0.9)	(0.9)	(0.9)	(0.9)
	White	100	91	79	66	61	55	49	45
		(0.0)	(0.6)	(0.8)	(1.0)	(1.0)	(1.0)	(1.0)	(0.9)
	Black	100	88	73	56	50	45	42	40
		(0.0)	(2.2)	(3.0)	(3.4)	(3.3)	(3.2)	(3.1)	(3.0)
Total Assets	ALL	152917	223911	274108	296380	306185	340459	340769	343096
		(12797)	(17935)	(22636)	(26416)	(27481)	(30976)	(31799)	(31094)
	White	166211	239464	277122	311040	318626	356439	348634	360265
		(14269)	(19894)	(23123)	(28931)	(30178)	(33909)	(33568)	(34125)
	Black	40942	74559	194978	93689	139103	141007	148748	177364
		(10372)	(16548)	(82296)	(22010)	(40682)	(50197)	(43440)	(63926)
Outside Debt	ALL	51847	48261	55766	49380	46340	53783	48539	40157
		(4779)	(6652)	(14600)	(7768)	(6008)	(7523)	(9049)	(5703)
	White	56663	52368	59274	52669	45360	56523	48735	42657
		(5336)	(7430)	(16317)	(8614)	(5392)	(8303)	(9877)	(6331)
	Black	10809	14425	17053	12637	17301	17447	31149	15557
		(2611)	(3648)	(4406)	(3300)	(4109)	(5366)	(16485)	(5992)
Outside Equity	ALL	16619	19978	12666	10523	4847	11263	6512	8196
		(3369)	(5369)	(5174)	(5360)	(1399)	(6378)	(2638)	(3581)
	White	18543	22116	14159	11660	5330	12419	6880	8858
		(3772)	(6007)	(5796)	(5981)	(1557)	(7084)	(2942)	(3994)
	Black	536	604	206	912	164	678	1628	2672
		(300)	(275)	(106)	(752)	(164)	(666)	(1601)	(2589)
Total Financing	ALL	115233	96546	90549	79693	70293	84940	69914	64108
		(7102)	(10098)	(16471)	(10893)	(7002)	(11458)	(10752)	(8745)
	White	124195	103653	96096	85164	69169	89334	70518	67081
		(7898)	(11273)	(18394)	(12104)	(6602)	(12644)	(11724)	(9707)
	Black	35205	34462	29033	22647	32194	26015	39460	25566
		(6002)	(5245)	(5187)	(3950)	(7344)	(6026)	(16755)	(6751)
% Have Out. Debt	ALL	37.5	42.4	43.8	42.6	42.2	40.3	35.5	34.0
		(0.9)	(1.0)	(1.1)	(1.2)	(1.2)	(1.2)	(1.3)	(1.3)
	White	38.5	42.9	44.6	43.4	43.0	40.6	36.2	34.7
		(0.9)	(1.0)	(1.1)	(1.2)	(1.3)	(1.3)	(1.3)	(1.3)
	Black	29.4	37.7	37.7	36.9	35.1	35.4	28.3	28.2
		(2.7)	(3.4)	(3.7)	(4.3)	(4.3)	(4.7)	(4.2)	(4.4)
% Out. Debt Ratio (Out. Debt$\geq$0)	ALL	49.4	63.1	69.5	71.2	72.7	73.6	77.5	75.8
		(0.9)	(1.0)	(1.0)	(1.2)	(1.2)	(1.3)	(1.3)	(1.5)
	White	50.1	64.2	70.1	72.5	73.6	73.7	78.3	77.3
		(1.0)	(1.1)	(1.1)	(1.2)	(1.2)	(1.3)	(1.4)	(1.5)
	Black	41.8	52.4	61.5	55.2	62.6	66.6	66.0	58.7
		(3.1)	(4.0)	(3.4)	(5.1)	(4.8)	(5.5)	(6.5)	(6.3)

	(1)	(2)	(3)	(4
VARIABLES	survive	survive	survive	netpro
black	-0.199***	-0.014	0.038**	-53,72
	(0.035)	(0.037)	(0.018)	(48,30
score		0.011***	0.002***	
		(0.000)	(0.000)	
Constant	-0.109***	-0.643***		2,399
	(0.023)	(0.030)		(5,367
Observations	28,527	28,309	30,608	23,1
R-squared			0.609	0.0

Standard errors in paren

*** p<0.01, ** p<0.05, *

Racial Differences in Profitability and Survival

This table reports survey-weighted mean values by race for dummy variables that track the use of particular types of credit, as well as for mean values of these sources of credit. The final column reports p-values from the t-test of the difference between black- and white-owned businesses. The first block of numbers for each year range ("Uses") reports the proportion of the sample that indicates they use that form of debt. The lower block of numbers for each year range (indicated with $) reports the average dollar amounts for that funding category.

	Overall	White Mean	Black Mean	p-value(diff)
KFS Initial Survey Year				
Uses Personal Credit Cards	0.48	0.49	0.34	0.00
Uses Personal Bank Loan	0.18	0.18	0.14	0.01
Uses Business Credit Cards	0.28	0.30	0.15	0.00
Uses Loans from Family Members	0.10	0.09	0.14	0.00
Uses Business Bank Loans	0.06	0.07	0.01	0.00
Personal Bank Loan ($)	13,660	14,497	6,971	0.04
Personal Loans from Fam. ($)	2,465	2,571	1,801	0.36
Personal Loans, Other Sources ($)	4,360	4,659	2,161	0.24
Business Bank Loan ($)	9,540	10,551	1,106	0.03
Business Non-bank Loans ($)	5,510	6,035	866	0.06
KFS Survey Years 1-3				
Uses Personal Credit Cards	0.38	0.38	0.35	0.84
Uses Personal Bank Loan	0.13	0.13	0.08	0.01
Uses Business Credit Cards	0.42	0.43	0.32	0.00
Uses Loans from Family Members	0.07	0.07	0.12	0.00
Uses Business Bank Loans	0.06	0.06	0.03	0.02
Personal Bank Loan ($)	7,992	8,228	4,171	0.05
Personal Loans from Fam. ($)	1,454	1,491	1,323	0.17
Personal Loans, Other Sources ($)	1,999	2,070	1,451	0.60
Business Bank Loan ($)	5,039	5,589	625	0.01
Business Non-bank Loans ($)	2,933	3,085	742	0.08
KFS Survey Years 4-7				
Uses Personal Credit Cards	0.33	0.33	0.30	0.23
Uses Personal Bank Loan	0.08	0.09	0.05	0.08
Uses Business Credit Cards	0.41	0.43	0.27	0.00
Uses Loans from Family Members	0.06	0.06	0.08	0.00
Uses Business Bank Loans	0.05	0.05	0.02	0.08
Personal Bank Loan ($)	2,523	2,719	635	0.04
Personal Loans from Fam. ($)	677	702	298	0.34
Personal Loans, Other Sources ($)	944	973	343	0.58
Business Bank Loan ($)	2,589	2,624	1,392	0.25
Business Non-bank Loans ($)	1,484	1,507	521	0.43

Table A.5: Later Stage Differences in Access to Capital with Zipcode Fixed Effects

VARIABLES	(1) 2005-2007	(2) 2008-2011	(3) 2005-2007	(4) 2008-2011	(5) 2005-2007	(6) 2008-2011
Black	-0.317**	-0.265*	-0.462**	-0.511**	0.120	-0.473*
	(0.133)	(0.151)	(0.211)	(0.225)	(0.226)	(0.244)
Asian	-0.121	0.075	-0.302	-0.810***	0.154	-0.068
	(0.160)	(0.174)	(0.255)	(0.260)	(0.269)	(0.279)
Hispanic	-0.296**	0.116	-0.439**	0.291	0.097	0.417
	(0.140)	(0.167)	(0.223)	(0.249)	(0.238)	(0.267)
Other	0.064	-0.376	-1.276***	-0.773**	-0.707**	-0.084
	(0.198)	(0.263)	(0.316)	(0.392)	(0.337)	(0.431)
Female	-0.207***	-0.107	-0.139	-0.127	-0.178	-0.265**
	(0.073)	(0.084)	(0.117)	(0.125)	(0.124)	(0.135)
Previous Industry Experience	-0.001	0.004	0.002	-0.009	0.011*	-0.003
	(0.003)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)
Experience Outside Industry	-0.000	-0.003	0.015***	0.004	0.019***	0.013**
	(0.003)	(0.004)	(0.005)	(0.006)	(0.005)	(0.006)
Some College	0.113	0.182	0.156	0.109	0.229	-0.046
	(0.111)	(0.137)	(0.176)	(0.205)	(0.187)	(0.220)
College Deg.	0.025	0.020	0.061	-0.303	0.209	-0.325
	(0.118)	(0.146)	(0.188)	(0.217)	(0.200)	(0.233)
Grad. Deg.	-0.042	-0.029	-0.027	-0.239	0.146	-0.305
	(0.123)	(0.148)	(0.195)	(0.222)	(0.208)	(0.238)
Prev. Startup Exp.	-0.088	0.035	0.178*	0.262**	0.188*	0.174
	(0.060)	(0.068)	(0.096)	(0.102)	(0.102)	(0.110)
Makes Product	0.080*	-0.009	0.204***	-0.002	0.364***	0.109
	(0.044)	(0.046)	(0.070)	(0.068)	(0.074)	(0.073)
Intel. Property	0.028	-0.028	0.156**	0.145**	0.481***	0.203***
	(0.045)	(0.049)	(0.072)	(0.073)	(0.076)	(0.078)
Home-based	-0.086	-0.167**	-0.421***	-0.575***	-0.832***	-0.885***
	(0.059)	(0.066)	(0.094)	(0.099)	(0.100)	(0.106)
Part time Bus.	-0.121	0.084	-0.743***	0.088	-0.614***	-0.208
	(0.074)	(0.083)	(0.118)	(0.124)	(0.125)	(0.133)
Incorporated	-0.029	0.037	0.340***	0.367***	0.390***	0.247**
	(0.063)	(0.073)	(0.100)	(0.109)	(0.106)	(0.117)
Employment	0.008***	0.013***	0.009***	0.008**	0.008***	0.009**
	(0.001)	(0.002)	(0.002)	(0.003)	(0.002)	(0.004)
Credit Score	0.002**	0.002*	0.003**	0.006***	0.001	0.003*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
Observations	7,903	7,819	7,903	7,819	7,736	7,790
R-squared	0.531	0.501	0.640	0.659	0.650	0.661

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table A.6: Local Banking Conditions and Racial Bias

Panel A reports regressions (Pooled OLS with year dummies) in which the dependent variable is the natural log of total business debt. Panel B reports Probit regressions in which the dependent variable is a dummy if the respondent had unmet capital needs, which is true if the respondent answered yes to "Did Not Apply for Fear of Rejection" or if they reported that they did not always get the full amount they asked for. Local bank share is the share of total county-level deposits held by local banks. Local bank herfindahl is the herfindahl of local banks at the county level computed using deposits. Standard errors in parentheses, with one, two and three asterisks denoting significance at the 10, 5 and 1percent level. Controls from Table IV included but not shown.

Panel A: Dependent variable is Did Not Apply for Fear of Denial

	(1)	(2)	(3)	(4)	(5)
Black-owned Startup	0.7605***	0.7571***	0.7238***	0.7117***	0.5778***
	(0.059)	(0.059)	(0.077)	(0.078)	(0.128)
Local Bank Share		-0.2623**	-0.2881***	-0.2594**	-0.2557**
		(0.105)	(0.111)	(0.115)	(0.116)
Local Bank Share × Minority			0.2358	0.3086	0.1578
			(0.366)	(0.381)	(0.387)
Local Bank Herfindahl				-0.5995***	-0.6727***
				(0.191)	(0.203)
Bank Conc. × Minority					0.9212
					(0.706)
Credit Score	-0.0035***	-0.0035***	-0.0035***	-0.0035***	-0.0035***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	11,204	11,193	11,193	11,193	11,193

Panel B: Dependent variable is Log(Business Debt)

	(1)	(2)	(3)	(4)	(5)
Black-owned Startup	-0.1604***	-0.1527***	-0.1071***	-0.1044***	-0.0241
	(0.020)	(0.020)	(0.025)	(0.025)	(0.037)
Local Bank Share		0.3285***	0.3508***	0.3354***	0.3333***
		(0.060)	(0.063)	(0.064)	(0.064)
Local Bank Share × Minority			-0.3260**	-0.3357**	-0.2801**
			(0.131)	(0.132)	(0.132)
Local Bank Herfindahl				0.2481**	0.2798***
				(0.101)	(0.107)
Bank Conc. × Minority					-0.5215***
					(0.159)
Credit Score	0.0038***	0.0038***	0.0038***	0.0037***	0.0038***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Observations	21,441	21,412	21,412	21,412	21,412
R-squared	0.020	0.022	0.022	0.023	0.023