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ACCESS TO FINANCIAL CAPITAL AMONG U.S. BUSINESSES:

THE CASE OF AFRICAN-AMERICAN FIRMS

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Abstract

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 over most of the twentieth 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 $437,870 compared with only $74,018 for black firms.

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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 over most of the twentieth 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 $437,870 compared with only $74,018 for black firms.

The performance 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

[1] See Bates (1993a) for a description of programs promoting self-employment among minorities.

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 ownership of small businesses (See Loewen 1971, Light 1972, Baron et al. 1985, 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. 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).

Another important concern is that blacks are constrained in their choice to become business owners. For example, if liquidity constraints are present, which restrict access to financial capital, some blacks may not become entrepreneurs who otherwise would have become entrepreneurs given better access to capital. Limited access to financial capital may also result in undercapitalized businesses limiting potential growth among black-owned businesses. These constraints not only hurt economic progress among blacks, but also create more general efficiency loss in the economy. Many innovative products and services may never make it to the market because of these constraints.

Previous research on the low levels of business ownership and relative underperformance 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-

[2] See Glazer and Moynihan (1970), Light (1972, 1979), Sowell (1981), and Moore (1983).

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 2006b). 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. 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? Finally, among those businesses that are created are lower levels of startup capital resulting in less successful black-owned businesses relative to white-owned businesses?

To address these questions, we conduct a synthesis of the literature and an extensive analysis of data from several sources. These sources include the confidential and restricted-access Characteristics of Business Owners (CBO), Survey of Minority Owned Businesses (SMOBE), Survey of Business Owners (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 remainder of this article is organized as follows. In section 2 we provide a detailed discussion of these data. We discuss and analyze the black/white disparities in business ownership rates and business performance levels in section 3. Section 4 describes the racial disparities in wealth, while section 5 covers how personal wealth relates to business entry. We discuss racial differences in start up capital in section 6. We discuss both racial differences in borrowing patterns and lending discrimination in section 7. Finally, in section 8 we provide some summary remarks and a few suggestions for future research in this area.

2. Data

The 1992 Characteristics of Business Owners (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 Survey of Business Owners (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 mailout/mailback 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.[3] The Survey of Business Owners (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

[3] Sole proprietorships complete a 1040C form, partnerships complete a 1065 form, S corporations complete a 1120S form, and C corporations complete a 1120 form.

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.

The Current Population Survey (CPS) is a monthly survey of about 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 Panel Study of Income Dynamics (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 Survey of Income and Program Participation (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 non-agricultural 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).

Racial differences in business outcomes essentially follow the same patterns as business ownership rates. Black-owned businesses underperform white-owned firms, on average. 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. For example 2002 average sales and receipts are $74,018 for black-owned firms. In contrast, white-owned firms have average sales of $437,870.

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, for 1992, only 13.9 percent of black-owned firms have annual profits of $10,000 or more, compared with 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).[4] 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.[5]

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 4 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 1 employee. As we saw earlier, these trends have continued through the more recent surveys.

[4] The CBO only includes a categorical measure for profits.
[5] Although sample weights are used that correct for non-response, 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 rates, however, were similar across the respondents and

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?

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 (see 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). Twenty-nine percent of blacks have net worth that is negative or zero. Forty-five percent of blacks have net worth of less than $5,000. Only about eleven percent of whites have net worth that is zero or negative. And, less than one fifth of all whites have net worth below $5,000. 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.

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nonrespondents.

The single largest asset held by most households is their home. Estimates of home ownership reported in Table 4 indicate that only 46.8 percent of all black households own their own homes. For whites, 73.0 percent own their own home. Among blacks who own home they 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 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.

Racial inequality in wealth is 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.[6] 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).[7]

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 5 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 home ownership, 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

[6] For example, see Evans and Jovanovic (1989), Evans and Leighton (1989), Meyer (1990), Holtz-Eakin, Joulfaian, and Rosen (1994a and b), Lindh and Ohlsson (1996), 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), and Holtz-Eakin and Rosen (2004).
[7] Hurst and Lusardi (2004) find a flat relationship between wealth and entrepreneurship through most of the wealth distribution.

underlying assets and liquidity. All measures of assets are measured prior to the self-employment decision. 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, which are statistically significant (see specifications 2 and 3 in table 5)

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 Characteristics of Business Owners (CBO). The CBO contains categorical information on "the total amount of capital required to start/acquire the business" (U.S. Census Bureau 1997, p. C-15).[8] Some caution is

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

warranted, however, in interpreting racial differences in this measure and their contribution to racial differences in business outcomes. The 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 home ownership, 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

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

evidence of a consistent relationship between personal commitments and owner's wealth across specifications.

Estimates from the 1992 CBO microdata indicate that black-owned businesses have very low levels of startup capital relative to white-owned businesses (Figure 2). 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 2006a). 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 suggesting that racial disparities in startup capital contribute to worse outcomes among black-owned businesses. There is 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 (Fairlie and Robb 2006a). 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 5 reports estimates from a procedure that decomposes black/white gaps in small business outcomes into contributions from racial differences in owner and business characteristics, and from racial differences in the determinants and unexplained part of business outcomes.[11] The separate contributions from racial differences in each set of independent variables are reported. These variables are potential determinants of small business outcomes. Their effects on small business outcomes are estimated from separate regression models (see Fairlie and Robb 2006b). As noted above, the black/white gaps in small business outcomes are

[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.

[11] See Blinder (1973) and Oaxaca (1973) for more details of the decomposition technique for linear outcomes and Fairlie (1999, 2005) for more details of the non-linear decomposition technique used for binary outcomes and logit regressions. SAS programs are available for the non-linear decomposition technique at econ.ucsc.edu/~fairlie/decomposition, and a Stata program and help file is available by entering "ssc install fairlie" in Stata.

large. We focus on the contributions from racial differences in startup capital and industry. The contributions from racial differences in other owner and business characteristics are discussed in Fairlie and Robb (2006b). 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 with 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, and, in fact, are the most important explanatory factor. The contribution estimates range from 14.5 to 43.2 percent. Clearly, lower levels of 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 home ownership reported above. They are also less likely to use equity or non-borrowed 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 Survey of Small Business Finances (SSBF).[12] 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 credit-worthiness, 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

[12] The SSBF is a survey of small businesses in the United States, which is conducted roughly every five years. The 1998 SSBF includes a nationally representative sample of more than 3,500 for-profit, non-governmental, non-agricultural businesses with fewer than 500 employees. It includes detailed information on many firm and owner characteristics, including 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. See Bitler, Robb, and Wolken (2001) for more information.

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. Conclusions

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. Starting with this disparity, blacks are much less likely to start businesses than are whites resulting in a substantially 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 grow and succeed. Racial disparities in startup capital contribute to higher failure rates, lower sales and profits, and less employment among black-owned businesses. Evidence from the SSBF also suggests black-owned businesses face significant barriers to access to capital, which are possibly due to lending discrimination. Even after controlling for detailed owner and firm characteristics and credit histories, black businesses are less likely to have loans approved and are more likely to not apply for loans because of fear of denial.

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 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) and first time homeowner programs 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.

There are two clear areas for future research. The first is access to capital among established black firms. Do larger, more established black-owned businesses also face barriers to obtaining financial capital or are the barriers limited to minority startups? In future research, we plan to use data from the Survey of Small Business Finances to investigate this question. The second is a study that can make the direct link between black net worth and levels of startup capital used. There is evidence of a positive relationship between personal wealth and entrepreneurship and a positive relationship between startup capital and business success, but there is little evidence on the relationship between the owner's wealth and how much is invested in the business at startup because of data limitations. Evidence on this question would be useful for a more complete understanding of the processes by which wealth inequality leads to racial disparities in business success.

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

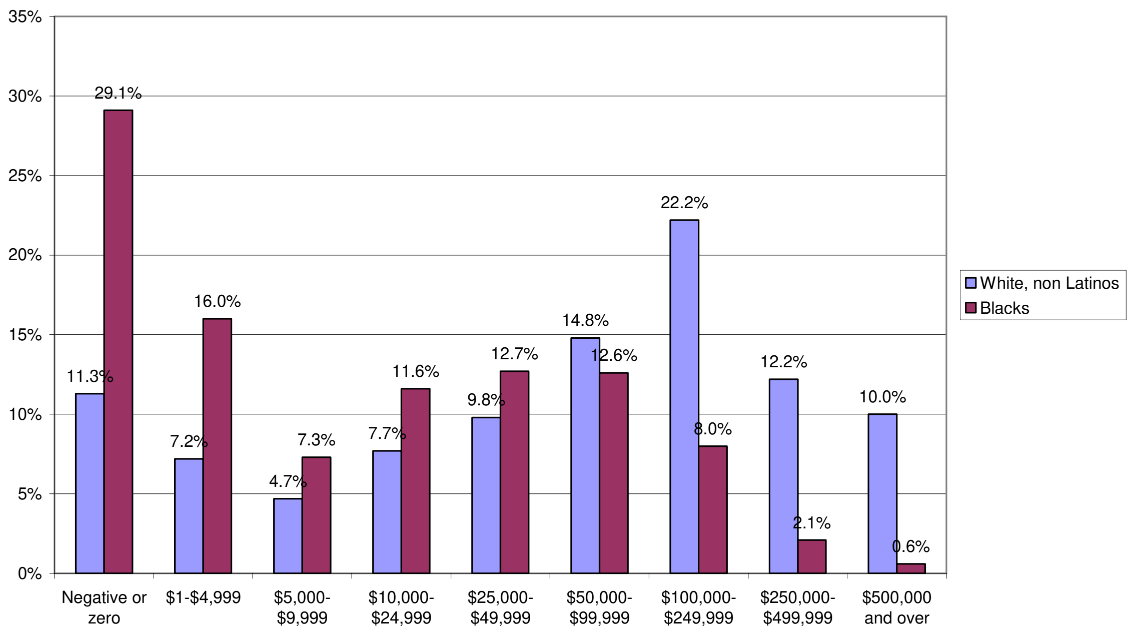

Figure 2
Startup Capital by Race
Characteristics of Business Owners, 1992

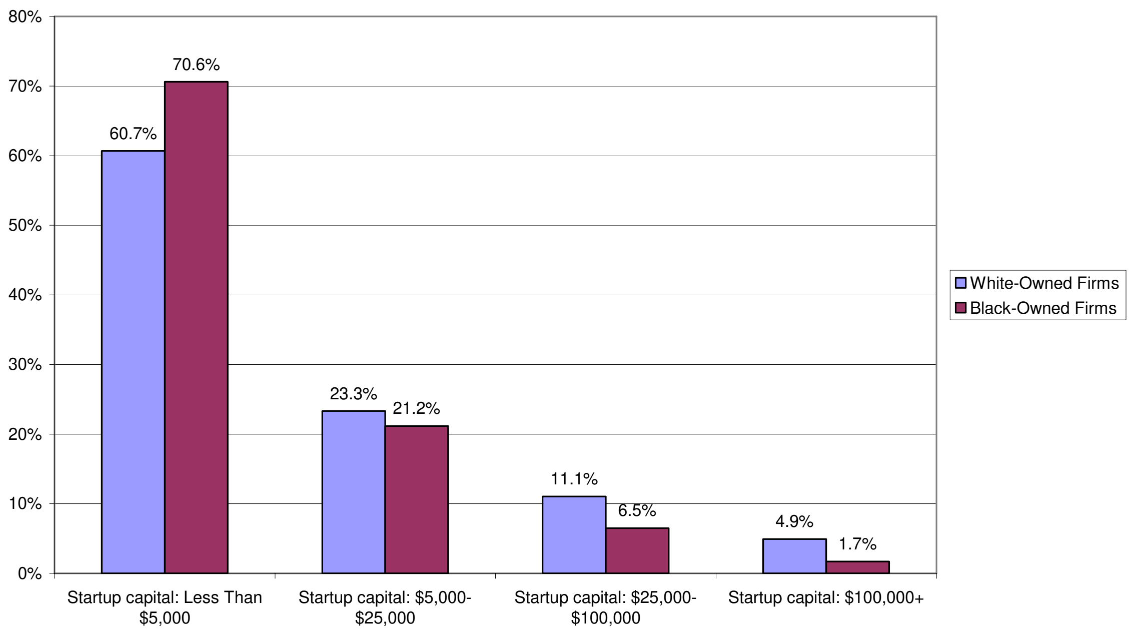

Table 1
Self-Employment Rates by Ethnicity/Race
Current Population Survey, Outgoing Rotation Group Files (2004)

	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 Pacific Islander-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*	22,480,256	18,702,272	1,197,567	1,573,464	1,132,535
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*	$8,783,541,146	$8,189,170,476	$88,641,608	$221,927,425	$330,943,036
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*	$390,722	$437,870	$74,018	$141,044	$292,214

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 Characteristics of Business Owners.

Table 4
Household Assets 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
Percent with own home	2000	67.2%		73.0%	46.8%
Median equity in own home among homeowners	2000	$59,000		$64,200	$35,000

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 (3)
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 (see Fairlie 1999, 2006 for details).

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 described in the text. (2) Contribution estimates are from linear and non-linear decompositions (see Blinder 1973, Oaxaca 1973, and Fairlie 1999, 2006 for details).