APPENDIX G.
Access to Capital for Business Formation and Success

Access to capital represents one of the factors researchers have examined when studying business formation and success. If discrimination exists in capital markets, minorities and women may have difficulty acquiring the capital necessary to start or expand a business.[1]

Other appendices examine topics related to the formation and success of businesses. For example, Appendix E investigates several other factors that may lead to differences in business ownership, and Appendix F explores marketplace dynamics that may explain differences in success of businesses. This appendix explores access to business capital, which relates closely to matters discussed elsewhere — namely, formation and development of businesses.

BBC begins by studying homeownership and mortgage lending, as home equity is an important source of capital to start and expand businesses. We then examine access to business loans to assess whether minorities and females experience difficulty in acquiring capital.

Homeownership and Mortgage Lending

BBC analyzed homeownership and the mortgage lending industry to explore differences across race, ethnicity and gender groups that may lead to disparities in access to capital.

Homeownership. Wealth created through homeownership can be an important source of funds to start or expand a business.[2] Any barriers to homeownership and home equity growth for minorities or women can affect business opportunities by constraining acquisition of capital. Similarly, any barriers to accessing equity through home mortgages can limit the availability of funds for new or expanding businesses. In sum:

- A home is a tangible asset that provides borrowing power to the owner;
- Wealth that accrues from housing equity and tax savings from homeownership contributes to capital formation;[3]
- Mortgage loans have traditionally been the second largest loan type for small businesses next to lines of credit;[4] and

[1] For an example, see: Coleman, Susan. 2002. Small Firm Sources of Debt Capital: A Comparison by Gender, Race and Ethnicity. University of Hartford.

[2] The recent (beginning in late 2006) housing and mortgage crisis has substantially affected the ability of small businesses to secure loans through home equity. A discussion of the consequences to small businesses and MBE/WBEs is provided at the end of this section.

[3] Jackman, Mary R. and Robert W. Jackman 1980. "Racial Inequalities in Home Ownership." *Social Forces.* 58. 1221-1234.

[4] Berger, Allen N. and Gregory F. Udell. 1998. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance.* 22.

- Homeownership is associated with an estimated 30 percent reduction in probability of loan denial for small businesses.[5]

The study team first considered homeownership rates and home prices in Oklahoma and the United States before turning to data on the home mortgage market.

Homeownership rates. Homeownership is the first step toward building home equity to use for other purposes. Many studies document past discrimination in the U.S. housing market. For example, the United States has a history of restrictive real estate covenants and property laws affecting the ownership rights of minorities and women.[6] In the past, a woman's involvement in homeownership was ancillary to that of her husband and parents.[7] BBC used 2000 Census and 2008 American Community Survey (ACS) data to examine homeownership rates.

Figure G-1 shows rates of homeownership for minority groups and non-Hispanic whites in Oklahoma and the nation in 2000 and 2008. About 44 percent of African American households and 46 percent of Hispanic American households in Oklahoma were homeowners in 2000, compared with about 72 percent of non-Hispanic whites.

Homeownership rates in Oklahoma were also lower for Native Americans (66%) and other minorities (49%) compared to non-Hispanic whites.

Statistically significant disparities in homeownership rates are also present in 2008, as non-Hispanic whites had higher rates of home ownership compared to all other race/ethnicity groups examined. Patterns of homeownership in Oklahoma were similar to those seen in the United States in both 2000 and 2008. Homeownership rates for African Americans, Hispanic Americans and non-Hispanic whites in Oklahoma were close to overall rates at the national level, but Native Americans were more likely to be homeowners in Oklahoma than in the United States in both years.

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[5] Cavalluzzo, Ken and John Wolken. 2005. "Small Business Loan Turndowns, Personal Wealth and Discrimination." *Journal of Business.* 78:2153-2178.

[6] Ladd, Helen F. 1982. "Equal Credit Opportunity: Women and Mortgage Credit." *The American Economic Review*. 72:166-170.

[7] Card, Emily. 1980. "Women, Housing Access, and Mortgage Credit." *Signs.* 5:215-219.

Figure G-1. Homeownership rates, 2000 and 2008

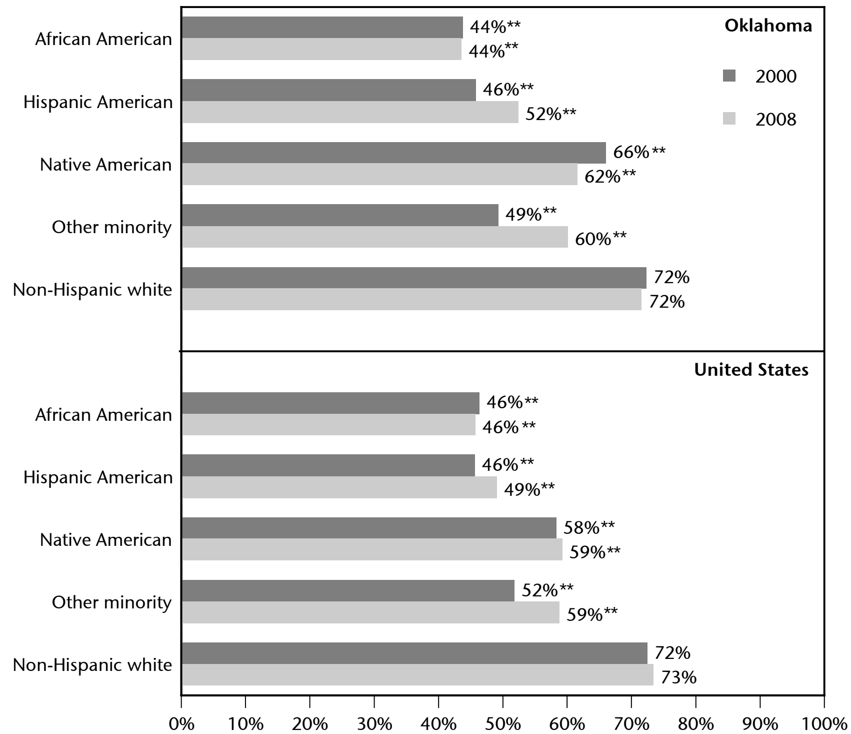
Note:

The sample universe is all households.

** Denotes that the difference in proportion between the minority group and non-Hispanic whites is statistically significant at the 95% confidence level.

Source:

BBC Research & Consulting from 2000 U.S. Census and 2008 American Community Survey data.



Although not shown here, BBC also examined homeownership rates for heads of household working in the Oklahoma construction industry: the rate of homeownership in 2000 was lower for African Americans, Hispanic Americans and Native Americans compared to non-Hispanic whites.

Differing rates of homeownership in part reflect lower incomes for minorities. This may be self-reinforcing, as low wealth puts individuals at a disadvantage in becoming homeowners, which has historically been an effective path to building wealth. One study found statistically significant results indicating that the probability of homeownership is considerably lower for African Americans than it is for comparable non-Hispanic whites throughout the U.S.[8]

Home values. Recent research has found that homeownership and the value of the home is a direct determinant of capital available to form or expand businesses. For example, using microdata from matched Current Population Surveys (1993-2004), one study found that differences in housing appreciation between metropolitan areas affected opportunities for self-employment. The study indicated that a 10 percent annual increase in housing equity increases the mean probability of entrepreneurship by approximately 20 percent.[9]

Using U.S. Bureau of the Census data on home values in 2000 and 2008, BBC compared median home values for different race and ethnic groups. Figure G-2 presents 2000 median home values in Oklahoma and the United States.

[8] Jackman. 1980. "Racial Inequalities in Home Ownership."

[9] Fairlie, Robert W. and Harry A. Krashinky. 2006. "Liquidity Constraints, Household Wealth, and Entrepreneurship Revisited." *IZA Discussion Paper.* No. 2201.

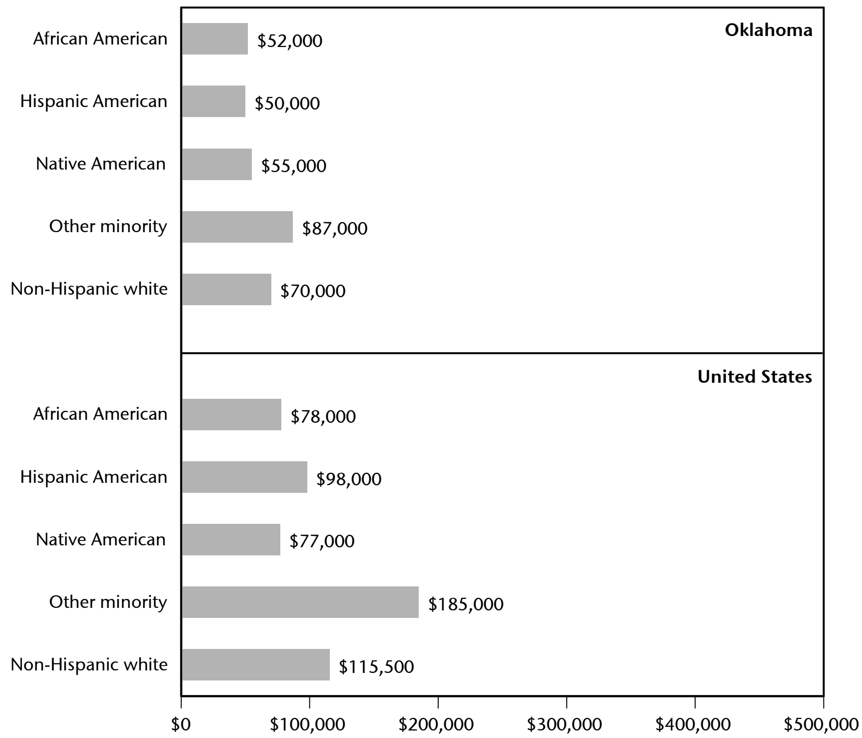
Figure G-2.
Median home value, 2000

Note:

The sample universe is all owner-occupied housing units.

Source:

BBC Research & Consulting from 2000 U.S. Census data.



The median home value in 2000 for non-Hispanic whites living in Oklahoma was $70,000, substantially above the median value of homes owned by African Americans, Hispanic Americans and Native Americans. In contrast, the median home value for other minorities was $87,000, more than that for non-Hispanic whites. Although home values were lower on average in Oklahoma than in the U.S., the pattern in Oklahoma for different race/ethnicity groups is similar to that seen at the national level.

Figure G-3 presents median home values by race/ethnicity in Oklahoma and the U.S. based on 2008 ACS data. As in 2000, African Americans, Hispanic Americans and Native Americans had substantially lower median home values compared to non-Hispanic whites in Oklahoma, whereas the median home value for other minorities was higher.

In the United States, median home values for African Americans and Native Americans remained well below the median value for non-Hispanic whites in 2008, while the national median home value for Hispanic Americans surpassed that of non-Hispanic whites.

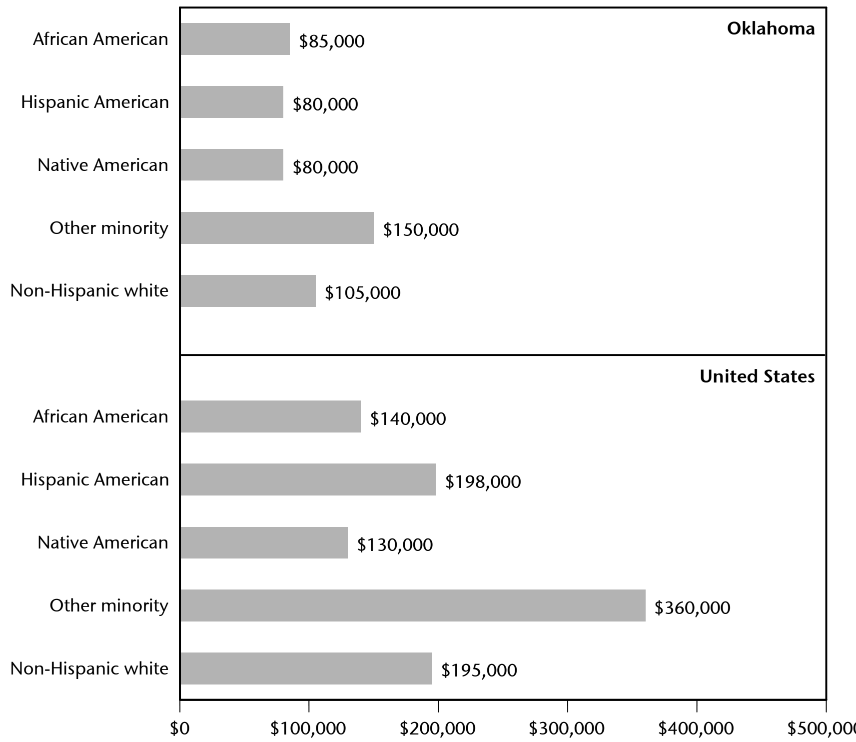
Figure G-3.
Median home value, 2008

Note:

The sample universe is all owner-occupied housing units.

Source:

BBC Research & Consulting from 2008 American Community Survey data.



Mortgage lending. If discriminated against when applying for home mortgages, minorities may be denied opportunities to own homes, purchase more expensive homes or access equity in their homes. To examine this possibility, BBC explored the mortgage lending market in the United States and Oklahoma.

The best available source of information concerning mortgage lending comes from Home Mortgage Disclosure Act (HMDA) data, which provide information on mortgage loan applications received by financial institutions, savings banks, credit unions and some mortgage companies.[10] These data include information about the location, dollar amount, and types of loans made, as well as race and ethnicity, income, and credit characteristics of loan applicants. The data are available for home purchase, home improvement and refinance loans.

BBC examined HMDA data provided by the Federal Financial Institutions Examination Council (FFIEC) on conventional loan denial rates for high-income borrowers. Conventional loans are those that are not insured by a government program; high-income borrowers include households with income at or above 120 percent of the U.S. Department of Housing and Urban Development (HUD) area median family income.[11] Loan denial rates are based on denied loans as a share of all mortgage applications where the application process was not terminated by the potential borrower.

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[10] Financial institutions are required to report HMDA data if they have assets of more than $32 million, have a branch office in a metropolitan area, and originated at least one home purchase or refinance loan in the reporting calendar year. Mortgage companies are required to report HMDA if they are for-profit institutions, had home purchase loan originations exceeding 10 percent of all loan obligations in the past year, are located in an Metropolitan Statistical Area (or originated five or more home purchase loans in an MSA) and either had more than $10 million in assets or made at least 100 home purchase or refinance loans in the calendar year.

[11] There are four HUD areas in Oklahoma, with 2008 median household incomes ranging from $45,700 to $55,300.

Data on loan denial rates for mortgages in Oklahoma show higher denial rates for minority high-income households than for non-Hispanic white high-income households.[12] Figure G-4 reports loan denial rates for Oklahoma and for the nation in 2004, 2006 and 2008. Among high-income households applying for mortgages, between 29 percent and 33 percent of African American applicants in Oklahoma had their applications denied during the years examined, compared with at most 19 percent of non-Hispanic white households. Loan denial rates were also higher for Native Americans and Hispanic Americans compared to non-Hispanic whites, while loan denial rates for Asian Americans were lower.

Loan denial rates for high-income borrowers were typically higher in Oklahoma compared to the U.S. in 2004 and lower in 2006 and 2008. However, the pattern for African Americans, Hispanic Americans and Native Americans in Oklahoma mirrored the pattern seen nationally, with higher loan denial rates for these groups compared to non-Hispanic whites.

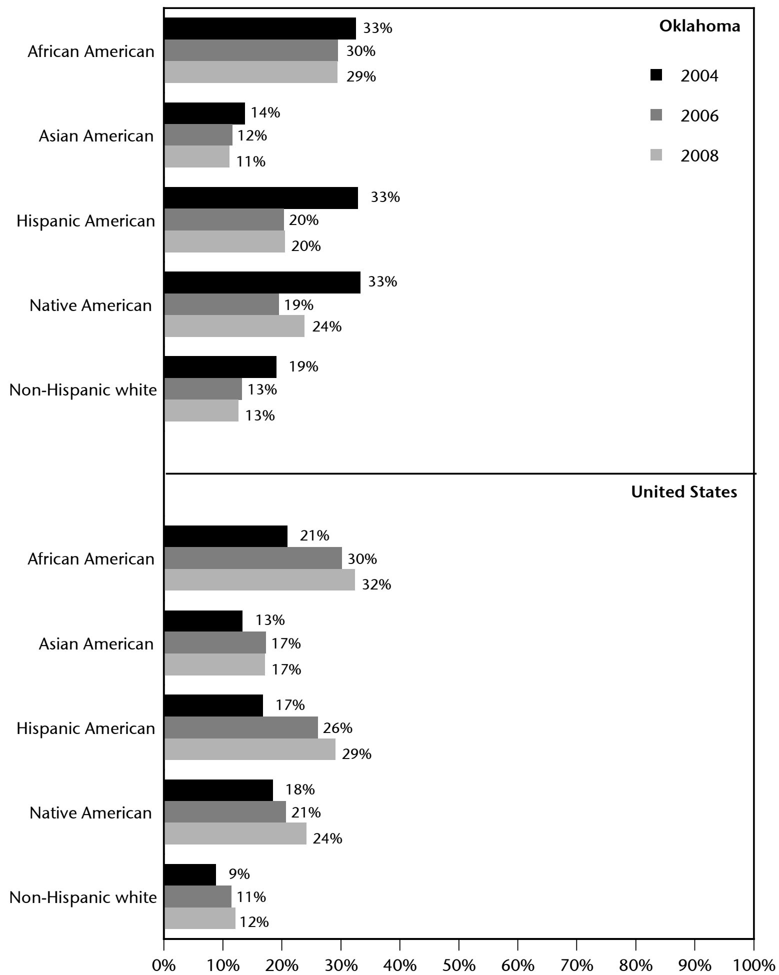
Figure G-4.
Denial rates on conventional purchase loans to high-income households in 2004, 2006 and 2008

Note:

High-income borrowers are those households with 120% or more than the HUD area median family income (MFI).

Source:

FFIEC HMDA data 2004, 2006 and 2008



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[12] Rates are based on all loans originated during the year and not on a sample; thus, analyses using HMDA data do not require tests for statistical significance.

A number of national studies have examined disparities in loan denial rates and loan amounts for minorities in the presence of other influences. Examples include the following:

- A study by the Federal Reserve Bank of Boston is one of the most cited studies of mortgage lending discrimination.[13] It was conducted using the most comprehensive set of credit characteristics ever assembled for a study on mortgage discrimination.[14] The study provided persuasive evidence that lenders in the Boston area discriminated against minorities in 1990.[15]

- Using the Federal Reserve Board's 1983 Survey of Consumer Finances and the 1980 Census of Population and Housing data, statistical analysis revealed that minority households were one-third as likely to receive conventional loans as non-Hispanic white households after taking into account financial and demographic controls.[16]

- Findings from a Midwest study indicate a significant relationship between race and both the number and size of mortgage loans. Data matched on socioeconomic characteristics revealed that African American borrowers across 13 census tracts received significantly fewer and smaller loans compared to their white counterparts.[17]

However, other studies have found that differences in preferences for Federal Housing Administration (FHA) loans — mortgage loans that are insured by the federal government — versus conventional loans among racial and ethnic groups may partly explain disparities found in conventional loan approvals between minorities and non-minorities in past years.[18] Several studies have found that, historically, minority borrowers were far more likely to receive FHA loans than comparable non-Hispanic white borrowers at all income and wealth levels. The insurance on FHA loans protects the lender, but the borrower can be impacted by higher-cost loans.[19]

Higher fees and interest rates. Loan denial represents one of several ways minorities might be discriminated against in the home mortgage market; mortgage-lending discrimination could also occur through higher fees and interest rates. The housing market provides a unique environment for this type of discrimination through fees associated with various loan types.

Until recently, one of the fastest-growing segments of the home mortgage industry was subprime lending. From 1994 through 2003, subprime mortgage activity grew by 25 percent per year and accounted for $330 billion of U.S. mortgages in 2003, up from $35 billion a decade earlier.

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[13] Munnell, Alicia H., Geoffrey Tootell, Lynn Browne and James McEneaney. 1996. "Mortgage Lending in Boston: Interpreting HMDA Data." The American Economic Review. 86: 25-53.

[14] Ladd, Helen F. 1998. "Evidence on Discrimination in Mortgage Lending." The Journal of Economic Perspectives. 12:41-62.

[15] Yinger, John. 1995. Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination. New York: Russell Sage Foundation, 71.

[16] Canner, Glenn B., Stuart A. Gabriel and J. Michael Woolley. 1991. "Race, Default Risk and Mortgage Lending: A Study of the FHA and Conventional Loan Markets." Southern Economic Journal. 58:249-262.

[17] Leahy, Peter J. 1985. "Are Racial Factors Important for the Allocation of Mortgage Money?: A Quasi-Experimental Approach to an Aspect of Discrimination." American Journal of Economics and Sociology. 44:185-196.

[18] Canner. 1991. "Race, Default Risk and Mortgage Lending: A Study of the FHA and Conventional Loan Markets."

[19] Yinger. 1995. Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination. 80.

Subprime loans generally have higher interest rates than prime loans. These loans are marketed and sold to customers with blemished or limited credit histories who would typically not qualify for prime loans. Over time, these loans also became available to homeowners who did not want to make a down payment, disclose or provide proof of income and assets, or wanted to purchase a "high-priced" home and would not be able to qualify under a different instrument.[20] Because of higher interest rates and additional costs, subprime loans affect homeowners' ability to grow home equity while simultaneously increasing their risks of foreclosure — consequences that have become especially apparent since 2007 and are discussed in greater detail below.

Although there is no standard definition of a subprime loan, there are several commonly-used approaches to examining rates of subprime lending. BBC used a "rate-spread method"— in which subprime loans are identified as those with substantially above-average interest rates — to examine subprime lending in 2004, 2006 and 2008.[21] These results are presented in Figures G-5 and G-6. BBC also examined subprime lending rates in 2004 using the U.S. Department of Housing and Urban Development (HUD) Subprime Lender list. Rather than identifying subprime loans based on the interest rate, this approach identifies loans that have been issued by subprime lenders. HUD uses a number of variables in HMDA data to identify such lenders. For example, subprime lenders will usually have relatively lower origination rates; they will have higher proportions of home refinance loans; and they typically do not sell a significant percentage of portfolios to government-sponsored enterprises. After compiling a list of "potential" subprime lenders, HUD called or visited the website of each lender to determine if they specialized in subprime loans.[22]

As an updated HUD list was not available after 2005, this analysis was conducted for 2004 but not 2006 or 2008. Results of this analysis are presented in Figure G-7. In both cases, the study team considered home purchase loans and refinance loans separately.

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[20] Gerardi, Shapiro, and P. Willen. 2008. "Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosure. *Federal Reserve Bank of Boston*.

[21] Consistent with other researchers, first lien loans are identified as subprime if they have an interest rate more than 3 percentage points higher than the federal treasury rate of like maturity. For junior lien loans, the required rate difference is 5 percentage points.

[22] For more information on this methodology, visit the website for the Department of Housing and Urban Development at http://www.huduser.org/.

Figure G-5 shows the percent of conventional home purchase loans that were subprime in 2004, 2006 and 2008 in Oklahoma and the United States. In Oklahoma during each of the years examined, African American, Native American and Hispanic American borrowers were more likely to have a subprime loan than non-Hispanic whites. For example, in 2008 — the most recent year available — about 26 percent of African Americans, 22 percent of Hispanic Americans and 33 percent of Native Americans who took out a home purchase loan in Oklahoma had subprime loans, compared to 19 percent of non-Hispanic whites. In contrast, only 10 percent of home purchase loans issued to Asian American borrowers in Oklahoma in 2008 were subprime.

Figure G-5.
Percent of conventional home purchase loans that were subprime: 2004, 2006 and 2008

Note: Subprime loans are identified using rate spreads.

Source: FFIEC HMDA data 2004, 2006 and 2008.

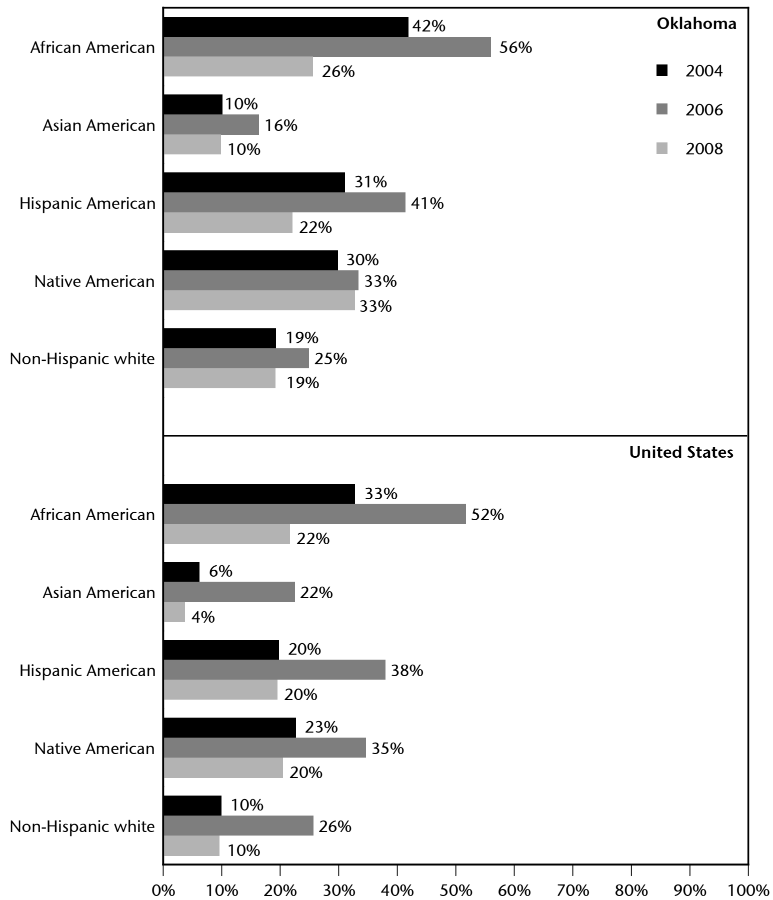


Figure G-6 examines refinancing loans. African American, Hispanic American and Native American borrowers in Oklahoma were more likely than non-Hispanic whites to refinance with a subprime loan in each of the years examined, whereas Asian American borrowers were less likely. This pattern was also evident at the national level.

Figure G-6.
Percent of conventional refinancing loans that were subprime: 2004, 2006 and 2008

Note: Subprime loans are identified using rate spreads.

Source: FFIEC HMDA data 2004, 2006 and 2008.

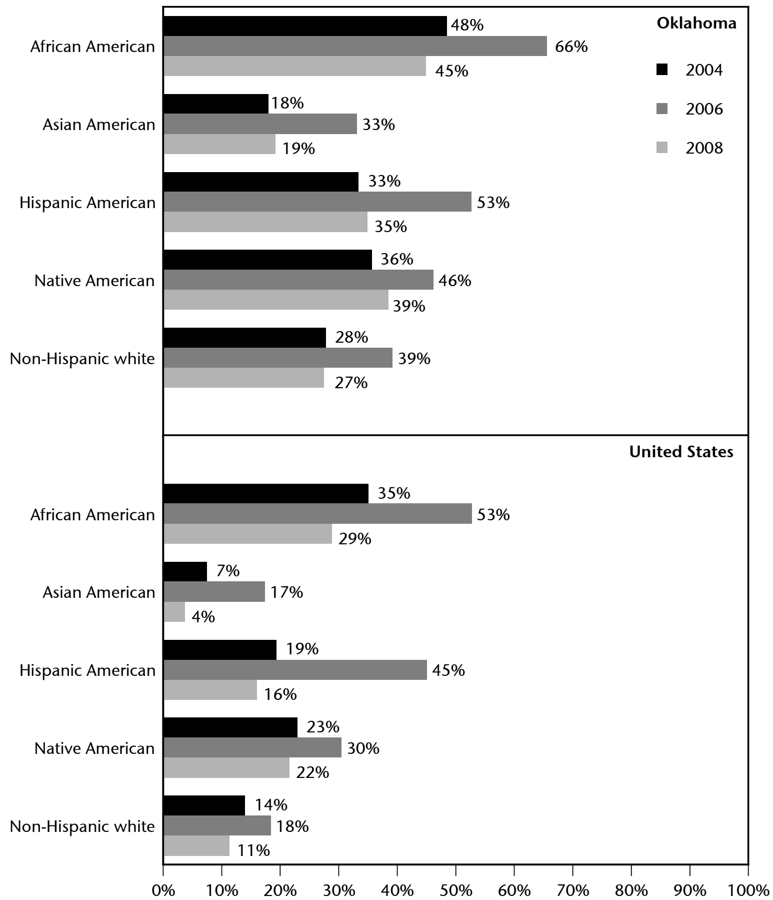


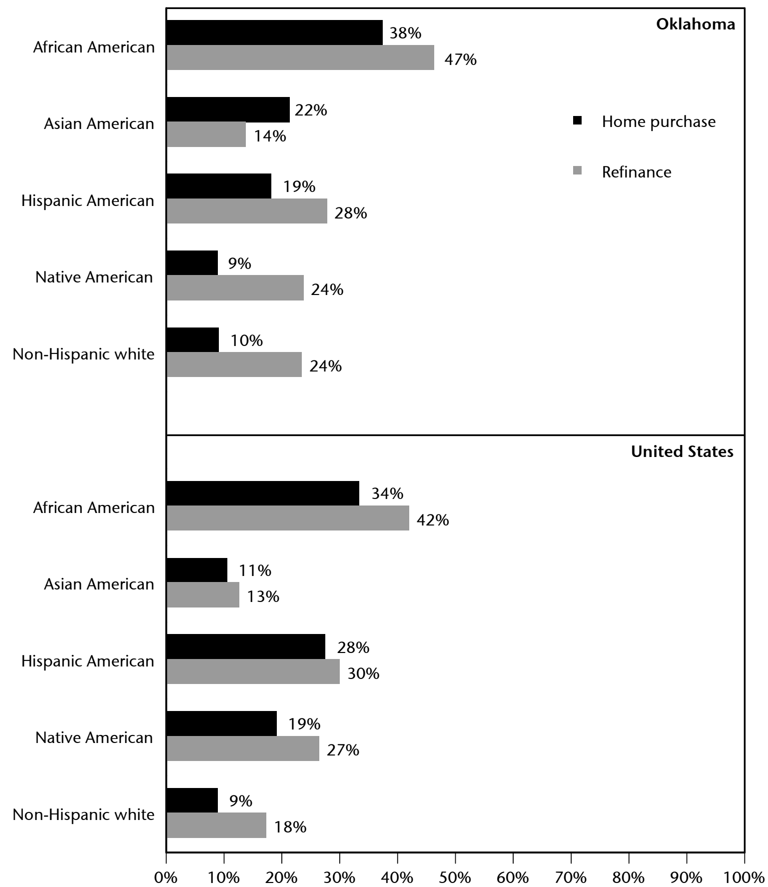
Figure G-7 shows the percent of loans issued by subprime lenders (as identified by the HUD list) for Oklahoma and the U.S. in 2004. Based on this approach, African American, Asian American and Hispanic American borrowers in Oklahoma were more likely to obtain home purchase loans from subprime lenders compared to non-Hispanic whites. Native Americans were about as likely as non-Hispanic whites to finance a home purchase using such loans.

When considering refinance loans in Oklahoma, Native Americans were issued loans from subprime lenders at the same rate as non-Hispanic whites. For African Americans, however, the percentage of refinancing loans that were from these HUD-identified lenders was nearly double that for non-Hispanic whites. Hispanic Americans also had a higher rate of refinancing with subprime loans, while for Asian Americans the rate was lower.

Figure G-7.
Percent of conventional home purchase and refinancing loans from subprime lenders, 2004

Note: Subprime loans are identified as those loans issued by lenders on the 2004 HUD Subprime Lender list.

Source: FFIEC HMDA data 2004 and 2004 HUD Subprime Lender list.



In sum, BBC's analysis of HMDA data on subprime lending reveals the following:

- Compared to non-Hispanic whites, a greater share of loans made to Hispanic Americans and African Americans were subprime in both Oklahoma and the U.S. This is true for both home purchase and refinancing loans, and it applied when identifying subprime loans using the rate-spread method in 2004, 2006 and 2008 or when using the HUD Subprime Lender list in 2004.

- In Oklahoma, Native Americans were more likely to have subprime loans compared to non-Hispanic whites based on the rate spread method.

- Asian Americans in Oklahoma were more likely to obtain home purchase loans from subprime lenders in 2004.

There is evidence of lenders seeking out and offering these loans to individuals who likely will not be able to pay off the loan, a form of "predatory lending." [23] Furthermore, some research has found that many recipients of subprime loans could have qualified for prime loans.[24]

Research has found evidence that predatory lenders have disproportionately targeted minorities. A 2001 HUD study using 1998 HMDA data found that subprime loans were disproportionately concentrated in black neighborhoods compared to white neighborhoods even after controlling for income.[25] For example, borrowers in upper-income black neighborhoods were six times more likely to refinance with a subprime loan than borrowers in upper-income white neighborhoods.

Historically, differences in types of loans awarded to minorities have also been attributed to steering by real estate agents, who serve as an information filter between buyers and sellers.[26] Some studies claim that real estate brokers provide different levels of assistance and different information on loans to minorities and non-minorities.[27] This "steering" can shape the perception of minority borrowers with respect to the availability of loans.

Lessons from the recent mortgage lending crisis. The turmoil in the housing market since late 2006 has been far-reaching, resulting in the loss of home equity, decreased demand for housing and increased rates of foreclosure.[28] Much of the blame has been placed on risky practices in the mortgage industry including substantial increases in subprime lending.

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[23] Department of Housing and Urban Development (HUD) and the Department of Treasury. 2001. HUD-Treasury National Predatory Lending Task Force Report. *HUD*; Carr, J. and L. Kolluri. 2001. Predatory Lending: An Overview. *Fannie Mae Foundation*; and California Reinvestment Coalition, Community Reinvestment Association of North Carolina, Empire Justice Center, Massachusetts Affordable Housing Alliance, Neighborhood Economic Development Advocacy Project, Ohio Fair Lending Coalition and Woodstock Institute, 2008. "Paying More for the American Dream."

[24] Freddie Mac. 1996, September. "Automated Underwriting: Making Mortgage Lending Simpler and Fairer for America's Families." *Freddie Mac.* (accessed February 5, 2007); and Lanzerotti. 2006. "Homeownership at High Cost: Foreclosure Risk and High Cost Loans in California." *Federal Reserve Bank of San Francisco*.

[25] Department of Housing and Urban Development (HUD) and the Department of Treasury. 2001.

[26] Kantor, Amy C. and John D. Nystuen. 1982. "De Facto Redlining a Geographic View." *Economic Geography.* 4:309-328.

[27] Yinger. 1995. Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination. 78–79.

[28] Joint Center for Housing Studies of Harvard University. 2008. "The State of the Nation's Housing."

As discussed above, subprime mortgages increased at an extraordinary rate between the mid-1990s and mid-2000s. These high-cost loans increased from 8 percent of originations in 2003 to 20 percent in both 2005 and 2006.[29] In 2005, subprime loans represented roughly one-fifth of all loans originated in Oklahoma.[30] The preponderance of subprime lending is important as households repaying subprime loans have a higher likelihood of delinquency or foreclosure. A 2008 study released from the Federal Reserve Bank of Boston found, "homeownerships that begin with a subprime purchase mortgage end up in foreclosure almost 20 percent of the time, or more than 6 times as often as experiences that begin with prime purchase mortgages." [31]

While Oklahoma has not suffered to the same extent as states such as California and Nevada in terms of foreclosures and falling home values, the state has nevertheless been affected by the change in housing market conditions. In Oklahoma, there were roughly 13,000 properties with foreclosure filings in 2009, representing one in every 125 housing units.[32] Oklahoma's foreclosure rate ranked 34th out of 50 states and Washington D.C. in 2009. As of September 2009, the proportion of residential properties in Oklahoma with negative equity (a mortgage worth more than the value of the home) was 6.1 percent, considerably below the national average of 22.6 percent.[33] However, due to higher rates of subprime mortgages, it is likely that minority homeowners have been disproportionately affected in terms of foreclosures and loss of home equity.

These problems facing the housing industry substantially reduce the ability of would-be borrowers to secure capital through home mortgages for starting or expanding small businesses. This issue was highlighted in statements made by members of the Board of Governors of the Federal Reserve System to the U.S. Senate and U.S. House of Representatives in 2008:

- On April 16, 2008, Frederic Mishkin informed the U.S. Senate Committee on Small Business and Entrepreneurship that "one of the most important concerns about the future prospects for small business access to credit is that many small businesses use real estate assets to secure their loans. Looking forward, continuing declines in the value of their real estate assets clearly have the potential to substantially affect the ability of those small businesses to borrow. Indeed, anecdotal stories to this effect have already appeared in the press." [34]
- On November 20, 2008, Randall Kroszner told the U.S. House of Representatives Committee on Small Business that "small business and household finances are, in practice, very closely intertwined. [T]he most recent Survey of Small Business Finances (SSBF) indicated that about 15 percent of the total value of small business loans in 2003 was collateralized by 'personal' real estate. Because the condition of household balance sheets can be relevant to the ability of some small businesses to obtain credit, the fact that declining house prices have weakened household balance-sheet positions suggests that the housing market crisis has likely had an adverse impact

[29] Joint Center for Housing Studies of Harvard University. 2008. "The State of the Nation's Housing."

[30] Mayer, Chris and Karen Perce. "Subprime Mortgage: Who, Where and to Whom?" *Division of Research and Statistics and Monetary Affairs.* Available online at: "http://www.federalreserve.gov/Pubs/FEDS/2008/200829/200829abs.html."

[31] Gerardi, Shapiro, and P. Willen. 2008. "Subprime Outcomes: Risky Mortgages, Homeownership Experiences, and Foreclosure. *Federal Reserve Bank of Boston*.

[32] RealtyTrac. 2009 U.S. Foreclosure Market Report.™ Available online at http://www.realtytrac.com.

[33] First American CoreLogic. 2009. First American CoreLogic's Negative Equity Data Report.

[34] Mishkin, Frederic. 2008. "Statement of Frederic S. Mishkin, Member, Board of Governors of the Federal Reserve System before the Committee on Small Business and Entrepreneurship, U.S. Senate on April 16."

on the volume and price of credit that small businesses are able to raise over and above the effects of the broader credit market turmoil." [35]

Federal Reserve Chairman Ben Bernanke recognized the reality of these concerns in a speech titled "Restoring the Flow of Credit to Small Businesses" on July 12, 2010.[36] Bernanke indicated that small businesses have had difficulty accessing credit and pointed to the declining value of real estate as one of the primary obstacles.

Furthermore, the National Federation of Independent Business (NFIB) conducted a national survey of 751 small businesses[37] in late-2009 to investigate how the recent recession has impacted access to capital.[38] NFIB concluded that "falling real estate values (residential and commercial) severely limit small business owner capacity to borrow and strains currently outstanding credit relationships." Survey results indicated that 95 percent of small business employers owned real estate and 13 percent held upside-down property.[39]

Current opportunities to obtain business capital through home mortgages appear to be limited, especially for homeowners with little home equity. Furthermore, the increasing rates of default and foreclosure, particularly for homeowners with subprime loans, reflect shrinking capital that was initially available through these loans. These consequences are likely to have a disproportionate impact on minorities in terms of both homeownership and their ability to secure capital for business start-up and growth.

Redlining. Redlining refers to mortgage lending discrimination against geographic areas associated with high lender risk. These areas are often racially determined, focused in African American or mixed race neighborhoods.[40] This practice can perpetuate problems in already poor neighborhoods.[41]

Most quantitative studies have failed to find strong evidence in support of geographic dimensions of lender decisions. Studies in Columbus, Ohio; Boston, Massachusetts; and Houston, Texas found that racial differences in loan denial had little to do with the racial composition of a neighborhood, but rather the individual characteristics of the borrower.[42] Some studies found the race of an applicant but not the racial makeup of the neighborhood to be a factor in loan denials.

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[35] Kroszner, Randall. 2008. "Effects of the financial crisis on small business." *Testimony before the Committee on Small Business, U.S. House of Representative on November 20.*

[36] Bernanke, Ben. 2010. Restoring the Flow of Credit to Small Businesses. *Presented at the Federal Reserve Meeting Series: Addressing the Financing Needs of Small Businesses on July 12.*

[37] The study defined a small business as a business employing no less than one individual in addition to the owner(s) and no more than 250.

[38] National Federation of Independent Business (NFIB). 2010. Small Business Credit in a Deep Recession.

[39] Upside-down is defined as a mortgage that is worth more than the appraised value of the house.

[40] Holloway, Steven R. 1998. "Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio." *Annals of the Association of American Geographers.* 88:252-276.

[41] Ladd, Helen F. 1998. "Evidence on Discrimination in Mortgage Lending." *The Journal of Economic Perspectives.* 12:41-62.

[42] See Holloway. 1998. "Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio."; Tootell. 1996. "Redlining in Boston: Do Mortgage Lenders Discriminate Against Neighborhoods?"; and Holmes, Andrew and Paul Horvitz. 1994. "Mortgage Redlining: Race, Risk, and Demand." *The Journal of Finance.* 49:81-99.

Studies of redlining have primarily focused on the geographic aspect of lender decisions; however, redlining can also include the practice of restricting credit flows to minority neighborhoods through procedures that are not observable in actual loan decisions. Examples include branch placement, advertising and other pre-application procedures, all of which can prevent minorities from starting businesses.[43] Locations of financial institutions are important as local banking sectors often finance local business.[44] Redlining practices would limit this capital resource to minorities.

Steering by real estate agents. A number of researchers have found that discrimination by real estate agents sometimes contributes to residential segregation of minorities. Such practices include "steering" of prospective homebuyers toward particular neighborhoods based on their race or ethnicity (a practice that has been prohibited by law for many decades). A recent study found such practices in cities throughout the country.[45]

Gender discrimination in mortgage lending. Relatively little information is available on sex-based discrimination in mortgage lending markets. Historically, lending practices overtly discriminated against women by requiring information on marital and childbearing status. Risk associated with women of childbearing age and unmarried women resulted in "income discounting," limiting the availability of loans to women.[46]

The Equal Credit Opportunity Act (ECOA) of 1973 suspended these discriminatory lending practices, but certain barriers have continued in spite of such laws. For example, there is some evidence that lenders have under-appraised property for female borrowers, thereby restricting the amount of capital they received.[47]

Access to Business Capital

Barriers to capital markets can have significant impacts on small business formation and expansion. Several studies have found evidence that start-up capital is important for business profits, longevity and other outcomes:[48]

- The amount of start-up capital is positively associated with small business sales and other outcomes;[49]

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[43] Yinger, John. 1995. "Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination." Russell Sage Foundation. New York. 78-79.

[44] Holloway. 1998. "Exploring the Neighborhood Contingency of Race Discrimination in Mortgage Lending in Columbus, Ohio."

[45] Galster, George and Erin Godfrey. 2005. "Racial Steering by Real Estate Agents in the U.S. in 2000." *Journal of the American Planning Association.* 71:251-268.

[46] Card. 1980. "Women, Housing Access, and Mortgage Credit."

[47] Ladd, Helen F. 1982. "Equal Credit Opportunity: Women and Mortgage Credit." *The American Economic Review*. 72:166-170.

[48] For examples see Fairlie. 2006. "Liquidity Constraints, Household Wealth, and Entrepreneurship Revisited;" and Grown, Caren and Timothy Bates. 1991. "Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies." Center for Economic Studies, U.S. Bureau of the Census.

[49] See Fairlie, Robert W. and Harry A. Krashinsky. 2006. "Liquidity Constraints, Household Wealth, and Entrepreneurship Revisited"; and Grown. 1991. "Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies."

- Limited access to capital has restricted the growth of African American-owned businesses;[50] and

- Weak financial capital was identified as a significant reason that more African American-owned firms than non-Hispanic white-owned firms closed over a four-year period.[51]

Bank loans are one of the largest sources of debt for small businesses.[52] Discrimination in the application and approval processes of these loans and limited access to other credit resources could be detrimental to the success of minority- and women-owned businesses. Previous investigations have addressed race/ethnicity and gender discrimination in capital markets by evaluating the following:

- Loan denial rates;
- Loan values;
- Interest rates;
- Individual assumptions that loan applications will be rejected;
- Sources of capital; and
- Relationships between start-up capital and business survival.

To examine the role of race/ethnicity and gender in capital markets, the study team analyzed data from the Federal Reserve Board's 1998 and 2003 Survey of Small Business Finances (SSBF) conducted by the Board of Governors, which is the most comprehensive national source of credit characteristics of small firms (those with fewer than 500 employees).

Sample weights are applied to provide representative estimates. The survey contains information on loan denial and interest rates, as well as anecdotal information from firms. The samples from 1998 and 2003 contain records for 3,521 and 4,240 firms, respectively.

The SSBF records the geographic location of firms by Census Division, not city, county or state. Oklahoma is in the West South Central Census Division (referred to in the following discussion as the WSC region).[53]

Loan denial rates. Figure G-8 shows loan denial rates from the 1998 and 2003 SSBFs for the WSC region and the United States. The 1998 SSBF data for the U.S. reveal the following:

- African American-owned businesses experienced higher rates of denial than all other groups;
- African American-, Hispanic American- and Asian American-owned firms had a loan denial rate considerably above that of non-Hispanic white male-owned firms (in each case a statistically significant difference); and

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[50] Grown. 1991. "Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies."

[51] Grown. 1991. "Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies."

[52] Data from the 1998 SSBF indicates that 70 percent of loans to small business are from commercial banks. This result is present across all gender, race and ethnic groups with the exception of African Americans, whose rate of lending from commercial banks is even greater than other minorities. See Blanchard, Lloyd, Bo Zhao and John Yinger. 2005. "Do Credit Market Barriers Exist for Minority and Woman Entrepreneurs." *Center for Policy Research, Syracuse University.*

[53] The West South Central Census Division includes Oklahoma, Texas, Arkansas and Louisiana.

- White women-owned firms also had higher rates of loan denial compared to non-Hispanic white male-owned firms, although the difference is not statistically significant.

In 2003, loan denial rates were also higher for each of these groups compared to non-Hispanic white male-owned firms, although the loan denial rate for African American-owned firms was substantially higher than rates for other groups.

Loan denial statistics on individual minority groups in the WSC region are not reported in Figure G-8 due to limited sample sizes. However, about 38 percent of minority- and women-owned firms in the WSC region reported being denied a loan in 1998, compared to 12 percent of non-Hispanic white male-owned businesses. Loan denial rates for minority- and female-owned firms were also higher than those for non-Hispanic white male-owned firms in the WSC region in 2003.

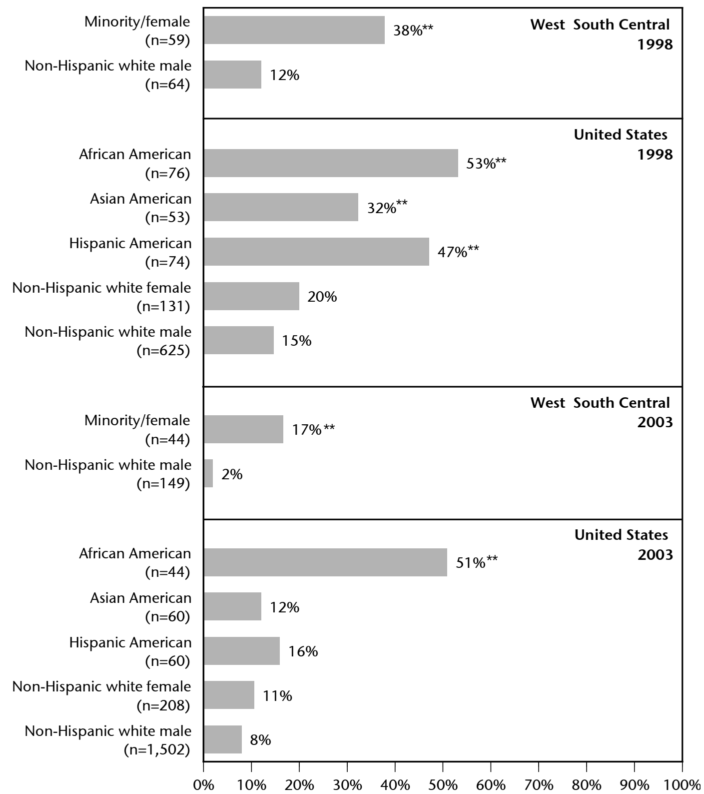
Figure G-8.
Business loan denial rates, 1998 and 2003

Note:

** Denotes that the difference in proportion from non-Hispanic white male-owned firms is statistically significant at the 95% confidence level.

Source:

BBC Research & Consulting from 1998 and 2003 Survey of Small Business Finances.



Regression analyses of loan denial rates. A number of studies have investigated whether disparities in loan denial rates for different race/ethnicity and gender groups exist after controlling for other factors that affect loan approvals. Findings from these studies include:

- Commercial banks are less likely to loan to African American-owned firms than to non-Hispanic white-owned firms after controlling for other factors.[54]

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[54] Cavalluzzo, Ken, Linda Cavalluzzo and John Wolken. 2002. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey." *Journal of Business.* 75: 641-679.

- African American, Hispanic American and Asian American men are more likely to be denied a loan than non-Hispanic white men. However, African American borrowers are more likely to apply for a loan.[55]

- Disparities in loan denial rates between African American-owned and non-Hispanic white-owned firms tend to decrease with increasing competitiveness of lender markets. A similar phenomenon is observed when considering differences in loan denial rates between male- and female-owned firms.[56]

- The probability of loan denial decreases with greater personal wealth. However, controlling for personal wealth does not resolve the large differences in denial rates across African American-, Hispanic American-, Asian American-, and non-Hispanic white-owned firms. Specifically, information on personal wealth explained some differences for Hispanic- and Asian American-owned firms compared to non-Hispanic whites, but not for African American-owned firms.[57]

- Loan denial rates are significantly higher for African American-owned firms than non-Hispanic white-owned firms in the presence of several other factors such as creditworthiness and other characteristics. This result is largely insensitive to specification of the model. Consistent evidence on loan denial rates and other indicators of discrimination in credit markets was not found for other minorities and women.[58]

- Women-owned businesses are no less likely to apply for or to be approved for loans in comparison to firms owned by men.[59]

BBC regression model for the 1998 SSBF. The study team conducted its own analysis of the 1998 SSBF by developing a model to explore the relationships between race/ethnicity/gender of firm ownership and loan denial while controlling for other factors. As discussed above, there is extensive literature on business loan denials that provides the theoretical basis for the regression model. Other studies typically use probit econometric models to investigate the effects of various owner, firm and loan characteristics, including the race and gender of the ownership, or the likelihood of being denied a loan. The standard model includes three general categories of variables, relating to:

- The owner's demographic characteristics (including race and gender), credit and resources;

- The firm's characteristics, credit and financial health; and

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[55] Coleman, Susan. 2002. "Characteristics and Borrowing Behavior of Small, Women-owned Firms: Evidence from the 1998 National Survey of Small Business Finances." *The Journal of Business and Entrepreneurship.* 151-166.

[56] Cavalluzzo, 2002. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey."

[57] Cavalluzzo, Ken and John Wolken. 2002. "Small Business Turndowns, Personal Wealth and Discrimination." *FEDS Working Paper No. 2002-35.*

[58] Blanchflower, David G., Phillip B. Levine and David J. Zimmerman. 2003. "Discrimination in the Small Business Credit Market." *The Review of Economics and Statistics.* 85:930-943.

[59] Coleman. 2002. "Characteristics and Borrowing Behavior of Small, Women-owned Firms: Evidence from the 1998 National Survey of Small Business Finances."

- The environment in which the firm and lender operate and characteristics of the loan.[60]

After excluding a small number of observations where the loan outcome was imputed, the national sample included 931 firms that had applied for a loan during the three years preceding the survey; the WSC region included 118 such firms.

A large number of variables are used to control for differences in the neutral factors described above. A total of 59 variables are included to represent the owner's credit and resources (11 variables); the firm's characteristics, credit and financial health (29 variables); and the environment in which the firm and lender operate including the nature of the loan applied for (19 variables). Given the relatively small sample size and the large number of variables, the study team did not develop a model based on firms located in the WSC region. Instead, all U.S. firms are included in the model and any WSC region effects are estimated by including regional control variables — an approach commonly used in other studies that analyze these data.[61] The regional variables include an indicator variable for firms located in the WSC region and interaction variables that represent firms located in the WSC region that are owned by minorities or women.

Figure G-9 presents the coefficients and t-statistics from the probit model of loan denials.

The results from the model indicate that a number of neutral factors affect the probability of loan denial with statistical significance:

- Having a four-year degree lowers the probability of loan denial.
- Increased equity in the business owner's home — if he or she is a homeowner — reduces the likelihood of loan denial.
- Business owners who filed for bankruptcy in the past seven years or have had a judgment against them are more likely to be denied a loan.
- Family-owned businesses are more likely to be denied.
- Businesses with an existing line of credit, an existing mortgage, or existing vehicle or equipment loans are less likely to be denied a loan. However, firms with outstanding loans from stockholders are more likely to be denied.
- Firms that have been delinquent in business transactions or that filed for bankruptcy in the past seven years have a higher probability of being denied a loan.
- Being in the construction industry increases the likelihood of loan denial.

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[60] See, for example, Blanchard, Lloyd; Zao, Bo and John Yinger. 2005. "Do Credit Barriers Exist for Minority and Women Entrepreneurs?" *Center for Policy Research, Syracuse University*.

[61] Blanchflower, David G.; Levine, Phillip B. and David J. Zimmerman. 2003. "Discrimination in the Small-Business Credit Market." *The Review of Economics and Statistics*. 85(4): 930-943; National Economic Research Associates, Inc., 2008. "Race, Sex, and Business Enterprise: Evidence from the City of Austin." *Prepared for the City of Austin, Texas*; and CRA International. 2007. "Measuring Minority- and Woman-Owned Construction and Professional Service Firm Availability and Utilization. *Prepared for Santa Clara Valley Transportation Authority.*

- Firms in highly concentrated industry segments (as measured by the Herfindahl index) are more likely to be denied.

- Business mortgage applications and vehicle and equipment loan applications are less likely to be denied than other types of business loans.

Even after controlling for potentially neutral influences, firms owned by African Americans and Hispanic Americans remain more likely to have their loans denied than other firms (both statistically significant differences). The indicator variable for the WSC region and the interaction terms for WSC region and minority- and women-ownership are not statistically significant. This result implies that the probabilities of loan denials for minority- and women-owned firms within the WSC region are not statistically different from the U.S. as a whole.

Figure G-9.
Likelihood of business loan denial (probit regression) in the U.S. in the 1998 SSBF,
Dependent variable: loan denial

Variable	Coefficient	t-statistic
Race/ethnicity and gender		
Constant	-5.672231	-4.46 **
African American	1.161171	3.82 **
Asian American	0.421560	1.39
Hispanic American	0.892690	3.59 **
Female	-0.077838	-0.42
West South Central (WSC) region	0.173273	0.60
African American in WSC region	0.174514	0.32
Hispanic American in WSC region	0.150945	0.31
Female in WSC region	-0.007434	-0.02
Owner's characteristics, credit and resources		
Age	0.012928	1.56
Owner experience	0.007458	0.68
Less than high school education	0.364986	1.05
Some college	-0.122014	-0.59
Four-year degree	-0.433213	-1.97 *
Advanced degree	-0.388796	-1.56
Log of home equity	-0.068199	-3.56 **
Bankruptcy in past 7 years	1.141836	2.15 **
Judgement against in past 3 years	1.050515	3.53 **
Log of net worth excluding home	0.011650	0.20
Owner has negative net worth	-0.182866	-0.26

Variable	Coefficient	t-statistic
Firm's characteristics, credit and financial health		
D&B credit score = moderate risk	0.559859	1.09
D&B credit score = average risk	0.672927	1.33
D&B credit score = significant risk	0.377975	0.72
D&B credit score = high risk	0.446624	0.81
Total employees	-0.001882	-0.60
Percent of business owned by principal	-0.001545	-0.32
Family-owned business	0.646944	2.15 **
Firm purchased	-0.291830	-1.42
Firm inherited	0.146407	0.43
Firm age	-0.011829	-1.13
Firm has checking account	0.324476	1.00
Firm has savings account	-0.152978	-0.86
Firm has line of credit	-0.949337	-5.36 **
Existing capital leases	-0.077441	-0.38
Existing mortgage for business	-0.375032	-1.80 *
Existing vehicle loans	-0.542648	-3.00 **
Existing equipment loans	-0.419369	-1.91 *
Existing loans from stockholders	0.582484	2.78 **
Other existing loans	-0.114342	-0.58
Firm used trade credit in past year	-0.189912	-1.17
Log of total sales in prior year	0.010095	0.15
Negative sales in prior year	0.543814	0.64
Log of cost of doing business in prior year	-0.002662	-0.05
Log of total assets	0.027509	0.38
Negative total assets	-0.466361	-0.52
Log of total equity	0.097975	1.29
Negative total equity	1.120468	1.42
Firm bankruptcy in past 7 years	0.898655	1.81 *
Firm delinquency in business transactions	1.167132	6.30 **

Variable	Coefficient	t-statistic
Firm and lender environment and loan characteristics		
Partnership	0.155744	0.46
S corporation	-0.175410	-0.76
C corporation	-0.226458	-0.83
Construction industry	0.511973	1.96 *
Manufacturing industry	0.148291	0.54
Transportation, communications and utilities industry	0.379124	0.86
Finance, insurance and real estate industries	-0.249589	-0.70
Engineering industry	0.538250	1.43
Other industry	0.231374	1.20
Herfindahl index = .10 to .18	2.142435	4.14 **
Herfindahl index = .18 or above	2.518379	4.80 **
Located in MSA	0.117432	0.64
Sales market local only	0.093357	0.57
Loan amount	0.000000	-0.13
Capital lease application	-0.178923	-0.53
Business mortgage application	-0.695362	-2.52 **
Vehicle loan application	-1.234571	-3.80 **
Equipment loan application	-0.867005	-2.99 **
Loan for other purposes	-0.332726	-1.62

Note: * Statistically significant at 90% confidence level.
** Statistically significant at 95% confidence level.

There were insufficient observations to include separate variables for Native Americans at the national level or Asian Americans or Native Americans at the West South Central region level.

Source: BBC Research & Consulting analysis of 1998 SSBF data.

The study team simulated loan approval rates for those minority groups with statistically significant disparities (African Americans and Hispanic Americans) and compared observed approval rates with these simulated rates. The study team simulated the rates by inputting observed variables for those minorities into a probit model developed for non-Hispanic white-owned firms that included the effect of a business being in the WSC region.[62] Figure G-10 shows these simulated loan approval rates in comparison to actual approval rates observed in the 1998 SSBF.

Figure G-10.
Comparison of actual loan approval rates to simulated loan approval rates, 1998

Group	Loan approval rates Actual	Loan approval rates Benchmark	Disparity index (100 = parity)
African Americans	46.4%	78.2%	59
Hispanic Americans	53.7%	69.8%	77

Note: Actual approval rates presented here and denial rates in Figure G-8 do not sum to 100% due to some observations being dropped in the probit regression.

Source: BBC Research & Consulting analysis of 1998 SSBF data.

Based on 1998 SSBF data, the observed loan approval rate was 46 percent for African American-owned firms that applied for loans. Model results show that African American-owned firms would have an approval rate of about 78 percent if they were approved at the same rate as similarly situated firms owned by non-Hispanic whites. In this same environment, Hispanic American-owned firms would be approved for loans about 70 percent of the time, but the actual loan approval rate for Hispanic American-owned firms was 54 percent.

Other researchers' analyses of the 2003 SSBF. Summary statistics from the 2003 SSBF of loan denial rates by race and ethnicity are presented at the beginning of this section. While these data are the most recent information collected from small businesses, the study team selected the data from the 1998 SSBF to conduct the econometric analysis to capitalize on the over-sampling of minority-owned business in the 1998 SSBF (not done in the 2003 SSBF).[63]

Other recent studies elected to incorporate the 2003 SSBF into the analysis. In a study prepared for the City of Austin, Texas, NERA Economic Consulting (NERA) compared results from models using the 1993, 1998 and 2003 SSBFs, while recognizing the drawbacks of the 2003 SSBF. NERA investigated factors influencing loan denial rates using a probit econometric model. Their results using the 1998 SSBF are consistent with BBC's findings, showing statistically significant disparities for African American-owned firms and Hispanic American-owned firms in the United States. However, when using the 2003 SSBF, they find that loan denial rates for Hispanic-owned firms are

[62] The approval rate is equal to one minus the denial rate.

[63] In the 1998 data, 7.3 percent of the firms surveyed were owned by Hispanic Americans; however in 2003 that number dropped to 4.0 percent. Numbers dropped from 7.7 percent to 2.8 percent and 5.7 percent to 4.2 percent for African American-owned and Asian American-owned firms, respectively. This decrease in minority samples impacts the precision of econometric analysis used to investigate disparities in loan denial rates for minority groups.

not significantly different from non-Hispanic whites.[64] The results of NERA's probit regression models at the national level are summarized in Figure G-11.

Figure G-11.
Likelihood of loan denial: Results from 2008 NERA Austin study

Note:

N/A: not applicable.

The model specifications included controls for owner characteristics, business characteristics, geographic characteristics, personal financial history, business financial history and use of financial services.

Source:

NERA Economic Consulting, 2008. "Race, Sex and Business Enterprise: Evidence from the City of Austin."

	Statistical significance	Likelihood of loan denial
1998 SSBF		
African American	Yes	Higher
Asian American	No	N/A
Hispanic American	Yes	Higher
Female	No	N/A
2003 SSBF		
African American	Yes	Higher
Asian American	No	N/A
Hispanic American	No	N/A
Female	No	N/A

NERA's model also incorporated an indicator variable for the WSC region (which includes Austin) and interaction terms for individual minority/gender groups in the WSC region. The results for 1998 and 2003 showed no statistically significant differences between loan denial rates in the WSC region and the nation as a whole, for minorities or non-minorities.

CRA International (CRA) also incorporated the 2003 SSBF in a study prepared for the Santa Clara Valley Transportation Authority in California. Their approach was to "combine the 1998 and 2003 SSBFs to increase precision of estimates." Using this approach, a probit econometric model found statistically significant disparities for African American-, Asian American- and Hispanic American-owned businesses at the national level.[65] Consistent with BBC's findings, CRA's results indicate that African American- and Hispanic-owned firms have higher probabilities of loan denial. However, they also found that Asian American-owned firms are more likely to be denied loans.

Applying for loans. Fear of loan denial is a barrier to capital markets because it prevents small businesses from applying for loans and thus can help explain differences in business outcomes. In addition, it provides insight into minority business owners' perceptions of the small business lending market. Figure G-12 shows results from the 1998 and 2003 SSBFs on firms that reported needing credit but did not apply because they feared denial.

In 1998 and 2003, minority- and women-owned firms were more likely to forgo applying for loans due to fear of denial than non-Hispanic white male-owned firms, both in the WSC region and nationally. In 2003, for example, 32 percent of minority- and women-owned firms in the WSC region indicated that they had not applied for loans due to fear of denial, compared to 15 percent of non-Hispanic white male-owned firms, a statistically significant difference. At the national level in 1998 and 2003, this disparity was greatest for African American- and Hispanic American-owned business.

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[64] National Economic Research Associates, Inc., 2008. "Race, Sex, and Business Enterprise: Evidence from the City of Austin." *Prepared for the City of Austin, Texas.*

[65] The CRA model also included interaction terms for the Pacific Census Division, which contains California.

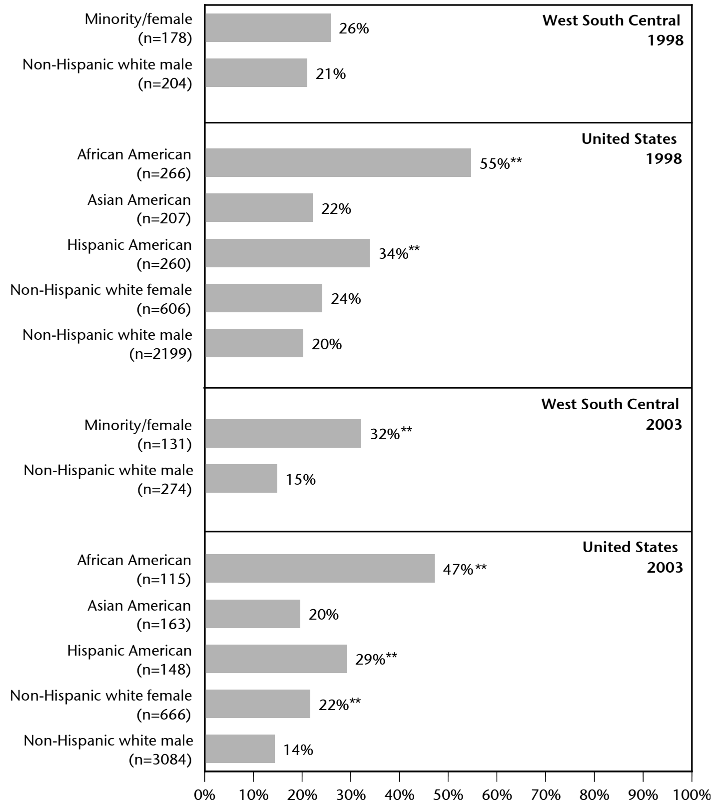
Figure G-12.
Firms that needed loans but did not apply due to fear of denial, 1998 and 2003

Note:

** Denotes that the difference in proportions from non-Hispanic white male-owned firms is statistically significant at the 95% confidence level.

Source:

BBC Research & Consulting from 1998 and 2003 Survey of Small Business Finances.



NERA's study for the City of Austin also included an econometric model to investigate firms that have not applied for loans due to fear of denial. The model explored whether differences between race/ethnicity and gender groups exist after controlling for other factors. Figure G-13 presents a summary of their findings for the WSC region.

Figure G-13.
Fear of loan denial:
Findings from 2008 NERA Austin study, WSC region only

Note:

N/A: not applicable.

The model specifications included controls for owner characteristics, business characteristics, geographic characteristics, personal financial history, business financial history and use of financial services.

Source:

NERA Economic Consulting, 2008. "Race, Sex and Business Enterprise: Evidence from the City of Austin."

	Statistical significance	Likelihood of not applying for a loan for fear of denial
1998 SSBF		
African American	Yes	Higher
Asian American	No	N/A
Hispanic American	No	N/A
Female	No	N/A
2003 SSBF		
African American	Yes	Higher
Asian American	No	N/A
Hispanic American	No	N/A
Female	No	N/A

NERA's results indicate that African American-owned businesses in the WSC region are more likely to not apply for a loan out for fear of denial, a result also evident at the national level. NERA's national model for 2003 also found that white female-owned businesses were significantly more likely to not apply for a loan out of fear of denial.[66]

Other research has identified multiple factors that influence the decision to apply for a loan, such as firm size, firm age, owner age and educational attainment. Controlling for these factors can help to determine whether race and ethnicity explain this fear of loan denial. Findings indicate:

- African American- and Hispanic American-owners are significantly less likely to apply for loans.[67]

- After controlling for educational attainment, there were no significant differences in loan application rates between non-Hispanic white, African American, Hispanic American and Asian American men.[68]

- African American-owned firms are more likely than other firms to report being seriously concerned with credit markets and are less likely to apply for credit for fear of denial.[69]

Loan values. Beyond loan denial rates, the study team considered loan values for firms that received loans. Results from the 1998 and 2003 SSBFs for loan values awarded by ethnicity and race are given in Figure G-14. Comparing loan amounts for non-Hispanic white male-owned firms to minority- and women-owned firms indicates the following:

- In 1998, minority- and women-owned firms in the WSC region received loan amounts that averaged less than loan amounts awarded to non-Hispanic white male-owned firms. In 2003, minority- and women-owned firms in the WSC region received loans that were on average about one quarter of the amount given to non-Hispanic white male-owned firms (a statistically significant difference).

- In 2003, national results show that minority- and women-owned firms received loans that were on average less than one-half the average loan amount received by non-Hispanic white male-owned firms. Minority- and women-owned firms appeared to have received loans with that were on average greater than loans received by non-Hispanic white males in 1998.

In both years, disparities in the mean value of loans for minority- and female-owned businesses compared to non-Hispanic white male-owned businesses were greater in the WSC region than in the United States.

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[66] NERA Economic Consulting, 2008. "Race, Sex and Business Ownership: Evidence from the City of Austin." *Prepared for the City of Austin, Texas.*

[67] Cavalluzzo, 2002. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey."

[68] Coleman, Susan. 2004. "Access to Debt Capital for Small Women- and Minority-Owned Firms: Does Educational Attainment Have an Impact?" *Journal of Developmental Entrepreneurship*. 9:127-144.

[69] Blanchflower et al., 2003. Discrimination in the Small Business Credit Market.

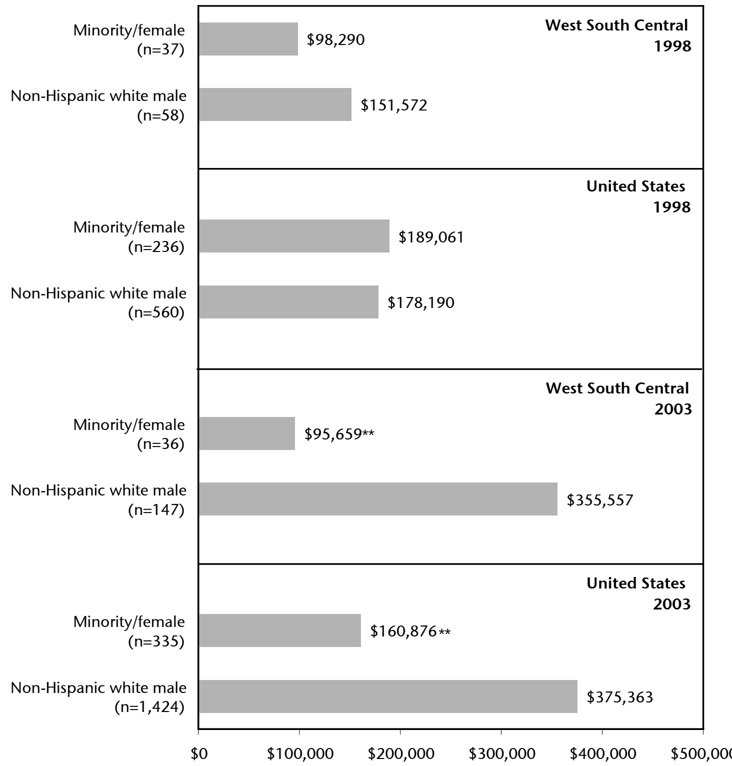
Figure G-14.
Mean value of approved business loans, 1998 and 2003

Note:

** Denotes that the difference in means from non-Hispanic white male-owned firms is statistically significant at the 95% confidence level.

Source:

BBC Research & Consulting from 1998 and 2003 Survey of Small Business Finances.



Previous national studies have found that African American-owned firms received substantially lower loan amounts than their non-Hispanic white counterparts with similar characteristics. Examination of construction companies in the United States revealed that African American-owned firms received smaller loans than firms with otherwise identical traits.[70]

Interest rates. Figure G-15 shows the average interest rate on commercial loans from the 1998 and 2003 SSBFs. In 1998, the mean interest rate for minority- and women-owned firms in the WSC region was 0.8 percentage points higher than the mean interest rate for non-Hispanic white male-owned firms. The mean interest rate for minority- and women-owned firms in the WSC region was also higher in 2003.

The pattern seen in the WSC region is similar to that seen nationally. In both 1998 and 2003, the mean interest rate on loans to minority- or female-owned businesses was higher than on loans to non-Hispanic white male-owned businesses.

[70] Grown. 1991. "Commercial Bank Lending Practices and the Development of Black-Owned Construction Companies."

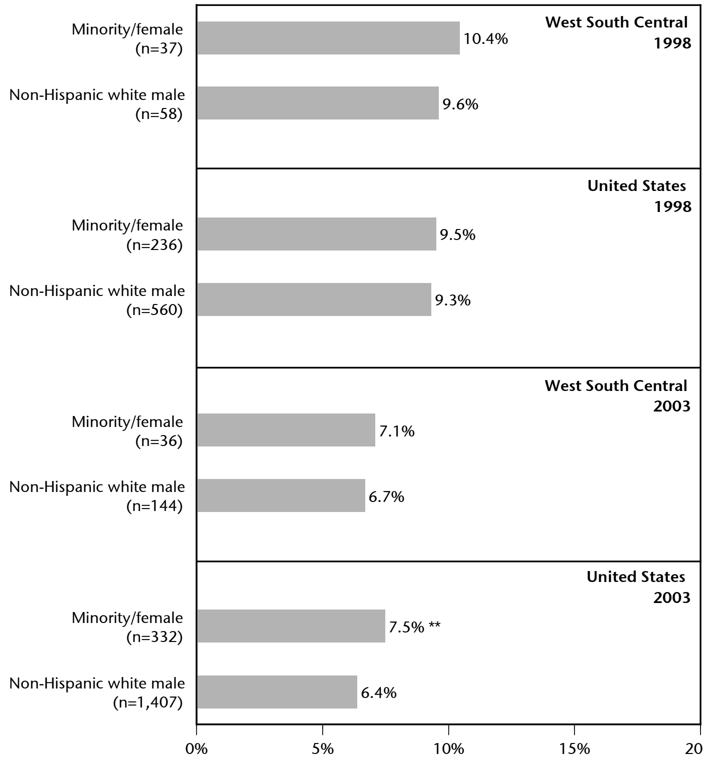
Figure G-15.
Mean interest rate for business loans, 1998 and 2003

Note:

** Denotes that the difference in means from non-Hispanic white male-owned firms is statistically significant at the 95% confidence level.

Source:

BBC Research & Consulting from 1998 and 2003 Survey of Small Business Finances.



Other studies have investigated differences in interest rates across race/ethnicity and gender while controlling for factors such as individual credit history, firm credit history and Dun and Bradstreet credit scores. Findings from these studies include:

- Hispanic-owned firms had significantly higher interest rates for lines of credit in places with less credit market competition. However, no evidence was found that African American- or female-owned firms received different rates.[71]

- Among a sample of firms without past credit problems, African American-owned firms paid significantly higher interest rates on approved loans.[72]

[71] Cavalluzzo. 2002. "Competition, Small Business Financing and Discrimination: Evidence from a New Survey."

[72] Blanchflower. 2003. "Discrimination in the Small Business Credit Market."

NERA's 2008 Austin study also investigated differences in interest rates by race/ethnicity and gender using an econometric model that controlled for other factors that may impact interest rates. A summary of the results are shown in Figure G-16. NERA developed models for 1998 and 2003 that included the whole of the U.S. as well as interaction terms for the WSC region.

Figure G-16.
Differences in interest rates:
Findings from 2008 NERA Austin study

Note:

† Significant for African Americans in the WSC region

N/A: not applicable.

The model specifications included controls for owner characteristics, business characteristics, geographic characteristics, business performance, personal financial history, business financial history and use of financial services.

Source:

NERA Economic Consulting, 2008. "Race, Sex and Business Enterprise: Evidence from the City of Austin."

	Statistical significance	Comparison of interest rates
1998 SSBF		
African American	Yes	Higher
Asian American	No	N/A
Hispanic American	No	N/A
Female	No	N/A
2003 SSBF		
African American	Yes†	Higher
Asian American	No	N/A
Hispanic American	Yes	Higher
Female	No	N/A

NERA's 1998 model found that African American-owned firms in the U.S. pay significantly higher interest rates on business loans, even after controlling for other factors. NERA's 2003 model found that Hispanic American-owned businesses were charged significantly higher interest rates on loans compared to non-Hispanic whites at the national level, and that African Americans were charged significantly higher rates in the WSC region.

Other factors affecting capital markets. Ethnic banking sectors may further affect the availability of loans to different minority groups. For example, one study found strength in the ethnic banking sector influences credit accessibility in ethnic communities in Los Angeles. A strong Asian American bank sector helped Asian American communities develop into successful business environments, and lack of strong banking sectors in African American communities could hinder development of African American businesses.[73]

Results of Telephone Interviews with Firms Available for ODOT Work

As part of the disparity study, availability interviews were conducted by telephone with transportation construction and engineering firms in Oklahoma. The study team asked firm owners and managers if they had experienced barriers or difficulties associated with starting or expanding a business. In particular, BBC asked if:

- The firm had experienced difficulties in obtaining lines of credit or loans;
- The firm had experienced difficulties in receiving timely payments.

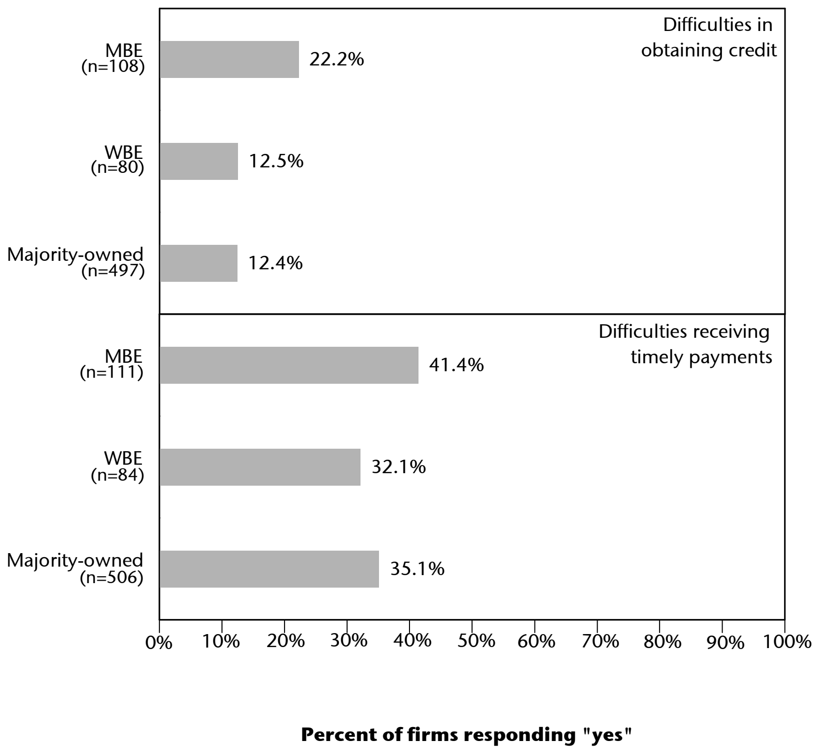
Figure G-17 summarizes the survey responses. Because of the relatively small number of firms for specific minority groups, responses for minority-owned firms are combined. Results for minority

[73] Dymski, Gary and Lisa Mohanty. 1999. "Credit and Banking Structure: Asian and African-American Experience in Los Angeles." *The American Economic Review.* 89:362-366.

women-owned firms are reported under MBE. Responses for white women-owned firms are shown for WBE. Responses for construction and engineering firms have been combined.

Figure G-17 indicates that minority-owned firms were almost twice as likely as WBEs and majority-owned firms to report difficulties obtaining credit. Minority-owned firms were also more likely to report difficulties receiving timely payments, which may exacerbate any difficulties obtaining credit. There was little difference in the responses of WBEs and majority-owned firms.

Figure G-17.
Responses to 2010 availability interview questions with transportation construction and engineering firms: any difficulties in obtaining credit or receiving timely payments



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms and firms not owned by any single group.

Source: BBC Research & Consulting.

Bonding and Insurance

Bonding is closely related to access to capital. Although little quantitative information exists regarding MBE/WBEs and access to surety bonds for public construction projects, there is anecdotal evidence that suggests such problems persist.[74]

To research whether minority- and women-owned firms in Oklahoma were more likely to experience difficulty obtaining bonding, BBC included this question in the availability interviews completed as part of this study. Figure G-18 shows results:

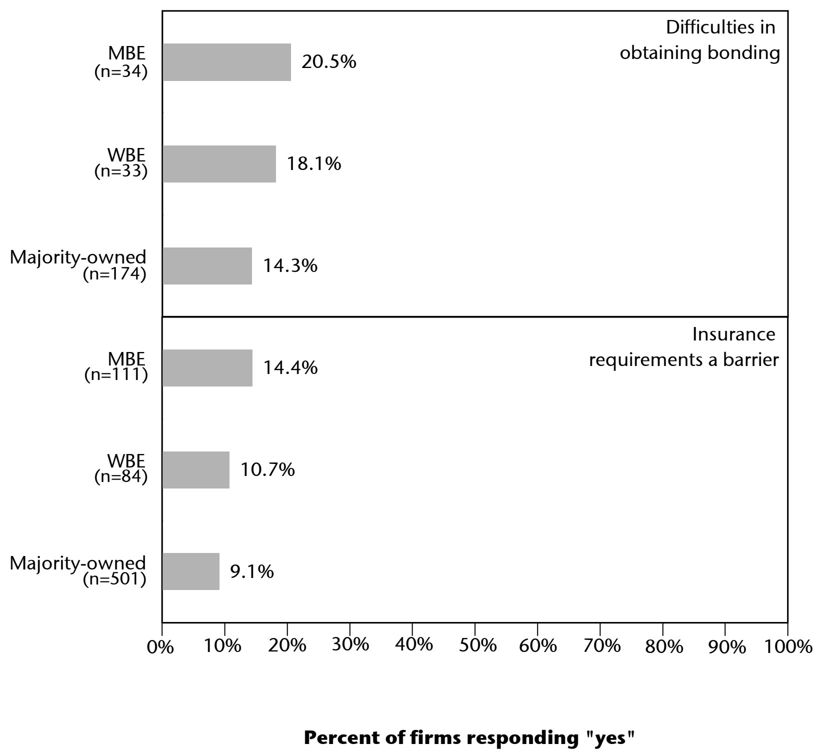
[74] Enchautegui, Maria E. et al. 1997. "Do Minority-Owned Businesses Get a Fair Share of Government Contracts?" *The Urban Institute:* 1-117, p. 56.

- About 21 percent of minority-owned firms reported difficulties obtaining bonding, compared with 14 percent of majority-owned firms.

- About 18 percent of white women-owned firms reported difficulties obtaining bonding.

Firms were also asked if insurance requirements on projects had presented a barrier to bidding. More than 14 percent of minority-owned firms interviewed as part of the availability analysis indicated that insurance requirements were a barrier, higher than found for majority-owned firms (9%). WBEs were slightly more likely than majority-owned firms to report that insurance requirements were a barrier.

Figure G-18.
Responses to 2010 availability interview questions with transportation construction and engineering firms: any difficulties in obtaining bonding and whether insurance requirements present a barrier



Note: "WBE" represents white women-owned firms, "MBE" represents minority-owned firms and "Majority-owned" represents non-Hispanic white male-owned firms and firms not owned by any single group.

Source: BBC Research & Consulting.

Summary of Analysis of Access to Capital for Business Formation and Success

There is evidence that minorities and women continue to face certain disadvantages in accessing capital necessary to start and expand businesses, based upon analysis of 2000 and 2008 U.S. Census Bureau data and results from the 1998 and 2003 SSBFs.

- Compared to non-Hispanic whites, relatively fewer African Americans, Hispanic Americans and Native Americans in Oklahoma own homes, and those who do own homes tend to have lower home values. Home equity is an important source of capital for business start-up and growth.

- African Americans, Hispanic Americans and Native Americans applying for home mortgages in Oklahoma are more likely than non-minorities to have their applications denied.

- African American, Hispanic American and Native American mortgage borrowers are more likely to have subprime loans.

- Minority- and female-owned businesses in the WSC region are more likely than non-Hispanic white male-owned firms to have loan applications denied.

- African American-owned firms in the WSC region are more likely to not apply for a loan due to fear of denial. When they receive loans, African American- and Hispanic-owned firms generally pay higher interest rates.

- The availability interviews indicate that minority-owned firms were nearly twice as likely as women-owned and majority-owned firms to report difficulties in obtaining credit.

Summary of Analysis of Bonding and Insurance

BBC included questions regarding bonding and insurance requirements in the availability interviews completed as part of this study.

- Minority- and women-owned firms were more likely than majority-owned firms to report difficulties obtaining bonding.

- Minority-owned firms interviewed as part of the availability analysis were relatively more likely than women-owned and majority-owned firms to report that insurance requirements were a barrier.