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# Tracing Access to Financial Capital among African-Americans From the Entrepreneurial Venture to the Established Business

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## 1. Introduction

The differences between African-American business ownership rates and white business ownership rates are striking. Estimates from the 2000 Census indicate that 11.8 percent of white workers are self-employed business owners, compared with only 4.8 percent of black workers. Furthermore, black-white differences in business ownership rates have remained roughly constant during most of the 20th century (Fairlie and Meyer 2000). In addition to lower rates of business ownership, black-owned businesses are less successful on average than are white or Asian firms. In particular, black-owned businesses have lower sales, hire fewer employees, and have smaller payrolls than white- or Asian-owned businesses, on average (U.S. Census Bureau 2001; U.S. Small Business Administration 2001). Black firms also have lower profits and higher closure rates than white firms (U.S. Census Bureau 1997, U.S. Small Business Administration 1999). For most outcomes, the disparities are extremely large. For example, estimates from the 2002 Survey of Business Owners (SBO) indicate that white firms have average sales of $440,882 compared with only $77,364 for black firms.

The relative absence and underperformance of black-owned businesses in the United States is a major concern among policymakers. Although controversial, there exist a large number of federal, state, and local government programs providing set-asides and loans to minorities, women, and other disadvantaged groups.[1] In addition, many states and the federal government are promoting self-employment as a way for families to leave the welfare and unemployment insurance rolls (Vroman 1997; Kosanovich et al. 2001**;** Guy, Doolittle, and Fink 1991; and Raheim 1997). The interest in entrepreneurship and business development programs has been spurred by arguments from academicians and policymakers that entrepreneurship provides a route out of poverty and an alternative to unemployment.[2] It has been argued, for example, that the economic success of several immigrant groups in the United States is in part due to their

[1] See Bates (1993a) for a description of programs promoting self-employment among minorities.
[2] See Glazer and Moynihan (1970), Light (1972, 1979), Sowell (1981), and Moore (1983).

ownership of small businesses (Loewen 1971; Light 1972; Baron et al. 1975; Bonacich and Modell 1980; and Min 1996).

Stimulating minority business creation in sectors with high growth potential (e.g., construction, wholesale trade, and business services) may also represent an effective public policy for promoting economic development and job creation in poor neighborhoods (Bates 1993b). Minority firms hired more than 4.2 million employees in the United States, with a disproportionate share of them being minorities (U.S. Census Bureau 1997, 2001). Self-employed business owners are also unique in that they create jobs for themselves. Finally, business ownership is the main alternative to wage/salary employment for making a living, and thus has important implications for earnings and wealth inequality. Both black and white entrepreneurs are found to have more upward mobility and less downward mobility in the wealth distribution than wage/salary workers (Bradford 2003).

Previous research on the low levels of business ownership and relative underperfomance of black-owned businesses found that relatively low levels of education, assets, and parental self-employment were partly responsible (see Bates 1997, Fairlie 1999, and Hout and Rosen 2000 for a few recent examples). The lack of success among black-owned business relative to white-owned businesses in terms of higher rates of business closure, lower sales and profits, and less employment has been linked to low levels of startup capital, education, and business human capital and disadvantaged family business backgrounds (Bates 1997, Fairlie and Robb 2005). Although previous research provides explanations for low rates of black entrepreneurship and worse outcomes among black firms, previous studies have not have not traced out the relationship between wealth and access to financial capital and the life of the African-American-owned business from the startup stage through the more established business. The key questions addressed are: First, do low levels of black personal wealth limit the formation of new businesses? Second, are blacks investing smaller amounts of capital in the new businesses that are created? Third, among those businesses that are created are lower levels of startup capital

resulting in less successful black-owned businesses relative to white-owned businesses? Finally, do established black-owned businesses have difficulty obtaining financial capital to weather economic downturns, changes in consumer demand, and expansion?

**2. Data**

To address these questions, we conduct an extensive analysis of data from several sources including the confidential and restricted-access Characteristics of Business Owners (CBO), the Survey of Small Business Finances (SSBF), Survey of Minority Owned Businesses (SMOBE), SBO, the Current Population Survey (CPS), the Panel Study of Income Dynamics (PSID), and published estimates from the Survey of Income and Program Participation (SIPP), and published data from the CBO.

The 1992 CBO survey was conducted by the U.S. Bureau of the Census to provide economic, demographic, and sociological data on business owners and their business activities (see U.S. Census Bureau 1997; Bates 1990a; Headd 1999; and Robb 2000 for more details on the CBO). The CBO is unique in that it contains detailed information on both the characteristics of business owners and the characteristics of their businesses. For example, owner characteristics include education, detailed work experience, hours worked in the business, and how the business was acquired, and business characteristics include profits, sales, employment, and industry. Most business characteristics refer to 1992, with the main exception being closure which is measured over the period 1992 to 1996. Important for this analysis, the CBO contains information on business inheritances, business ownership among family members, and prior work experience in a family member's business and a large oversample of black-owned businesses.

The SSBF is a survey of small businesses in the United States, conducted about every five years (1987, 1993, and 1998, 2003). The most recent data available is from the 1998 SSBF, which collected data for fiscal year 1998 for a nationally representative sample of more than

3,500 for-profit, nongovernmental, nonagricultural businesses with fewer than 500 employees[3]. A wealth of information is available from these data, including many firm and owner characteristics, firm and owner credit histories, the firm's recent borrowing experiences, balance sheet data, and the frequency and sources of financial products and services used. For more information on this survey, see Bitler, Robb, and Wolken (2001) (at *www.federalreserve.gov*). Our analysis of established businesses will rely heavily upon this dataset.

The SBO is conducted by the U.S. Census Bureau every five years to collect statistics that describe the composition of U.S. businesses by gender, race, and ethnicity. This survey was previously conducted as the Survey of Minority- and Women-Owned Business Enterprises (SMOBE/SWOBE). Data are compiled from several sources: IRS business tax returns; other Economic Census reports (e.g., Annual Survey of Manufacturers; Annual Retail Trade Survey); Social Security information on race and Hispanic or Latino origin; and a mail-out/mail-back survey. The universe for the most recent survey is all firms operating during 2002 with receipts of $1,000 or more that filed tax forms as individual proprietorships, partnerships, or any type of corporation.[4] The SBO provides statistics that describe the composition of U.S. businesses by gender, race, and ethnicity. Additional statistics include owner's age, education level, veteran status, and primary function in the business; family- and home-based businesses; types of customers and workers; and sources of financing for expansion, capital improvements, or start-up. Economic policymakers in federal, state, and local governments use the SBO data to understand conditions of business success and failure by comparing census-to-census changes in business performances and by comparing minority-/nonminority- and women-/men-owned businesses.

[3] The 2003 data are expected to be released in the fall of 2006.
[4] Sole proprietorships complete a 1040C form, partnerships complete a 1065 form, S corporations complete a 1120S form, and C corporations complete a 1120 form.

The Current Population Survey (CPS) is a monthly survey of approximately 50,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics. Some of the items this survey covers are: employment, unemployment, earnings, educational attainment, income, poverty, health insurance coverage, job experience and tenure, and school enrollment. Self-employed business owners can be identified from the class of worker information from their main job activity.

We also show results from other research that uses the PSID, which is a longitudinal study of a representative sample of U.S. individuals (men, women, and children) and the family units in which they reside and the SIPP, a continuous series of national panels that collects source and amount of income, labor force information, program participation and eligibility data, and general demographic characteristics.

**3. Black/White Disparities in Business Ownership and Outcomes**

We first report and discuss African-American business ownership rates and business outcomes. We make comparisons to white, non-Latinos and additional major ethnic and racial groups for perspective. Microdata from the 2004 Outgoing Rotation Group File to the CPS are used for this analysis. These are the latest available national data on business ownership in the United States. Estimates of self-employed business ownership rates are reported in Table 1. The self-employment rate is defined as the percentage of nonagricultural workers that is self-employed business owners. Individuals working less than 15 hours in the survey week are excluded to rule out weak attachment to the labor market and very small scale businesses.

A clear ordering of self-employment propensities across ethnic and racial groups emerges. White, non-Latinos and Asians have the highest self-employment rates, whereas blacks have the lowest rates. The black self-employment rate of 5.1 percent is 46 percent of the white rate. Although there is evidence of improvement of black business ownership rates relative to

white rates in recent years, disparities in business ownership rates have not declined substantially over time (see Fairlie and Meyer 2000, Fairlie and Robb 2005 for a detailed discussion).

Racial differences in business outcomes essentially follow the same patterns as business ownership rates. Black-owned businesses have worse outcomes on average than white-owned firms. We present results from the SBO, SMOBE, and CBO. Estimates from these sources are taken from published sources, special tabulations prepared for us by the Census Bureau, and generated from restricted-access microdata.

Estimates of sales and receipts by race from the 2002 SBO and prior SMOBE surveys (1982-1997) indicate that minority-owned businesses have lower total and average sales than white-owned businesses (see Table 2). Throughout the past two decades black firms have substantially underperformed white-owned firms. Average sales and receipts are $77,364 for black-owned firms. In contrast, white-owned firms have average sales of $440,882.

Estimates from the 1992 CBO also indicate large racial disparities in business outcomes. Table 3 reports estimates of 1992 profits, employment, and sales, as well as closure rates between 1992 and 1996 from CBO microdata. For these estimates we use our sample of businesses with a substantial hours worked commitment by the owners. This restriction rules out the large number of very small businesses in the United States that are included in the SBO and SMOBE estimates. By restricting our sample to only include firms in which at least one owner worked at least 12 weeks during the year and at least 10 hours per week, we reduce the number of firms in our sample by 22.1 percent. As expected, the resulting sample has higher sales and employment on average than the SMOBE estimates for 1992, which is the underlying sample frame for the CBO.

We first discuss the results for black-owned businesses and make comparisons to white-owned businesses. The magnitude of the disparities in business outcomes found in our CBO sample is striking. For example, only 13.9 percent of black-owned firms have annual profits of $10,000 or more, compared to 30.4 percent of white-owned firms. In fact, the entire distribution of business net profits before taxes for black-owned firms is to the left of the distribution for

white-owned firms (with the exception of the largest loss categories).[5] Surprisingly, nearly 40 percent of all black-owned firms have *negative* profits. Black-owned firms also have lower survival rates than white-owned firms. The average probability of business closure between 1992 and 1996 is 26.9 percent for black-owned firms compared with 22.6 percent for white-owned firms.[6]

Estimates from CBO microdata confirm the findings from SMOBE data on black/white differences in sales and employment. Black-owned firms are substantially smaller on average than are white-owned firms. Mean sales or total receipts among black-owned firms were $59,415 in 1992. Average sales among white-owned firms were nearly four times larger. The difference is not simply due to a few very large white firms influencing the mean. Median sales for black firms were one half that of white firms, and the percent of black firms with sales of $100,000 or more was less than half the percent of white firms. Estimates from the CBO also indicate that black-owned firms hire fewer employees than white-owned firms. In 1992, they averaged only 0.63 employees, whereas white-owned firms hired 1.80 employees. Interestingly, only 11.3 percent of black-owned firms hired *any* employees. In comparison, 21.4 percent of white-owned firms hired at least one employee. As we saw earlier, these trends have continued through the more recent surveys.

Blacks have substantially lower rates of business ownership and black-owned businesses have worse outcomes on average than whites. Are wealth disparities and barriers to obtaining financial capital party responsible for these patterns?

[5] The CBO only includes a categorical measure for profits.

[6] Although sample weights are used that correct for nonresponse, there is some concern that closure rates are underestimated for the period from 1992 to 1996. Many businesses closed or moved over this period and did not respond to the survey which was sent out at the end of the period. Indeed, Robb (2000) showed, through matching administrative records, that nonrespondents had a much higher rate of closure than respondents. Racial differences in closure

**4. Wealth Inequality**

Although earnings inequality continues to exist between blacks and whites (U.S. Bureau of Labor Statistics 2004), racial inequality in wealth is an order of magnitude larger in the United States. The median net worth of whites is nearly 11 times higher than the median net worth of blacks (Table 4). The median level of net worth, defined as the current value of all assets minus all liabilities on those assets, for black households is only slightly more than $6,000. Remarkably, that estimate implies that if you add home equity, the value of all savings, retirement and mutual fund accounts, and other assets, 50 percent of all black households have less than $6,166 in net worth. The median level of net worth among white households is $67,000. Large racial differences in net worth are also found using other datasets and within age groups, education levels, and marital statuses (see Blau and Graham 1990, Oliver and Shapiro 1995, Scholz and Levine 2004, Altonji and Doraszelski 2005 for example).

Examining the full distribution of wealth reveals even more inequality than revealed by a comparison of medians (Figure 1). Forty-five percent of blacks have net worth of less than $5,000. Less than one-fifth of all whites have net worth below this level. At the top of the distribution, only 2.7 percent of blacks have a value of net worth that is at least $250,000. Among whites, 22.2 percent have values of net worth in this range. Comparing asset distributions makes it strikingly clear – blacks are overwhelmingly more likely to have low asset levels and less likely to have high asset levels than are whites.

The single largest asset held by most households is their home. Estimates of homeownership reported in Table 4 indicate that only 46.8 percent of all black households own their homes. For whites, 73 percent own their own home. Blacks who own homes have much less equity than whites. The median home equity among black homeowners is $35,000, whereas the median home equity among white homeowners is $64,200. Blacks are clearly less likely to own

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rates, however, were similar across the respondents and nonrespondents.

their own homes and among those who own home have less equity in their homes. This is due to a combination of lower home values and having lower equity/debt ratios in their homes.

Estimates from the SIPP also indicate that wealth inequality has decreased only slightly in the past two decades. In 1983, the white/black ratio of median asset levels was 11.5. By 2000, the ratio dropped to 9.5. However, some of this decrease may have been due to the large increase in the white Latino population in the 1980s and 1990s. Latinos have very low levels of net worth, which are only slightly higher than black levels. If white, non-Latinos are used to calculate the white/black ratio of median net worth we find a ratio of 10.9. In either case, racial wealth inequality is extremely large and does not appear to be disappearing quickly.

The consequences of racial wealth inequality are severe. Low asset levels affect the ability of black families to smooth their consumption over fluctuations in income because of job loss and other negative labor market outcomes. Wealth inequality also translates into political, social, residential, and educational inequality. Current asset levels, and not only current and future income, are important for home purchases and financing education. Through inheritances and intergenerational transfers black/white inequality is also transmitted to future generations.

Racial inequality in wealth is also likely to have negative consequences for business formation and success through its effects on access to financial capital. Low levels of wealth and liquidity constraints may create a substantial barrier to entry for black entrepreneurs. Lower levels of wealth among blacks may translate into less access to startup capital. Business creation is often funded by owner's equity and investors frequently require a substantial level of owner's investment of his/her own capital as an incentive and as collateral. Racial differences in home equity may be especially important in providing access to startup capital. Homes provide collateral and home equity loans provide relatively low-cost financing. Inadequate access to financial capital in turn limits business creation.

Relatively low levels of human capital may limit the ability of black entrepreneurs to successfully run their businesses, and restricted access to financial capital may result in undercapitalized businesses and the inability of black firms to "weather" financial storms.

**5. Personal Wealth and Business Entry**

The importance of personal wealth has taken center stage in the literature on the determinants of entrepreneurship and business ownership. Numerous studies using various methodologies, measures of wealth, and country microdata explore the relationship between wealth and self-employment. Most studies find that asset levels (e.g., net worth) measured in one year increase the probability of entering self-employment by the following year.[7] The finding has generally been interpreted as providing evidence that entrepreneurs face liquidity constraints, although there is some recent evidence against this interpretation (Hurst and Lusardi 2004).

These findings in the previous literature suggest that relatively low levels of assets among blacks may be a source of racial differences in rates of business ownership. Indeed, recent research using statistical decomposition techniques that estimate the explanatory effects of several potential factors provides evidence supporting this hypothesis. Table 3 reports estimates from two previous studies (Fairlie 1999, 2005). Estimates from matched CPS Annual Demographic Files (ADF) data from 1998 to 2003 indicate that the largest single factor explaining racial disparities in business creation rates are differences in asset levels (Specification 1). Assets are measured by homeownership, and dividend, interest, and rental income. Investment and rental income are not a direct measure of assets, but are roughly proportional to asset levels. These measures are included separately to allow for differential values on the underlying assets and liquidity. All measures of assets are measured prior to the self-employment decision.

[7] For example, see Evans and Jovanovic (1989); Evans and Leighton (1989); Meyer (1990); Holtz-Eakin, Joulfaian, and Rosen (1994a and b); Lind and Ohlsson (1994); Black, de Meza, and Jeffreys (1996); Blanchflower and Oswald (1998); Dunn and Holtz-Eakin (2000); Fairlie (1999, 2002); Earle and Sakova (2000); Johansson (2000); Taylor (2001); Holtz-Eakin and Rosen

Estimates from the decompositions indicate that lower levels of assets among blacks account for 15.5 percent of the white/black gap in the probability of entry into self-employment. The findings from the CPS data are very similar to estimates from Fairlie (1999) for men using the Panel Study of Income Dynamics (PSID). Estimates from the PSID indicate that 13.9 to 15.2 percent of the black/white gap in the transition rate into self-employment can be explained by differences in assets.

These findings from the CPS and PSID are consistent with the presence of liquidity constraints and low levels of assets limiting opportunities for black entrepreneurs to start businesses. In turn, these lower rates of business entry contribute to the lower rates of business ownership discussed above (Fairlie 1999, 2005).

**6. Racial Differences in Startup Capital**

Although previous research provides evidence that is consistent with low levels of personal wealth resulting in lower rates of business creation among blacks, very little research has focused on the related question of whether low levels of personal wealth and liquidity constraints also limit the ability of black entrepreneurs to raise startup capital resulting in undercapitalized businesses. The consequence is that these undercapitalized businesses will likely have lower sales, profits, and employment and will be more likely to fail than businesses receiving the optimal amount of startup capital, which we investigate further in the next section.

To investigate this question, we analyze data from the CBO. The CBO contains categorical information on "the total amount of capital required to start or acquire the business" (U.S. Census Bureau 1997, p. C-15).[8] Some caution is warranted, however, in interpreting racial differences in this measure and their contribution to racial differences in business outcomes. The

(2004); and Hurst and Lusardi (2004).

[8] Unfortunately, the CBO does not contain a measure of the owner's net worth prior to starting the business. Using the 1987 CBO, Asterbro and Bernhardt (2005) instead use instrumented household income as a proxy for household wealth and find a positive relationship between this

amount of required startup capital is potentially endogenous to business success (Bates 1990b). The problem is that potentially successful business ventures are likely to generate more startup capital than business ventures that are viewed as being potentially less successful. Thus, we cannot determine with certainty that lower levels of startup capital are primarily driven by constraints in obtaining financing. In support of the use of this measure, however, there is evidence suggesting that the size of inheritances received by individuals increases the amount of capital invested in the business (Holtz-Eakin, Joulfaian, and Rosen 1994a). This finding suggests that the receipt of inheritances might relieve liquidity constraints, and thus lower levels of startup capital, at least partly reflect barriers to access to financial capital.

Additional evidence on the link between startup capital and owner's wealth is provided by examining the relationship between business loans and personal commitments, such as using personal assets for collateral for business liabilities and guarantees that make owners personally liable for business debts. Using data from the SSBF and Survey of Consumer Finances (SCF), Avery, Bostic and Samolyk (1998) find that the majority of all small business loans have personal commitments. The common use of personal commitments to obtain business loans suggests that wealthier entrepreneurs may be able to negotiate better credit terms and obtain larger loans for their new businesses possibly leading to more successful firms.[9] Cavalluzzo and Wolken (2005) find that personal wealth, primarily through homeownership, decreases the probability of loan denials among existing business owners. If personal wealth is important for existing business owners in acquiring business loans then it may be even more important for entrepreneurs in acquiring startup loans. Interestingly, however, Avery, Bostic, and Samolyk (1998) do not find evidence of a consistent relationship between personal commitments and owner's wealth across specifications.

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variable and startup capital controlling for other owner and business characteristics.

[9] Astebro and Berhardt (2003) find a positive relationship between business survival and having a bank loan at startup after controlling for owner and business characteristics.

Estimates from CBO microdata indicate that black-owned businesses have very low levels of startup capital relative to white-owned businesses (Figure 7). Less than 2 percent of black firms start with $100,000 or more of capital and 6.5 percent have between $25,000 and $100,000 in startup capital. Nearly two-thirds of black businesses have less than $5,000 in startup capital. Although a large percentage of white firms also start with little capital, a higher percent start with large amounts of capital than black firms. Nearly 5 percent of white firms start with $100,000 or more in capital, and 11.1 percent start with between $25,000 and $100,000.

Racial disparities in startup capital may reflect differences in the perceived potential success of firms, and thus ability to raise capital by firms. In other words, black entrepreneurs have difficulty raising capital because their businesses are predicted to be less likely to succeed. If so, banks and other investors will rationally decline to invest in these businesses. Of course, an alternative explanation is that black business owners invest less startup capital in their businesses because they have less access to capital. This may be due to having lower levels of personal and family wealth to borrow against or use as equity financing and may also be due to lending discrimination. Evidence favoring these explanations over the alternative explanations that black businesses are predicted to be less successful by potential investors is provided by the finding that black-owned firms have lower levels of startup capital across all major industries (U.S. Census Bureau 1997). Thus, racial disparities in startup capital do not simply reflect racial differences in the industries of these firms. In addition, the finding that personal wealth decreases the probability that an existing firm is denied a loan is consistent with racial disparities in wealth contributing to racial differences in startup capital.

What are the likely consequences of these racial disparities in startup capital? In particular, do low levels of personal wealth and liquidity constraints limit the ability of black entrepreneurs to raise startup capital resulting in undercapitalized businesses? These undercapitalized businesses will likely have lower sales, profits, and employment and will be more likely to fail than businesses receiving the optimal amount of startup capital. Indeed,

previous research indicates that the level of startup capital is a strong predictor of business success (see, for example, Bates 1997; and Fairlie and Robb 2005). Although it is difficult to measure the magnitude of the causal effect, theoretically we expect it to be large. If startup capital levels are influenced by entrepreneurial wealth a strong link between racial inequality in wealth and racial disparities in business outcomes is expected. Related to this issue, and potentially exacerbating the problem, is that black entrepreneurs may face discrimination in the lending market which will also limit their ability to invest in their businesses.

The literature on minority business ownership provides evidence that access to financial capital limits opportunities for blacks to start businesses as discussed above. A much smaller literature indicates that racial differences in wealth or startup capital affect business success. Using earlier CBO data, Bates (1989, 1994, 1997) finds evidence that racial differences in business outcomes are associated with disparities in levels of startup capital. Estimates from the 1987 CBO indicate that black-owned businesses have substantially lower levels of startup capital than white-owned businesses. Bates also finds that startup capital levels are strongly positively associated with business survival. These two findings indicate that racial disparities in startup capital contribute to racial differences in survival.

Robb (2000) provides additional evidence on the importance of startup capital using employer firms from the 1992 CBO linked to the 1992-1996 Business Information Tracking Series. Estimates from regression models indicate that the level of startup capital has a negative and statistically significant effect on the probability of business closure. Black employer firms are also found to have substantially lower levels of startup capital than white employer firms. Thus, racial disparities in the amount of capital used to start the business result in higher closure rates among black employer firms relative to white employer firms.

Estimates from the 1992 CBO microdata also provide evidence that racial disparities in startup capital contribute to worse outcomes among black-owned businesses (Fairlie and Robb, 2005). There appeared to be a strong positive relationship between startup capital and business

success. Higher levels of startup capital are associated with lower closure probabilities, higher profits, more employment, and higher sales. In addition, estimates from the 1992 CBO indicate that blacks have substantially lower levels of startup capital, which are likely due in part to low levels of personal wealth and may also be due to lending discrimination. Thus, black/white differences in startup capital appear to contribute to racial disparities in business outcomes. What we do not know from these findings, however, is how much these differences contribute to racial disparities in business outcomes. We also do not know how much racial differences in startup capital contribute to business outcomes relative to other factors such as education, business human capital, family business background, and other owner and firm differences.[10]

Table 6 reports estimates from this procedure for decomposing the black/white gaps in small business outcomes. The separate contributions from racial differences in each set of independent variables are reported. As noted above, the black/white gaps in small business outcomes are large. Table 6 reports the results of decompositions that include contributions from racial differences in startup capital and industry. Again, there is some concern about the exogeneity of these two measures in determining small business outcomes, and thus the results should be interpreted with caution. Black-owned firms clearly have less startup capital than white-owned firms. For example, 8.1 percent of black-owned businesses required at least $25,000 in startup capital compared to 15.7 percent of white-owned businesses. These racial differences in startup capital explain a substantial portion of the black/white gaps in small business outcomes. The contribution estimates range from 14.5 percent to 43.2 percent. Clearly, lower levels of

[10] Using individual-level data, Fairlie (1999, 2005) provides some evidence on this question. Focusing on the causes of the higher annual rate of exit from self-employment for blacks than whites, estimates from the CPS indicate that racial differences in personal wealth explain 7.3 percent of the gap. Estimates from the PSID indicate that 1.8 to 11.1 percent of the male black/white gap in exit rates from self-employment is explained by differences in asset levels. The use of individual-level data, the focus on transitions out of self-employment, and the inclusion of personal wealth, however, make it difficult to draw conclusions about whether racial disparities in access to startup capital contribute to racial differences in business outcomes. The decompositions estimated below will provide evidence on the importance of racial differences in startup capital in contributing to racial disparities in business outcomes.

startup capital among black-owned firms are associated with less successful businesses. These lower levels of startup capital may be related to difficulty in obtaining funding because of low levels of personal wealth or lending discrimination.

**7. Borrowing Patterns and Discrimination in Lending**

Black and white entrepreneurs differ in the types of financing they use for their businesses. Although these differences are likely to be caused by many factors, they may be partly due to differences in personal wealth and lending discrimination. Focusing on startup capital differences, evidence suggests black entrepreneurs rely less on banks than whites for startup capital. Published estimates from the 1992 CBO indicate that only 6.6 percent of black firms received business loans from banking or commercial lending institutions. Nearly twice that percentage of white firms received bank loans for startup capital. Blacks are also less likely to use a home equity line for startup capital than are whites, which may be partly due to the lower rates of homeownership reported above. They are also less likely to use equity or nonborrowed sources of startup capital and are less likely to have loans from other sources (except government backed loans). On the other hand, black business owners are more likely to rely on credit cards for startup funds than are white business owners.

In a few studies using the 1987 CBO, Bates (1997, 1999, 2005) conducts a thorough comparison of differences between black and white firms in their use of startup capital. Bates finds that black firms were more likely to start with no capital, less likely to borrow startup capital and more likely to rely solely on equity capital than white firms. In his sample of male-owned firms started in the past 10 years, he finds that 28.8 percent of black firms used borrowed funds for startup capital compared to 37.2 percent of white firms. Focusing on startup funding from financial institutions, he also finds that black-owned firms receive less in startup capital from banks on average than white-owned firms. Among firms borrowing startup capital, he

estimates that the average black firm borrowed $31,958 from financial institutions compared to $56,784 for white firms.

Bates also explores where the disparities in levels of startup capital are partly due to differences in equity startup capital. He finds that black firms receive $2.69 per dollar of equity capital invested in loans from financial institutions. This is lower than the $3.10 per dollar of equity investment for white firms. After controlling for other owner and business characteristics, he finds a roughly similar sized difference between black and white debt per equity dollar invested. These differences are not large, however, suggesting that an important hurdle to obtaining loans from financial institutions for black entrepreneurs is low levels of equity financing in addition to differential treatment by financial institutions (Bates 2005). In fact, from a pooled sample of black and white firms, Bates (2005) finds that loans received by black firms borrowing startup capital are significantly smaller than those received by white firms even after controlling for equity capital and owner and business characteristics such as education and industry. Racial differences in personal wealth, which are not measured in the CBO, may be a key factor in explaining the remaining black/white differences in business loans.

Racial inequality in wealth may also have an effect on the continuing success of businesses. If business owners cannot freely borrow to offset periods of low sales then those owners with fewer financial resources may be more likely to close. In addition, access to personal or family wealth may allow owners to avoid potential liquidity constraints in expanding existing businesses. Even if black business owners were able to obtain adequate startup capital, future limitations to access to financial capital may result in higher closure rates and underperformance.

Some suggestive evidence on racial differences in access to financial capital is provided by published estimates from the CBO (U.S. Census Bureau 1997). The CBO questionnaire asks owners with unsuccessful businesses from 1992 to 1996 why their businesses were unsuccessful. Black business owners were twice as likely as all business owners to report "lack of access to business loans/credit" as a reason for closure (16.2 percent compared with 8.3 percent). They

were also nearly three times more likely than all business owners to report "lack of access to personal loans/credit" as a reason for closure (8.8 percent compared to 3.3 percent). Although this information is subjective and open to several different interpretations it suggests that capital constraints are important for black entrepreneurs.

A factor that may pose a barrier to obtaining financial capital for black-owned businesses is lending discrimination. Much of the recent research on the issue of discrimination in business lending uses data from the 1998 SSBF. The main finding from this literature is that minority-owned businesses experience higher loan denial probabilities and pay higher interest rates than white-owned businesses even after controlling for differences in creditworthiness, and other factors (Blanchard, Yinger, and Zhao 2004; Blanchflower, Levine, and Zimmerman 2003; Cavalluzzo, Cavalluzzo, and Wolken 2002; Cavalluzzo and Wolken 2005; Coleman 2002, 2003; Mitchell and Pearce 2004).

Cavalluzzo and Wolken (2005) found that while greater personal wealth is associated with a lower probability of denial, even after controlling for personal wealth, there remained a large difference in denial rates across demographic groups. They estimated the magnitude of contributions from group differences in characteristics to racial gaps in loan denial rates. They find that group differences in personal wealth explain only a modest role in explaining black/white differences in denial rates. Credit history differences are found to explain most of the difference. They also found that denial rates for blacks increased with lender market concentration, a finding consistent with Becker's (1957) classic theories of discrimination.

Using the 1993 National Survey of Small Business Finances (NSSBF), Cavalluzzo, Cavalluzzo, and Wolken (2002) found that all minority groups were more likely than whites to have unmet credit needs. Blacks were more likely to have been denied credit, even after controlling for many factors related to creditworthiness. In fact, denial rates and unmet credit needs for blacks widened with an increase in lender market concentration. The fear of denial often prevented some individuals from applying for a loan, even when they had credit needs.

Blacks and Hispanics most notably had these fears. Blanchflower, Levine, and Zimmerman (2003) conducted a similar analysis with similar results, but did not have access to some of the proprietary information available to researchers from the Federal Reserve. However, they did find black-owned businesses were more likely to have a loan application denied, even after controlling for differences in creditworthiness, and that blacks paid a higher interest rate on loans obtained. They also found that concerns over whether a loan application would be denied prevented some prospective borrowers from applying for a loan in the first place. The disparities between the denial rates between whites and blacks grew when taking these individuals into consideration along with those that actually applied for a loan. Bostic and Lampani (1999) bring in additional geographic controls, but also found a statistically significant difference in approval rates between blacks and whites.

Although it is difficult to prove without a doubt that lending discrimination exists against blacks business, the evidence from the literature is consistent with the existence of lending discrimination against black-owned firms. Black firms are more likely to be denied loans, pay higher interest rates and are less likely to borrow from banks for startup or continuing capital. Lending discrimination may have a direct effect on business outcomes because it limits access to loans that can help a business "weather a storm" or limits the ability of firms to expand or diversify into new products or markets.

Although the evidence from the literature focuses on existing black businesses, lending discrimination may also severely limit access to startup capital potentially discouraging would-be minority entrepreneurs and reducing the success and longevity of minority-owned businesses.

**8. Access to Financial Capital among Established Black-Owned Businesses**

As illustrated using CBO data, there are extensive racial differences in types of business financing. We expand upon these analyses by exploring racial differences in the

ongoing financing patterns among more established businesses. The 1998 SSBF is used for this analysis because these data have, on average, older and more established businesses than do the CBO data. This is an important distinction because the goal here is to focus on access to capital issues for established black-owned businesses instead of entrepreneurs or new firms.

Racial differences in firm and owner characteristics in the SSBF are found in Table 7.[11] Whether measuring size by employment, assets, or sales, white-owned firms were much larger than their minority-owned counterparts. Black-owned businesses were smallest using all three of these measures. Racial differences in business ownership by industry, legal form of organization, firm age, and location are also found in Table 7. Blacks have the highest proportion of businesses in services (52 percent, compared with 42 percent for whites) and the highest proportion of businesses organized as sole proprietorships (59 percent, compared with 49 percent for whites). The average of white-owned firms was 13.8 years, compared with 11.1 years for blacks. Finally, characteristics from the SSBF indicate that black and white owners were similarly aged, but owners of black-owned firms were less educated and less experienced than owners of white-owned firms. These findings are in line with previous research using other datasets, including the CBO.

The SSBF indicate significant differences in financing characteristics across racial groups, most notably between black- and white-owned businesses. Table 8 shows that compared with white-owned businesses, black-owned businesses were less likely to have an outstanding loan, credit line, equipment loan, motor vehicle loan, business credit card, trade credit, checking account, or savings account. Black-owned businesses were more

likely to borrow through the use of a credit card and they had a much shorter relationship with their primary institution than did whites (76 months, compared with 97 months).

Borrowing experiences and credit histories of small businesses by race are shown in Table 9. Black-owned businesses had worse credit histories than white-owned businesses as measured by every relevant variable in the dataset. In addition, all of these differences were statistically significant. Even with these poorer credit histories, black-owned businesses were just as likely as white-owned businesses to apply for credit over the three years prior to the survey and to have multiple applications. However, as might be expected, they were significantly less likely to be approved for that loan. They were also more likely to not apply for credit during the three previous years at some point when they needed credit because they feared their application would be denied. When a loan was approved, blacks paid a higher interest rate, more points to close, and had a higher cost for the approved loan. These differences in credit use and borrowing history might be explained by the poor credit histories of these black-owned businesses. Yet, without multivariate analysis, one can only speculate.

Thus, in order to examine whether differences between minority- and nonminority-owned firms' credit use and borrowing experiences remain after controlling for many of the differences in firm, owner, and credit history characteristics, a reduced-form multivariate logistic equation of the following form for different dependent

[11] A description of the SSBF data can be found in Appendix A.

variables is performed:

$$Y = \alpha + \beta(\text{race}) + \delta(\textit{firm characteristics}) + \gamma(\textit{owner characteristics}) + \eta(\textit{credit history}) + \phi(\textit{financing charact.}) + \varepsilon$$

If differences in credit use patterns and borrowing experiences can be explained by firm and owner characteristics (other than race and ethnicity), then the coefficients on race and ethnicity variables ($\beta$) should not be significantly different from zero.[12] While statistically significant coefficients on race and ethnicity in these regressions would not be unequivocal proof of discrimination, these types of findings would provide evidence that differences in other important characteristics, such as credit history, firm size, and age (i.e., characteristics that should theoretically explain these patterns) are not able to sufficiently explain away the observed differences in financing patterns and borrowing experiences between minority- and nonminority-owned businesses.

Four dependent variables related to credit use and borrowing experiences will be examined: 1) firm had outstanding loans; 2) firm had loan application approved; 3) firm did not apply for credit at some point when needed for fear the loan application would be denied; and 4) firm held debt through credit card(s).[13] For each of these variables, there were significant univariate differences between white- and black-owned firms. Independent variables for the regressions mentioned above consist of firm characteristics,

[12] The tests for differences of means mentioned previously are equivalent to running the model $Y = \alpha + \beta\ (\text{race}) + \varepsilon$ and testing whether the coefficient $\beta$ is significantly different from zero.

[13] The meaning of this variable is that the firm did not apply at some point when it needed credit because it feared it would be denied. This does not apply if it did not apply at other times during the last three years. In fact, many firms that feared applying did in fact apply and receive other loans over that period.

owner characteristics, financing characteristics, and credit history. The detailed descriptions of all independent variables can be found in Appendix B.

As noted in Table 8, white-owned firms were more likely to have an outstanding loan (56 percent), compared with black-owned firms (48 percent). Yet, in the multivariate analysis, there were no significant differences between blacks and whites. As indicated in Table 10, significant indicators were size as measured by employment, sales, and assets. The coefficients on the race and gender variables were not statistically significant, except for the negative coefficient for Asians and others, which indicated they were less likely than whites to have outstanding loans, after controlling for a variety of factors.

The results for having a loan application approved are found in Table 11. These results indicate that blacks were significantly less likely to have a loan application approved than whites, even after controlling for a variety of factors that should explain much of the observed differences. Consistent with previous findings, homeownership was positively related to loan approval. Negative components to one's credit history, such as bankruptcy, delinquencies on personal obligations, judgments against the owner, or having been denied trade credit, had significant negative impact on loan approval, as expected. Borrowing through the use of owner loans, credit cards, and/or trade credit also negatively affected the likelihood a loan application was approved.

While blacks were just as likely as whites to apply for loans as whites (26 percent of blacks and 23 percent of whites had two-plus loan applications in the last three years), they were much more likely to have not applied at some point when they needed credit because they feared that their application would be denied (55 percent and 21 percent, respectively). The similar application rates and dissimilar fear rates provide some

evidence for the relatively greater credit needs of blacks, compared with whites. In the multivariate context, the effect on blacks remains positive and statistically significant in the fear equation. These results are shown in Table 12. Most of the credit history variables are statistically significant and of the expected sign. The results from these two regressions indicate that the fear of disparate treatment by black business owners may be warranted.

The final equation investigates credit card borrowing. It is possible that credit cards may be easier to come by than a business loan, and those shut out of the formal credit markets may turn to credit cards to finance their businesses. As indicated in Table 8, blacks were much more likely than whites to have borrowed through the use of credit cards (25 percent versus 15 percent, respectively). Again, this difference does not go away in the multivariate analysis. After controlling for firm and credit history characteristics, blacks are still significantly more likely to borrow through the use of credit cards than are whites. Given relatively high interest rates and hence the higher cost of credit card debt, this outcome is not optimal for black-owned businesses. This provides some evidence that even established black-owned businesses are being rationed out of formal credit market sources and are instead having to rely on less optimal, higher cost credit to finance their businesses.

## 9. Conclusions and Policy Implications

African-Americans are found to have levels of wealth that are one-eleventh those of whites. The median level of net worth, defined as the current value of all assets minus all liabilities on those assets, for black households is only $6,166, which is roughly the

value of a used car. Starting with this disparity, blacks are much less likely to start businesses than are whites, resulting in a much lower rate of business ownership. Even for those black entrepreneurs that are successful in starting businesses, we find that they invest much less capital at startup on average than white entrepreneurs. Lower levels of startup capital among black businesses appear to also limit their ability to succeed. Racial disparities in startup capital contribute to higher failure rates, lower sales and profits, and less employment among black-owned businesses. There is some evidence that lending discrimination affects not only new and young black-owned businesses, but also older more established black-owned businesses.

Given the importance of financial capital in a firm's formation and ability to survive, credit market imperfections can have profound implications for business performance and viability. Given that minority-owned businesses lag behind non-minority-owned businesses, in terms of sales, profits, survivability, and employment, facing greater obstacles in obtaining financing for their businesses implies an already difficult situation worsens.

Several important policy implications evolve from this research. The most obvious implication is addressing discrimination in the lending market. This may be accomplished through additional oversight by the lending community. This could entail additional reporting requirements by financial institutions and improved training for internal loan review practices in financial institutions. Technical assistance programs to assist minority-owned businesses with starting and operating a business, applying for a loan, and financial literacy and accounting training are some other types of programs that could benefit minority-owned businesses and help them access credit markets for their

business ventures. Finally, programs like individual development accounts (IDAs) that help low-income people build assets and human capital could also help these individuals build the financial and human capital needed to start and succeed in entrepreneurship.

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## Appendix A: THE SSBF and Data Dictionary

The data for this section were compiled from the 1998 Survey of Small Business Finances (SSBF), a survey conducted by the Federal Reserve Board every five years. The 1998 SSBF collected data for fiscal year 1998 for a nationally representative sample of more than 3,500 for-profit, nongovernmental, nonagricultural businesses with fewer than 500 employees. (For more information on the survey, see Bitler, Robb, and Wolken 2001). The data used in this paper are particularly well suited to examining the proposed hypotheses because of the breadth of data available. In particular, these data include information on firm and owner credit risk. In collecting these data, the Federal Reserve oversampled minority-owned businesses in order to get a large enough sample to do statistical tests on subgroups of the business population by race and ethnicity. The SSBF is among the most extensive public datasets available on small business finances. In addition to information on the owner and firm, there is detailed information on the firms' financing patterns, recent borrowing experiences, and credit histories on the owner and the firm.

In this study, we restrict the analysis to the 3,500 businesses that were not equally owned by a minority and nonminority.[14] A data dictionary can be found in this Appendix, which lists the name and a brief description of each variable. This research project makes use of various firm and owner characteristics, credit history, recent borrowing experiences, and the frequency and sources of financial services. Firm characteristics include: size (employment, sales and assets), industry (manufacturing; mining and construction; wholesale; retail; services; finance, insurance, and real estate; and

[14] Firms were asked if more than 50 percent of the firm was owned by an individual. Firms that volunteered that they were equally owned by two people of different races were excluded from

transportation, communications, and public utilities), organizational form (proprietorship, partnership, C- or S-corporation), firm age, whether or not the firm was located in a metropolitan statistical area (MSA), and number of offices. Owner characteristics include sex, age, education, and experience. Credit history indicators include the Dun & Bradstreet credit ranking, bankruptcy, delinquency on personal or business obligations, judgments, and personal homeownership. Recent credit experience variables include whether or not the firm applied for new credit in the past three years, the disposition of the application, the approved interest rate, points to close, total cost of obtaining the loan, and whether or not the firm did not apply for new credit at some point when needed for fear the application would be denied. The last set of variables reflect financing patterns of the firm and include dummy variables indicating whether or not the firm used checking, savings, various types of loans, trade credit, business and personal credit cards, or owner loans, as well as if they used credit cards or trade credit for borrowing.[15] In addition, the type of institution was identified for the firm's self-identified primary institution, as well as the length of the relationship with this institution.

| Variable | Description |
|---|---|
| Totemp | Business' total number of employees |
| R12 | Total assets of business (in thousands) |
| P2 | Total sales of business for fiscal year ending 1998 (in thousands) |
| profit | Business' total profit or loss for the fiscal year ending 1998 (in thousands) |

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this sample.

[15] Credit cards and trade credit are used both for financing purposes and for convenience. Firms may use credit cards or trade credit and always pay balances by the next due date. I classify those credit card and trade credit users as convenience users. Firms that carry outstanding balances on their credit cards or pay after the due date on their trade credit are more apt to the be the firms using these instruments as a form of credit than are those firms paying off credit card balances and trade credit balances each month. Since I am interested in financing patterns, I considered a firm to have used credit cards for financing only if they carried balances and to have used trade credit for financing only if they paid after the due date.

| | |
|---|---|
| minconwho | Business' industry is mining, construction, or wholesale, indicated by 10<=sic2r<=19, 50, or 51 |
| retail | Business' industry is retail, indicated by 52<=sic2r<=59 |
| services | Business' industry is services, indicated by 70<=sic2r<=89 |
| trainsoth | Business' industry is transportation, insurance, or other, indicated by 40<=sic2r<=49,60<=sic2r<=69, or 99 |
| manuf | Business' industry is manufacturing, indicated by 20<=sic2r<=39 |
| ccorp | Business' organizational form is c-corporation, indicated by b3 = 4, 6, or 8 |
| scorp | Business' organizational form is s-corporation, indicated by b3 = 5 |
| partner | Business' organizational form is partnership, indicated by b3 = 2, 3, or 7 |
| sole | Business' organizational form is sole proprietorship, indicated by b3 = 1 or 9 |
| c_fage | Age of firm in years |
| D1 | Number of sites where the firm has offices |
| msa | MSA indicator = 1 if in Metropolitan Statistical Area |
| college | Business owner's possession of a college degree,indicated by c_educ = 6 or 7 |
| c_exp | Amount of business experience the principal owner of the business has had |
| c_oage | Age of the principal owner of the business |
| loan_tc_cccredit | Did the business have a loan or borrow on trade credit or credit card, indicated by loan = 1, or f3 = 1, or f6 = 1, or L6 = 1 |
| loan | Did the business have any loan, indicated by f7 = 1, or f16 = 1, or f20 = 1, or f27 = 1, or f42 = 1, or f33 = 1 |
| capls | Did the business have a capital lease, indicated by f16 = 1 |
| crdline | Did the business have any credit lines, indicated by f7 = 1 |
| eqploan | Did the business have any equipment loans,indicated by f33=1 |
| mortg | Did the business have any mortgages, indicated by f20 = 1 |
| mvloan | Did the business have any motor vehicle loans, indicated by f27 = 1 |
| othloan | Did the business have any other loans, indicated by f42 = 1 |
| ccborrow | Did the business borrow on credit cards, indicated by f3 = 1, or f6 = 1 |
| buscc | Did the owner use a business credit card, indicated by f4=1 |
| perscc | Did the owner use a personal credit card for business purposes, indicated by f1 = 1 |
| tcborrow | Did the business borrow on trade credit, indicated by L6=1 |
| tradecr | Did the business have trade credit, indicated by L1 = 1 |
| checking | Did the business have any checking accounts, indicated by e1=1 |
| savings | Did the business have any savings accounts, indicated by e4=1 |
| ownloan | Did the owner loan money to the business, indicated by f39=1 |
| anyinst | Did the business have at least 1 institution, indicated by numser = 1 |
| primebank | Was the business' primary institution a commercial bank, indicated by ptype = 1 |
| plength | Length of relationship with primary institution in months |
| db_perct | Dun & Bradstreet Credit Score - Higher percentage indicates lower risk |

dentrade Was the business denied trade credit, indicated by L13 = 1
bankrupt Did the business, owner, or both declare bankruptcy within the past 7 years, indicated by u1 = 1
delpers Was the business owner delinquent on personal obligations within the past 3 years, indicated by u2 = 4
delbus Was the business owner delinquent on business obligations within the past 3 years, indicated by u3 = 4
judge Were there any judgments against the business owner during the past 3 years, indicated by u4 = 1
home Did the business owner own their own home, indicated by u_home = 1
loanapp Did the business apply for any loans, indicated by mrlr1>=1
multloanapp Did the business apply for multiple loans,indicated by mrlr1>1
approved Was the business always approved for loans,indicated by mrlr4 = 1
feared Did the business owner not apply for loans fearing denial, indicated by mrl31 = 1
approved original interest rate
What was the approved original interest rate of the particular loan, mrl20
approved points to close
How many percentage points did the business have to pay to close the loan/line of credit, mrl21
approved total cost of obtaining loan
What was the total dollar amount of fees associated with obtaining the loan/line of credit (in thousands), mrl22

Appendix B: Independent Variable Descriptions

*Firm Characteristics*

| | |
|---|---|
| *Size* | *Log of employment, log of sales, log of assets, and log of number of offices* |
| *Industry* | *Manufacturing; mining and construction; wholesale; retail; finance, insurance, and real estate (FIRE); transportation, communications, and public utilities (TCPU); and services and other* |
| *Organizational Form* | *Sole proprietorship, partnership, C corporation, and S corporation* |
| *Location* | *MSA and non-MSA (metropolitan statistical area)* |
| *Firm Age* | *Very young (1-3 years), Young (4-9 years), Middle (10-19 years), and Old (20-plus years)* |

*Owner characteristics*

| | |
|---|---|
| *Sex* | *Female, male* |
| *Education* | *College degree-plus, less than college degree* |
| *Age* | *Very young (less than 35 years old), young (35-45 years), middle (46-55 years), and older (56+ years)* |
| *Experience* | *Low (less than five years), medium (5-9 years), high (10-19 years), and very high (20+ years)* |

*Credit history*

| | |
|---|---|
| *Dun & Bradstreet Credit Score* | *1-100 percent, higher number indicating greater creditworthiness* |
| *Bankruptcy* | *1 if personal or business bankruptcy in the last seven years, else 0* |
| *Delinquency on Personal Obligations* | *1 if three or more delinquencies of 60 days or more on personal obligations, else 0* |
| *Delinquency on Business Obligations* | *1 if three or more delinquencies of 60 days or more on business obligations, else 0* |
| *Judgments* | *1 if any judgments against business or owner, else 0* |
| *Denied Trade Credit* | *1 if business had ever been denied trade credit, else 0* |
| *Homeownership* | *1 if principal owner owns home, else 0* |

*Financing characteristics*

| | |
|---|---|
| *Checking* | *1 if firm has a checking account, else 0* |
| *Savings* | *1 if firm has a savings account, else 0* |
| *Owner loan* | *1 if firm has an owner loan, else 0* |
| *Trade Credit Borrowing* | *1 if firm borrows using trade credit, else 0* |
| *Credit Card Borrowing* | *1 if firm borrows using credit card, else 0* |

**Figure 1**
**Distribution of Net Worth by Race**
**U.S. Census Bureau Estimates - Survey of Income and Program Participation (2000)**

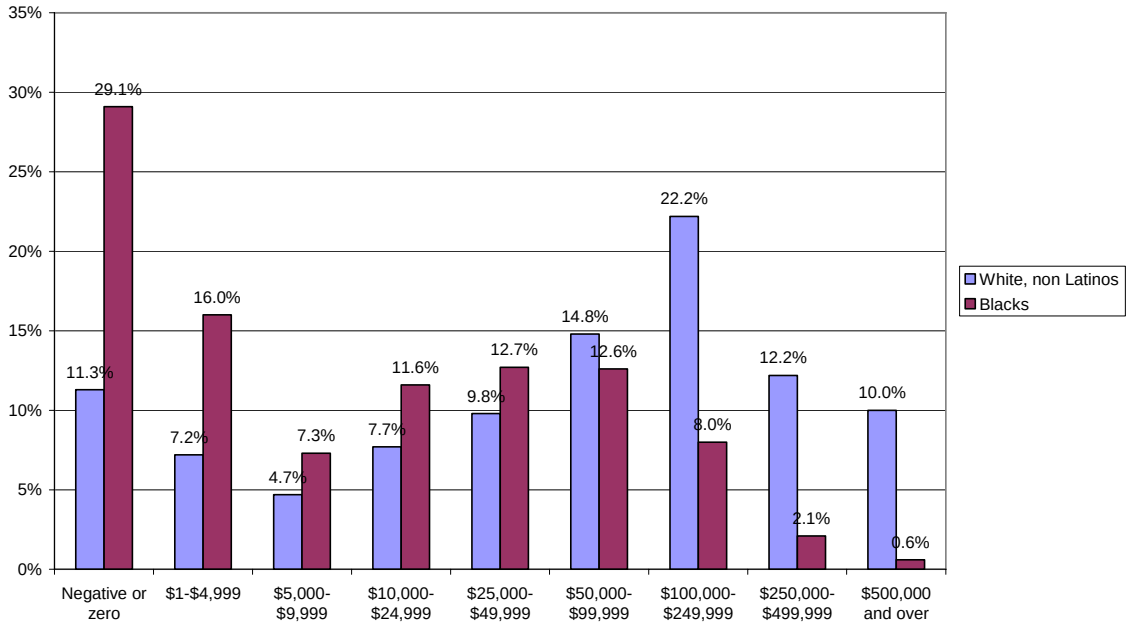

**Figure 2**
**Startup Capital by Race**
**Characteristics of Business Owners, 1992**

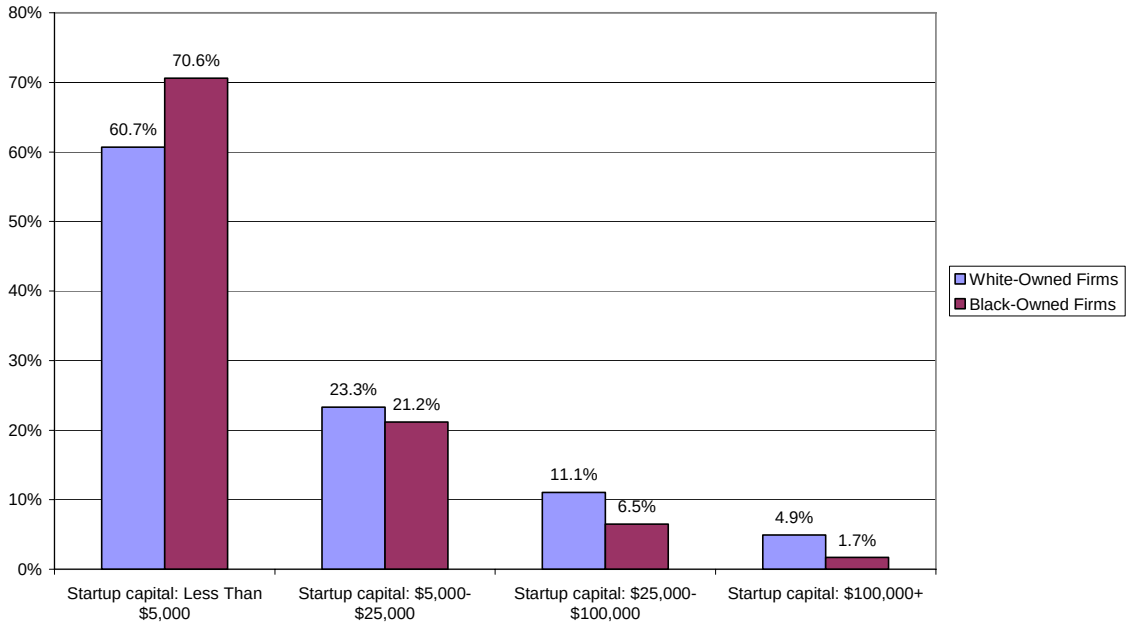

Table 1
Self-Employment Rates by Ethnicity/Race
Current Population Survey, Outgoing Rotation Group Files (2004)

| | Self-Employment Rate | Sample Size |
|---|---|---|
| White, non-Latino | 11.2% | 135,094 |
| African-American | 5.1% | 15,685 |
| Latino | 7.4% | 17,133 |
| Asian | 11.0% | 7,334 |
| Total | 10.0% | 179,986 |

Notes: (1) The sample consists of individuals ages 16 and over who work 15 or more hours during the survey week. (2) Self-employment status is based on the worker's main job activity and includes owners of both unincorporated and incorporated businesses. (3) Agricultural industries are defined using the NAICS classifications and are excluded. (4) Estimates only include individuals reporting one race. (5) All estimates are calculated using sample weights provided by the CPS.

Table 2
Sales and Receipts by Race
Survey of Minority-Owned Business Enterprises (1982-1997) and Survey of Business Owners (2002)

| | | All Firms | White-Owned Firms | Black-Owned Firms | Latino-Owned Firms | Asian and P.I.-Owned Firms |
|---|---|---|---|---|---|---|
| Total number of firms | 1982 | 12,059,950 | 11,284,494 | 308,260 | 248,141 | 204,211 |
| | 1987 | 13,695,480 | 12,472,231 | 424,165 | 422,373 | 355,331 |
| | 1992 | 17,253,143 | 15,154,826 | 620,912 | 771,708 | 603,426 |
| | 1997 | 18,278,933 | 15,403,329 | 780,770 | 1,121,433 | 785,480 |
| | 1997* | 20,440,415 | 17,316,796 | 823,499 | 1,199,896 | 912,960 |
| | 2002* | 22,485,449 | 18,320,664 | 1,197,988 | 1,574,159 | 1,137,628 |
| Total sales and receipts ($1,000) | 1982 | $967,450,721 | $926,423,019 | $9,619,055 | $14,976,337 | $15,785,561 |
| | 1987 | $1,994,808,000 | $1,916,277,919 | $19,762,876 | $24,731,600 | $33,124,326 |
| | 1992 | $3,324,200,000 | $3,115,407,754 | $32,197,361 | $72,824,269 | $95,713,613 |
| | 1997 | $4,239,708,305 | $3,899,023,305 | $42,671,000 | $114,431,000 | $161,142,000 |
| | 1997* | $8,392,001,261 | $7,763,010,611 | $71,214,662 | $186,274,581 | $306,932,982 |
| | 2002* | $8,844,543,267 | $8,077,248,001 | $92,681,562 | $226,468,398 | $348,542,296 |
| Mean sales and receipts | 1982 | $80,220 | $82,097 | $31,204 | $60,354 | $77,300 |
| | 1987 | $145,654 | $153,644 | $46,592 | $58,554 | $93,221 |
| | 1992 | $192,672 | $205,572 | $51,855 | $94,368 | $158,617 |
| | 1997 | $231,945 | $253,129 | $54,652 | $102,040 | $205,151 |
| | 1997* | $410,559 | $448,294 | $86,478 | $155,242 | $336,195 |
| | 2002* | $393,345 | $440,882 | $77,364 | $143,866 | $306,376 |

Sources: U.S. Census Bureau, Economic Census, Survey of Minority-Owned Business Enterprises (1982, 1987, 1992, 1997), U.S. Census Bureau, Survey of Business Owners (2002), and U.S. Census Bureau, Survey of Business Owners, special tabulations prepared by Valerie Strang (U.S. Census Bureau) using IRS data from Statistics of Income. Notes: (1) Estimates for 1997* and 2002* include C corporations. Estimates for all other years exclude C corporations. (2) The white category for 1982, 1987, and 1992 is equal to the total minus all minority groups, and the white category for 2002 is equal to all white firms minus Latino-owned firms. (3) All firms excludes publicly held, foreign-owned, not for profit and other, which are not included in the estimates for ethnic/racial groups. (4) Asian estimates for 1992 are taken from the 1997 Census report.

Table 3
Small Business Outcomes by Race
Characteristics of Business Owners, 1992

| | All Firms | White-Owned Firms | Black-Owned Firms |
|---|---|---|---|
| Percent of firms in 1992 no longer operating in 1996 (Closure) | 22.5% | 22.6% | 26.9% |
| Percent of firms with a net profit of at least $10,000 | 30.1% | 30.4% | 13.9% |
| Percent of firms with a positive net profit | 74.5% | 75.1% | 60.7% |
| Percent of firms with 1 or more paid employees | 21.3% | 21.4% | 11.3% |
| Mean number of employees | 1.77 | 1.80 | 0.63 |
| Mean sales | $212,791 | $219,190 | $59,415 |
| Mean log sales | 10.10 | 10.10 | 9.43 |
| Sample size | 38,020 | 15,872 | 7,565 |

Notes: (1) The sample includes businesses that are classified by the IRS as individidual proprietorships or self-employed persons, partnerships and subchapter S corporporations, have sales of $500 or more, and have at least one owner who worked at least 12 weeks and 10 hours per week in the business. (2) All estimates are calculated using sample weights provided by the CBO.

Table 4
Median Value of Assets for Households by Race
U.S. Census Bureau Estimates (1983-2000)

| | | Total | White | White, non-Latino | Black |
|---|---|---|---|---|---|
| Median net worth | 1983 | $32,667 | $39,135 | | $3,397 |
| | 1988 | $35,752 | $43,279 | | $4,169 |
| | 1991 | $36,623 | $44,408 | | $4,604 |
| | 1993 | $37,587 | $45,740 | | $4,418 |
| | 1995 | $40,200 | $49,030 | | $7,073 |
| | 1998 | $41,681 | $52,301 | $59,700 | $5,490 |
| | 2000 | $46,506 | $58,716 | $67,000 | $6,166 |

Source: U.S. Census Bureau estimates from various years of the Survey of Income and Program Participation (SIPP).

Table 5
Decomposition of Black/White Gaps in Business Entry Rates
Current Population Survey, Matched Annual Demographic Surveys (1998-2003) and Panel Study of Income Dynamics (1968-89)

| | Specification | | |
|---|---|---|---|
| | CPS (1) | PSID (2) | PSID (4) |
| Coefficient Estimates | Pooled | White | Black |
| White/minority gap in entry rate | 0.0144 | 0.0201 | 0.0201 |
| Contributions from racial differences in: | | | |
| Sex | -0.0002 | | |
| | -1.6% | | |
| Education | 0.0009 | 0.0012 | 0.0001 |
| | 6.0% | 5.8% | 0.5% |
| Age | 0.0000 | | |
| | 0.0% | | |
| Marital status and children | 0.0007 | | |
| | 5.0% | | |
| Not-employed | -0.0005 | | |
| | -3.4% | | |
| Assets | 0.0022 | 0.0028 | 0.0031 |
| | 15.5% | 13.9% | 15.2% |
| Region | 0.0010 | | |
| | 6.7% | | |
| Central city status | 0.0008 | | |
| | 5.4% | | |
| Year effects | 0.0001 | | |
| | 0.6% | | |
| Father's Education Level | | 0.0008 | 0.0010 |
| | | 4.2% | 4.8% |
| Father's Self-Employment Status | | 0.0015 | 0.0027 |
| | | 7.5% | 13.6% |
| Age, marital status, children and other controls | | -0.0034 | -0.0010 |
| | | -17.1% | -5.0% |
| All included variables ("explained" part of the gap) | 0.0049 | 0.0029 | 0.0058 |
| | 34.0% | 14.2% | 29.1% |

Notes: (1) The CPS sample consists of individuals (ages 25-55) who are not self-employed business owners in year t. The PSID sample consists of male nonagricultural workers (ages 16-54) who are heads of family units. (2) Contribution estimates are from non-linear decompositions. (3) Sources: Fairlie (1999, 2006).

Table 6
Decompositions of Black/White Gaps in Small Business Outcomes
Characteristics of Business Owners,1992

| | Specification | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Dependent variable | Closure | Profits | Employer | Ln Sales |
| Black mean | 0.2692 | 0.1414 | 0.1116 | 9.4221 |
| White mean | 0.2288 | 0.3003 | 0.2065 | 10.0615 |
| Black/white gap | -0.0404 | 0.1590 | 0.0948 | 0.6394 |
| Contributions from racial differences in: | | | | |
| Sex | -0.0019 | 0.0231 | 0.0060 | 0.0562 |
| | 4.7% | 14.6% | 6.3% | 8.8% |
| Marital status | -0.0030 | 0.0055 | 0.0041 | 0.0118 |
| | 7.5% | 3.5% | 4.3% | 1.8% |
| Education | -0.0031 | 0.0045 | 0.0013 | 0.0066 |
| | 7.8% | 2.8% | 1.4% | 1.0% |
| Region | -0.0031 | 0.0035 | 0.0010 | 0.0160 |
| | 7.6% | 2.2% | 1.0% | 2.5% |
| Urban | -0.0012 | -0.0078 | 0.0021 | -0.0277 |
| | 2.9% | -4.9% | 2.2% | -4.3% |
| Prior work experience | 0.0014 | -0.0021 | -0.0010 | -0.0032 |
| | -3.5% | -1.3% | -1.1% | -0.5% |
| Prior work experience in a managerial capacity | 0.0065 | 0.0005 | 0.0018 | 0.0035 |
| | -16.1% | 0.3% | 1.9% | 0.5% |
| Prior work experience in a similar business | -0.0029 | 0.0042 | 0.0022 | 0.0277 |
| | 7.1% | 2.6% | 2.3% | 4.3% |
| Have a self-employed family member | -0.0032 | 0.0001 | 0.0009 | -0.0128 |
| | 7.8% | 0.0% | 1.0% | -2.0% |
| Prior work experience in a family member's business | -0.0032 | 0.0019 | 0.0033 | 0.0246 |
| | 7.9% | 1.2% | 3.4% | 3.8% |
| Inherited business | -0.0001 | 0.0005 | 0.0000 | 0.0007 |
| | 0.1% | 0.3% | 0.0% | 0.1% |
| Startup capital | -0.0175 | 0.0231 | 0.0350 | 0.1512 |
| | 43.2% | 14.5% | 36.9% | 23.6% |
| Industry | -0.0083 | 0.0112 | 0.0092 | 0.0633 |
| | 20.5% | 7.0% | 9.7% | 9.9% |
| All included variables | -0.0395 | 0.0683 | 0.0658 | 0.3179 |
| | 97.7% | 42.9% | 69.4% | 49.7% |

Notes: (1) The sample and regression specifications are the same as those used in Chapter 4, Table 9. (2) Contribution estimates are mean values of the decomposition using 1000 subsamples of whites. See text for more details.

**Table 7: Firm and Owner Characteristics -- SSBF 1998 Weighted Means**

| Variable | White | Black | Hispanic | Other |
|---|---|---|---|---|
| SIZE | | | | |
| Total Employment | 8.99 | 5.01 | 6.16 | 7.00 |
| Assets | $452,506 | $71,175 | $159,806 | $292,298 |
| Sales | $1,072,791 | $265,612 | $427,262 | $673,112 |
| | | | | |
| INDUSTRY | | | | |
| Mining, Construction, Wholesale | 19.9% | 10.5% | 14.1% | 16.3% |
| Retail | 18.6% | 23.0% | 19.2% | 23.7% |
| Services | 42.2% | 51.6% | 47.8% | 47.9% |
| Transportation, Insurance, Other | 10.6% | 10.8% | 10.2% | 6.8% |
| Manufacturing | 8.7% | 4.1% | 8.7% | 5.1% |
| | | | | |
| ORGANIZATIONAL FORM | | | | |
| C-corporation | 20.7% | 13.5% | 15.9% | 14.8% |
| S-corporation | 24.1% | 22.0% | 20.1% | 25.2% |
| Partnership | 6.6% | 5.9% | 9.6% | 8.2% |
| Sole Proprietor | 48.6% | 58.6% | 54.3% | 51.8% |
| | | | | |
| OTHER FIRM CHARACTERISTICS | | | | |
| Firm Age | 13.80 | 11.07 | 10.97 | 9.99 |
| Number of Sites | 1.40 | 1.28 | 1.13 | 1.20 |
| In a Metropolitan Statistical Area | 78.2% | 88.3% | 92.2% | 87.6% |
| | | | | |
| OWNER CHARACTERISTICS | | | | |
| College Grad | 48.7% | 41.4% | 37.5% | 60.5% |
| Years of Experience | 18.74 | 14.75 | 15.78 | 14.12 |
| Age | 50.53 | 49.23 | 47.96 | 46.63 |

**Table 8: Financing Characteristics -- SSBF 1998 Weighted Means**

| Variable | White | Black | Hispanic | Other |
|---|---|---|---|---|
| Have Outstanding Loan | 55.9% | 48.4% | 52.7% | 47.1% |
| Equipment Loan | 10.3% | 6.5% | 10.3% | 4.9% |
| Motor Vehicle Loan | 21.0% | 14.6% | 16.3% | 18.9% |
| Other Loan | 9.9% | 11.5% | 8.8% | 8.3% |
| Borrowed from Credit Card | 15.4% | 24.7% | 19.9% | 17.5% |
| Borrowed from Trade Credit | 27.1% | 28.5% | 17.6% | 26.1% |
| Posession of a Mortgage | 13.3% | 11.7% | 13.5% | 12.9% |
| Owner Loan | 14.5% | 11.7% | 10.4% | 14.8% |
| Institution Loan | 96.7% | 91.3% | 92.9% | 97.2% |
| Have loan, trade credit borrowing, or credit card borrowing | 67.6% | 65.0% | 63.3% | 62.4% |
| Use of Business Credit Card for Business Purposes | 35.0% | 28.5% | 29.1% | 26.7% |
| Use of Personal Credit Card for Business Purposes | 46.1% | 44.6% | 42.3% | 51.6% |
| Use of Capital Lease | 10.6% | 13.8% | 8.9% | 8.9% |
| Use of Credit Line | 29.0% | 18.7% | 21.0% | 21.6% |
| Use of Trade Credit | 63.5% | 46.7% | 47.4% | 60.4% |
| Use of Checking Account | 94.4% | 87.2% | 91.3% | 95.4% |
| Use of Saving Account | 23.1% | 13.3% | 19.6% | 16.8% |
| Primary Insitution is a Commercial Bank | 84.4% | 82.6% | 79.0% | 88.5% |
| Length of Relationship with Primary Institution in Months | 96.96 | 75.55 | 76.74 | 80.70 |

**Table 9: Borrowing and Credit History Characteristics -- SSBF 1998 Weighted Means**

| Variable | White | Black | Hispanic | Other |
|---|---|---|---|---|
| Dun & Bradstreet Credit Score | 51.85 | 39.04 | 46.22 | 47.13 |
| Denied Trade Credit | 5.0% | 10.6% | 7.7% | 5.9% |
| Bankruptcy by Firm/Owner/Both | 2.2% | 6.1% | 4.6% | 2.0% |
| Delinquent on Personal Obligations | 6.5% | 17.8% | 9.1% | 4.7% |
| Delinquent on Business Obligations | 7.7% | 11.5% | 9.1% | 3.4% |
| Judgement against Owner | 3.4% | 9.8% | 5.3% | 5.1% |
| Home Owned by Business Owner | 89.2% | 81.9% | 74.8% | 79.1% |
| 2+ New Loan Apps in Past 3 Years | 23.2% | 25.9% | 25.7% | 20.9% |
| 1+ New Loan Apps in Past 3 Years | 12.2% | 14.8% | 13.5% | 11.0% |
| Loan Approval | 75.8% | 35.5% | 49.3% | 50.5% |
| Did Not Apply for a Loan Fearing Denial | 21.2% | 54.6% | 33.9% | 22.7% |
| Original Interest Rate of Approved Loan | 9.25 | 11.12 | 10.01 | 10.29 |
| Points to Close for Approved Loan | 0.16 | 0.47 | 0.23 | 0.13 |
| Total Cost of Approved Loan | $1,591 | $2,425 | $1,103 | |

Table 10
Dependent Variable: Have an Outstanding Loan

| Variable | Coefficient | Standard Error | T statistic |
|---|---|---|---|
| Female | -0.1206 | 0.1126 | -1.07 |
| Black | 0.1687 | 0.1789 | 0.94 |
| Hispanic | 0.0705 | 0.1683 | 0.42 |
| **Other** | -0.3743 | 0.1725 | -2.17 |
| **Log of employment** | 0.3893 | 0.0609 | 6.39 |
| **Log of sales** | 0.1341 | 0.0346 | 3.88 |
| **Log of Assets** | 0.2068 | 0.0314 | 6.59 |
| **Mining/Construction/Wholesale** | 0.4227 | 0.1960 | 2.16 |
| Retail | -0.1756 | 0.1891 | -0.93 |
| Services | 0.0592 | 0.1721 | 0.34 |
| trainsoth | 0.3693 | 0.2151 | 1.72 |
| Partnership | 0.1271 | 0.1909 | 0.67 |
| C Corporation | -0.2696 | 0.1452 | -1.86 |
| S Corporation | -0.1276 | 0.1301 | -0.98 |
| **MSA** | -0.3354 | 0.1177 | -2.85 |
| Log of Firm Age | -0.1191 | 0.0878 | -1.36 |
| Log of # of Offices | -0.0596 | 0.1475 | -0.4 |
| Log of Experience | 0.0648 | 0.1012 | 0.64 |
| **Log of Owner Age** | -0.6216 | 0.2594 | -2.4 |
| College Grad | -0.1146 | 0.0975 | -1.18 |
| Dun and Bradstreet Credit Score (percent) | -0.0016 | 0.0017 | -0.92 |
| Bankruptcy | -0.2545 | 0.2928 | -0.87 |
| Delinquent on personal obligations | 0.1472 | 0.2094 | 0.7 |
| **Delinquent on business obligations** | 0.6054 | 0.2040 | 2.97 |
| Judgement | 0.0417 | 0.2437 | 0.17 |
| Denied Trade Credit | 0.2483 | 0.2160 | 1.15 |
| Own home | 0.0903 | 0.1462 | 0.62 |
| **Checking Account** | -0.9216 | 0.3365 | -2.74 |
| Savings Account | 0.1056 | 0.1137 | 0.93 |
| Owner loan | 0.1482 | 0.1425 | 1.04 |
| Length of relationship with Primary institution | -0.0008 | 0.0005 | -1.56 |
| Constant | -0.2605 | 1.0445 | -0.25 |

n=3437

Table 11
Dependent Variable: Loan Approved

| Variable | Coefficient | Standard Error | T statistic |
|---|---|---|---|
| Female | 0.2413 | 0.2797 | 0.86 |
| **Black** | -1.6970 | 0.4026 | -4.21 |
| **Hispanic** | -1.1360 | 0.3611 | -3.15 |
| **Other** | -0.9190 | 0.3896 | -2.36 |
| Log of employment | 0.1809 | 0.1339 | 1.35 |
| Log of sales | -0.0809 | 0.0675 | -1.2 |
| Log of Assets | 0.0096 | 0.0642 | 0.15 |
| Mining/Construction/Wholesale | 0.6716 | 0.3938 | 1.71 |
| Retail | 0.7807 | 0.3976 | 1.96 |
| Services | 0.2797 | 0.3439 | 0.81 |
| trainsoth | 0.7657 | 0.4912 | 1.56 |
| Partnership | 0.3075 | 0.4326 | 0.71 |
| **C Corporation** | 0.7549 | 0.3702 | 2.04 |
| S Corporation | 0.6458 | 0.3291 | 1.96 |
| MSA | -0.1984 | 0.2715 | -0.73 |
| Log of Firm Age | 0.2640 | 0.1961 | 1.35 |
| **Log of # of Offices** | -0.6187 | 0.2725 | -2.27 |
| Log of Experience | -0.0368 | 0.2312 | -0.16 |
| Log of Owner Age | 0.3264 | 0.6420 | 0.51 |
| College Grad | -0.0729 | 0.2336 | -0.31 |
| Dun and Bradstreet Credit Score (percent) | 0.0002 | 0.0044 | 0.04 |
| **Bankruptcy** | -3.5972 | 0.9390 | -3.83 |
| **Delinquent on personal obligations** | -0.7125 | 0.3484 | -2.05 |
| Delinquent on business obligations | -0.3920 | 0.3467 | -1.13 |
| **Judgement** | -1.4701 | 0.4347 | -3.38 |
| **Denied Trade Credit** | -0.9399 | 0.3560 | -2.64 |
| **Own home** | 0.9047 | 0.3463 | 2.61 |
| **Checking Account** | -1.9866 | 0.6496 | -3.06 |
| Savings Account | 0.2128 | 0.2564 | 0.83 |
| **Owner loan** | -1.1692 | 0.3121 | -3.75 |
| Length of relationship with Primary institution | -0.0003 | 0.0014 | -0.25 |
| **Primary Institution is a bank** | 0.8151 | 0.2846 | 2.86 |
| **Credit Card Borrowing** | -0.5120 | 0.2477 | -2.07 |
| **Trade Credit Borrowing** | -0.5476 | 0.2597 | -2.11 |
| **Other Loan** | 1.0766 | 0.2639 | 4.08 |
| Constant | 0.1245 | 2.2682 | 0.05 |

n=953

Table 12
Dependent Variable: Fear of Denial

| Variable | Coefficient | Standard Error | T statistic |
|---|---|---|---|
| Female | 0.1641 | 0.1323 | 1.24 |
| **Black** | 1.2276 | 0.1787 | 6.87 |
| **Hispanic** | 0.4642 | 0.1935 | 2.4 |
| Other | -0.0004 | 0.2322 | 0 |
| Log of employment | -0.0753 | 0.0690 | -1.09 |
| **Log of sales** | -0.0497 | 0.0242 | -2.05 |
| Log of Assets | -0.0355 | 0.0266 | -1.34 |
| Mining/Construction/Wholesale | -0.1569 | 0.2238 | -0.7 |
| Retail | -0.0019 | 0.2198 | -0.01 |
| Services | -0.1989 | 0.2057 | -0.97 |
| trainsoth | 0.1033 | 0.2518 | 0.41 |
| Partnership | -0.0598 | 0.2414 | -0.25 |
| C Corporation | 0.0344 | 0.1806 | 0.19 |
| S Corporation | -0.0579 | 0.1644 | -0.35 |
| MSA | 0.1536 | 0.1419 | 1.08 |
| Log of Firm Age | -0.1896 | 0.1018 | -1.86 |
| Log of # of Offices | 0.1358 | 0.1444 | 0.94 |
| Log of Experience | 0.2178 | 0.1160 | 1.88 |
| Log of Owner Age | -0.5871 | 0.2988 | -1.96 |
| **College Grad** | -0.2687 | 0.1171 | -2.29 |
| **Dun and Bradstreet Credit Score (percent)** | -0.0083 | 0.0022 | -3.81 |
| **Bankruptcy** | 2.0350 | 0.3580 | 5.68 |
| **Delinquent on personal obligations** | 1.2559 | 0.2219 | 5.66 |
| Delinquent on business obligations | 0.3961 | 0.2108 | 1.88 |
| **Judgement** | 0.5732 | 0.2453 | 2.34 |
| **Denied Trade Credit** | 1.1847 | 0.2088 | 5.67 |
| **Own home** | -0.6202 | 0.1618 | -3.83 |
| Checking Account | 0.4618 | 0.3878 | 1.19 |
| **Savings Account** | -0.3996 | 0.1451 | -2.75 |
| **Owner loan** | 0.5740 | 0.1652 | 3.47 |
| Length of relationship with Primary institution | -0.0012 | 0.0007 | -1.86 |
| Primary Institution is a bank | -0.2360 | 0.1530 | -1.54 |
| **Credit Card Borrowing** | 1.2149 | 0.1360 | 8.94 |
| **Trade Credit Borrowing** | 0.3123 | 0.1370 | 2.28 |
| **Other Loan** | 0.4992 | 0.1308 | 3.82 |
| Constant | 1.7428 | 1.1385 | 1.53 |

n=3437

Table 13
Dependent Variable: Credit Card Borrowing

| Variable | Coefficient | Standard Error | T statistic |
|---|---|---|---|
| **Female** | 0.3594 | 0.1337 | 2.69 |
| **Black** | 0.4203 | 0.1859 | 2.26 |
| Hispanic | 0.2220 | 0.2008 | 1.11 |
| Other | 0.1345 | 0.2159 | 0.62 |
| Log of employment | -0.0748 | 0.0672 | -1.11 |
| Log of sales | -0.0179 | 0.0264 | -0.68 |
| Log of Assets | 0.0051 | 0.0290 | 0.18 |
| Mining/Construction/Wholesale | -0.4301 | 0.2381 | -1.81 |
| Retail | -0.1971 | 0.2273 | -0.87 |
| Services | -0.1793 | 0.2108 | -0.85 |
| **trainsoth** | -0.6656 | 0.2767 | -2.41 |
| Partnership | -0.1534 | 0.2408 | -0.64 |
| **C Corporation** | -0.4951 | 0.1916 | -2.58 |
| **S Corporation** | -0.3352 | 0.1733 | -1.93 |
| MSA | -0.1777 | 0.1487 | -1.2 |
| **Log of Firm Age** | -0.2536 | 0.1044 | -2.43 |
| Log of # of Offices | -0.1467 | 0.1785 | -0.82 |
| **Log of Experience** | 0.3181 | 0.1252 | 2.54 |
| Log of Owner Age | -0.4768 | 0.3233 | -1.47 |
| College Grad | 0.0451 | 0.1217 | 0.37 |
| **Dun and Bradstreet Credit Score (percent)** | -0.0067 | 0.0023 | -2.86 |
| Bankruptcy | -0.2563 | 0.3899 | -0.66 |
| **Delinquent on personal obligations** | 0.6831 | 0.2201 | 3.1 |
| **Delinquent on business obligations** | 0.9466 | 0.2052 | 4.61 |
| Judgement | 0.0279 | 0.2981 | 0.09 |
| Denied Trade Credit | 0.4103 | 0.2193 | 1.87 |
| Own home | -0.1151 | 0.1801 | -0.64 |
| **Checking Account** | -0.0290 | 0.3448 | -0.08 |
| Savings Account | -0.1420 | 0.1520 | -0.93 |
| **Owner loan** | 0.6173 | 0.1731 | 3.57 |
| Length of relationship with Primary institution | -0.0014 | 0.0008 | -1.71 |
| Constant | 0.9197 | 1.1981 | 0.77 |

n=3437