

MINORITY-OWNED SMALL BUSINESSES, SBA LENDING, AND STATE-LEVEL ECONOMIC PERFORMANCE

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ABSTRACT

Aside from poor sales and economic uncertainty even after the official end of the great recession of 2007-09, the inability to access credit and liquidity continue to be challenging problems especially for small businesses. For its part, the U.S. government has expanded its various credit guarantee programs (for example, the Small Business Administration lending) to help alleviate the credit crunch to small firms. Studies by Shaffer and Collender (2009), Craig, Jackson, and Thomson (2009, 2007a, 2006), and Hancock and Wilcox (1998) found that guaranteed lending programs such as the SBA have a positive and significant impact on small business activity. This study adds to the credit supply-small firm performance literature by analyzing the impact of Small Business Administration (SBA) guaranteed lending on small businesses owned by minorities. It reexamines and extends an earlier study by Craig et al. (2007a) which found that SBA loans had a greater differential impact on employment in counties with a high percentage of "potential" minority small firms. The study analyzes a cross-sectional and time-series data set of U.S. states for the periods 1997-02 and 2002-2007. Contrary to Craig and others, this study finds that SBA lending affects a smaller change on black- and Hispanic-owned firms and their employment in areas that have a higher minority population share.

INTRODUCTION

The United States has always had a vested interest in fostering entrepreneurial activity and encouraging business growth and investment. Small businesses are not only an important source of job creation, but they also represent a large portion of our nation's tax base. Most states and municipalities, especially those in rural areas, are heavily dependent on the property and sales tax revenue generated by small businesses. Small businesses are also the incubators of technological change and the catalysts for many of the important innovations that go on to become significant forces in the broader business world. Given the important role of small businesses in the economy, and considering the relative financial risk and fragility of such enterprises, the U.S. government has historically utilized various means to mitigate the financial and institutional challenges faced by small businesses. This assistance is even more imperative during times of economic peril. In the wake of the great recession of 2007-09, the government has crafted a variety of programs and policies to help small businesses navigate through the impoverished credit markets and the treacherous economic environment. In particular, the Small

Business Administration (SBA) has seen an increase in the amount of funds available for use in its various loan guarantee programs.

This study examines the recent effectiveness of SBA financial assistance programs. In particular, it analyzes the impact that government financial assistance has on the success of minority-owned businesses. Entrepreneurs from minority populations face significant financial and cultural hurdles throughout the life cycle of their enterprise. However, the discriminatory pressures faced by minority-owned businesses are most pronounced during their early stages when capital acquisition and revenue generation are extremely difficult. The current economic environment exacerbates these already daunting challenges. This study adds to the credit supply-small firm performance literature by analyzing the impact of SBA guaranteed lending on small businesses owned by minority groups. It reexamines and extends an earlier study by Craig *et al.* (2007a) which found that SBA loans had a greater differential impact on U.S. counties with a high percentage of “potential” minority small firms. This study analyzes a cross-sectional and time-series data set of U.S. states for the period 2000-2007. Whereas Craig and others used overall employment as the primary criteria for measuring successful implementation, this study examines the changes in the number of minority-owned firms and in the number of paid employees in minority firms to determine the relative effectiveness of government assistance programs such as the SBA and the Community Reinvestment Act over time and across states.

The rest of the paper proceeds as follows. The next section reviews the extant literature on credit availability and provision to minority firms, followed by the conceptual model that examines the relationship of minority firm and employment growth with SBA lending and other regional factors. The results section discusses the outcomes of applying least squares regression to two separate periods of cross-sectional data and then applying panel regression technique to the pooled sample. Finally, the paper concludes with the general findings and implications.

REVIEW OF THE LITERATURE

The effectiveness of government lending programs such as those provided by the Small Business Administration has been examined by Hancock and Wilcox (1998), Craig and others (2009, 2007b, 2006), and Shaffer and Collender (2009), among others. The general finding is that these programs provide credit access support to small businesses especially in times of tight money, and are directly related to area income and employment growth. Regarding small minority-owned businesses, however, the impact of the SBA has been criticized as inadequate. Although the SBA has directed funding resources to minority firms, James and Clark (1987) argue that the amount is very small and that the “national policy of fostering minority business enterprise has failed to achieve its stated goals.” (p. 500)

A 1996 analysis conducted by Haynes analyzed the role of the SBA as an agent for rectifying market failure in the extension of credit to minorities. Haynes’ study attempted to determine if minority status and financial market concentration was positively correlated with the chances of receiving an SBA loan guarantee. Haynes’ conclusion was that high risk minority entrepreneurs in areas with a high degree of financial market concentration had a greater likelihood of receiving SBA assistance. Minority-owned businesses that had a lower risk of default in low concentration financial markets were much less likely to receive such assistance. When additional variables affecting the demand for financial capital were incorporated into the

model, the impact of ethnic background and financial market concentration were deemphasized and credit worthiness and applicant age became more prominent.

Cavalluzzo and Cavalluzzo (1998) also concluded that financial market concentration was a prominent factor in credit extension to minorities, especially when applicants were of Asian or Hispanic descent. Highly concentrated markets tended to exhibit a greater degree of discrimination against Hispanics, while discrimination against Asians in such markets was less apparent. Blanchflower *et al.* (2003) focused on discriminatory lending practices involving women, Hispanics, and the African-American business community, and concluded that African-American entrepreneurs suffered far more pronounced discrimination relative to other minority groups. This long-term culture of discrimination inhibited growth in business ownership among African-Americans, not only because of loan denials or punitive lending terms, but also because individuals who were considering starting a business or acquiring additional capital for an existing firm were far less likely to approach potential lenders and begin the loan process in the first place. In addition, Blanchflower and others provided an interesting contrast in business loans to African-Americans versus mortgage loans to the same population. They found that mortgage lending to African-Americans exhibited fewer discriminatory traits which was attributable to the presence of a secondary market for mortgage loans and greater institutional incentives to make these loans regardless of the ethnic background of the applicant.

Mitchell and Pearce (2011) examined the more general issue of minority credit access by differentiating between line-of-credit loans and non-line-of-credit-loans as opposed to considering all credit instruments as a homogeneous product. They found unequal access to bank non-line-of-credit loans in very competitive markets and to all loans in markets marked by less competition. However, their data indicates some evidence consistent with equal access: access appears to be equal to bank credit lines and to nonbank non-line-of-credit loans in highly competitive loan markets. Where market access differs statistically, these differences are economically significant. These disparities in access can often be attributed to the techniques used to evaluate potential borrowers and the narrow segmentation of the credit market.

In a further extension of their earlier studies, Craig *et al.* (2007a) examined county-level data to determine if loans guaranteed by the SBA conveyed a benefit to areas with a large proportion of minority residents. Their data set included metropolitan areas with a high population of prospective minority entrepreneurs. Their findings were based on the assumption that overall employment rates were a relevant indicator of the success of SBA guaranteed loans in fostering minority business ownership. Based on this criterion, their conclusion was that the security provided by the SBA guaranteed loan program did indeed improve the success rate of minority business loan applicants. The effectiveness of this program was correlated with the proportion of minorities in the local population.

METHOD

The model estimated here follows from the earlier studies by Craig, Jackson, and Thomson (2007a) and Goetz and Rupasingha (2007). It differs primarily in the following ways: (1) the model is applied to state-level data for two recent periods, 1997-2002 and 2002-2007; (2) it focuses on the determinants of growth of minority-owned firms, specifically the number and employment of black-, Hispanic-, and Asian-owned businesses; (3) after controlling for state-level regional factors such as industry composition and unemployment, it tests the relative

effectiveness of federal government guaranteed lending programs (particularly Small Business Administration and Community Reinvestment Act lending) on state-level economic performance, with special emphasis on minority or low-income areas.

The general model estimated here takes the following form:

$$\text{MIN} = b_1 + b_2\text{SBA} + b_3\text{DEP} + b_4\text{HIGH} + b_5\text{SBA}*\text{HIGH} + b_6\text{CRA} + b_7\text{RETAIL} + b_8\text{PI} + b_9\text{UR} + b_{10}\text{EFNA} + e$$

where MIN is the average annual percentage change in number of minority-owned (black-, Hispanic-, and Asian-) firms (or employees in minority-owned firms) in the state, SBA is real per capita SBA 7(a) loans in the state, DEP is real bank deposits per capita, HIGH is a dummy variable equal to one if the state's share of minority population (sum of black/African American, Hispanic, and Asian residents) is greater than the sample mean plus one standard deviation from the mean, SBA*HIGH is an interaction term of SBA and HIGH variables, PI is state real per capita income, RETAIL is the share of retail trade sector in total state employment, CRA is per capita CRA loans, UR is the state unemployment rate, EFNA is the economic freedom index for the state, and e is the error term.

The model is applied to state data for two separate periods, 1997-02 and 2002-07. The general model is estimated for each of the periods so as to identify any significant relationships in each time period and also to identify changes in the relative impacts of the different variables over time. In addition, the model is estimated for the pooled state-level data for the two periods to see if there are any differences in the results compared to the separate period estimates. The dependent variable (number of minority-owned firms or paid employees) is in annual average growth rate form while the explanatory variables (except the dummy variable, HIGH) are initial values for the period to account for any potential endogeneity bias. The data are gathered primarily from the state profile data sets provided by the SBA Office of Advocacy (www.sba.gov/advocacy/848). Earlier statistics are from the U.S. Census Bureau primarily the U.S. Statistical Abstract (www.census.gov/compendia/statab/) and the Economic Freedom Index are taken from the Fraser Institute (www.freetheworld.com). Descriptive statistics of all the variables of the model for each of the time periods (1997-02 and 2002-07) and for the pooled cross-sectional time-series data are available from the authors upon request.

Instead of using total area employment rate as the dependent variable as Craig *et al.* (2007a), this study employs a more relevant alternative: minority-owned firm-related variables such as the number of minority firms (black-, Hispanic-, and Asian-owned) and the number of paid employees. The firms are also divided between total minority firms (with and without paid employees) and minority employer firms. The flow of SBA 7(a) guaranteed loans to states are expected to have a positive and significant impact on small minority businesses. Deposits per capita, or DEP, is a measure of local financial development and an indicator of credit availability, and is expected to have a positive relationship with small business performance. HIGH is a dummy variable equal to one if the percentage of the minority population in the state is greater than the mean plus one standard deviation for the state sample. It is expected that the greater the percent of the minority population, the greater the minority business formation and associated employment. Following Craig *et al.* (2007a), the main variable of interest in the model is the interaction term between HIGH and per capita SBA; the hypothesis is that SBA lending has a greater positive impact on local businesses and employment in high-minority areas (i.e., the interaction term, SBA*HIGH, is positive and statistically significant). For comparative purpose,

the variable CRA (value of CRA loans of less than \$100,000 aggregated to the state level) is included as a counterpoint for SBA lending activity.

The next three variables are control variables representing state economic conditions. RETAIL is the share of state employment in retail trade (versus manufacturing or farm) and indicates the effect of industrial composition of the area; the *a priori* expectation is ambiguous. PI and UR indicate aggregate demand and labor conditions respectively. The expected sign for initial income is positive, indicating that high income areas provide opportunities for minority-owned firms to identify and develop niche markets; the expected sign for unemployment rate is negative. Finally, following Goetz and Rupasingha (2007), the model includes an index measure of fiscal policy effect on economic freedom called the Economic Freedom of North America (EFNA). To capture state differential impact, the study uses the state and local government index to reflect the combined effects of government size, tax policies, and labor market freedom on the growth of minority-owned businesses. The greater the EFNA index, the greater the economic freedom of minority-owned firms in terms of business formation and employment growth.

RESULTS

The separate period regressions were estimated using OLS regression with White’s heteroscedasticity correction. The dependent variables are expressed in average annual percentage rates for the period under study. The independent variables – per capita income, per capita bank deposits, per capita SBA loans, and per capita CRA loans – are expressed in natural logarithms. Each of the independent variables has a relatively low correlation with each of the other explanatory variables, and thus multicollinearity is not a problem.

**Table 1. All Minority Firms (with and without paid employees), 1997-02
(Firm Growth is dependent variable)**

Variable	All Black/African-American-owned Firms	All Hispanic-owned Firms	All Asian-owned Firms
Constant	43.67 (0.57)	-109.51 (-1.69)*	13.42 (0.36)
Retail trade	2.42 (1.33)	-0.29 (-0.23)	-0.89 (-1.25)
Unemployment rate	0.26 (0.23)	-0.28 (-0.42)	-0.86 (-1.45)
Per capita personal income	-15.86 (-1.32)	9.19 (1.39)	0.12 (0.04)
Bank deposits	4.42 (1.02)	0.45 (0.19)	-1.22 (-0.81)
SBA loans	6.88 (1.71)*	-0.73 (-0.39)	1.08 (0.94)
Minority population dummy	1.63 (0.08)	-21.72 (-1.32)	0.26 (0.04)
SBA*Minority interaction	-1.55 (-0.32)	5.21 (1.32)	-0.79 (-0.45)
CRA loans	18.46 (2.40)**	7.46 (1.95)*	3.16 (1.15)

Economic Freedom index	-2.88 (-1.15)	0.70 (0.68)	0.79 (1.07)
R-square	0.31	0.32	0.34
No. of observations	50	50	50

Note: T-statistics are in parentheses. *Significant at the 10% level. **Significant at the 5% level.

As Table 1 indicates, for the period 1997-02, the only significant factors that positively and significantly influence the growth of minority firms are SBA loans (for African-American firms) and CRA loans for African-American and Hispanic-owned firms. Per capita bank deposits, a proxy variable for financial development in the state, is statistically insignificant but has the expected positive sign for black and Hispanic-owned firms. None of the independent variables helped explain the formation of Asian-owned firms.

**Table 2. Minority Firms with Paid Employees, 1997-02
(Firm Growth and Employment Growth are dependent)**

	Employer Firms	Employer Firms	Employer Firms	No. of paid employees	No. of paid employees	No. of paid employees
Variable	African-American	Hispanic	Asian	African-American	Hispanic	Asian
Constant	198.68 (1.13)	-48.68 (-0.63)	114.81 (2.04)**	62.78 (0.37)	-41.92 (-0.48)	163.25 (1.99)*
Retail trade	3.81 (0.81)	2.40 (1.60)	-0.54 (-0.52)	-0.57 (-0.23)	1.94 (1.37)	-1.92 (-1.34)
Unemployment rate	0.26 (0.12)	-0.98 (-1.10)	-1.32 (-1.81)*	-0.90 (-0.73)	1.15 (0.85)	-1.01 (-0.86)
Per capita personal income	-31.52 (-1.11)	0.91 (0.14)	-10.15 (-2.00)*	-7.53 (-0.54)	-0.83 (-0.10)	-13.96 (-1.74)*
Bank deposits	0.54 (0.10)	0.77 (0.41)	-0.05 (-0.02)	-2.06 (-0.56)	-0.27 (-0.05)	0.63 (0.19)
SBA loans	16.06 (1.27)	-2.94 (-1.65)	0.96 (0.85)	6.06 (1.60)	-3.29 (-1.04)	-0.56 (-0.27)
Minority population dummy	-18.71 (-0.55)	29.58 (2.16)**	-9.96 (-1.10)	43.37 (1.57)	38.20 (1.97)*	-10.81 (-0.72)
SBA*Minority interaction	1.75 (0.18)	-7.19 (-2.15)**	1.64 (0.71)	-10.88 (-1.59)	-9.15 (-1.82)*	2.39 (0.64)
CRA loans	14.55 (0.94)	11.12 (2.59)**	3.51 (0.99)	4.56 (0.54)	8.11 (1.27)	0.07 (0.01)
Economic Freedom index	-3.98 (-0.96)	-0.82 (-0.48)	-1.13 (-0.96)	1.48 (0.81)	3.03 (1.21)	0.56 (0.38)
R-squared	0.21	0.32	0.23	0.19	0.26	0.16
No. of observations	47	48	50	45	48	48

Note: T-statistics are in parentheses. *Significant at the 10% level. **Significant at the 5% level.

The results in Table 2 show that the growth of Hispanic-owned firms during the period 1997-02 was affected positively by the availability of CRA loans and the presence of high minority population. Contrary to Craig *et al.*, for Hispanic firms, the estimated coefficient of the interaction term between SBA lending and high minority population was statistically significant at the 5% level and had a negative sign, indicating that the effectiveness of SBA lending activity is lower in high minority areas. The growth in the numbers of Asian firms was found to be negatively related to the unemployment rate and initial per capita income levels in the area. None of the causal variables in the model was significant in explaining African-American business formation or growth. These findings were mirrored in the employment regressions for each of the minority business groups for 1997-02.

**Table 3. All Minority Firms (with and without paid employees), 2002-07
(Firm Growth is dependent variable)**

Variable	All Black/African-American-owned Firms	All Hispanic-owned Firms	All Asian-owned Firms
Constant	-16.72 (-0.23)	131.97 (1.32)	77.48 (2.36)**
Retail trade	1.42 (0.71)	-0.98 (-0.77)	-0.71 (-1.32)
Unemployment rate	0.34 (0.36)	0.72 (0.63)	-0.67 (-1.63)
Per capita personal income	-3.43 (-0.53)	-14.36 (-1.39)	-8.40 (-2.49)**
Bank deposits	2.40 (1.20)	2.05 (1.09)	1.38 (1.24)
SBA loans	-0.24 (-0.09)	-3.44 (-2.27)**	-0.30 (-0.31)
Minority population dummy	4.32 (0.26)	-4.77 (-0.33)	-9.66 (-1.57)
SBA*Minority interaction	-1.37 (-0.34)	-0.40 (-0.12)	2.00 (1.32)
CRA loans	5.87 (0.84)	6.32 (1.22)	2.29 (0.97)
Economic Freedom index	1.19 (0.56)	2.02 (1.63)	1.75 (2.55)**
R-squared	0.13	0.42	0.35
No. of observations	47	49	50

**T-statistic is significant at the 5% level.

For all minority-owned firms for the period 2002-07, Table 3 shows that SBA guaranteed lending has a negative effect on minority business growth, although this is only significant in the Hispanic firm case. On the other hand, CRA loans have a positive sign throughout the different minority firms consistent with a priori expectations and with the results from the last period,

albeit statistically insignificant. The variable of interest, SBA*Minority interaction term, is insignificant and has ambiguous signs. The estimated coefficient for the bank deposits variable has the hypothesized positive sign for all firm groups, but is not significantly different from zero. Interestingly, the EFNA index, a measure of state-level fiscal policy effectiveness, has the expected positive sign but is statistically significant only for the Asian firm case. Finally, no variable was found to be significant in explaining black-owned firm growth.

**Table 4. Minority Firms with Paid Employees, 2002-07
(Firm Growth and Employment Growth are dependent)**

	Employer Firms	Employer Firms	Employer Firms	No. of paid employees	No. of paid employees	No. of paid employees
Variable	African-American	Hispanic	Asian	African-American	Hispanic	Asian
Constant	15.55 (0.21)	43.67 (0.65)	44.16 (0.80)	-26.07 (-0.29)	258.93 (1.37)	127.30 (0.94)
Retail trade	-3.99 (-3.28)***	-3.44 (-2.79)***	-1.12 (-1.50)	-3.43 (-1.36)	-3.03 (-1.19)	-1.49 (-1.11)
Unemployment rate	1.76 (1.35)	0.72 (0.65)	-1.13 (-1.01)	1.36 (0.83)	1.80 (0.73)	-2.93 (-0.88)
Per capita personal income	-6.54 (-0.62)	-5.93 (-0.87)	-4.42 (-0.91)	16.91 (2.20)**	-37.97 (-1.43)	-10.67 (-1.02)
Bank deposits	5.28 (1.24)	2.84 (1.12)	1.15 (1.07)	-7.70 (-2.13)**	12.01 (1.15)	0.85 (0.22)
SBA loans	2.68 (0.81)	-0.78 (-0.36)	-1.09 (-0.65)	-3.45 (-0.90)	5.63 (0.85)	1.33 (0.50)
Minority population dummy	75.94 (3.86)***	-12.43 (-0.89)	-13.72 (-1.03)	95.44 (2.79)***	58.87 (1.71)*	-10.44 (-0.36)
SBA*Minority interaction	-18.24 (-3.70)***	2.60 (0.79)	3.47 (1.06)	-21.67 (-2.72)***	-14.99 (-1.75)*	2.72 (0.38)
CRA loans	5.52 (0.95)	1.00 (0.22)	1.37 (0.34)	-5.81 (-0.79)	2.32 (0.24)	-6.15 (-0.72)
Economic Freedom index	1.81 (1.16)	4.29 (3.28)***	2.22 (1.92)*	-1.32 (-0.38)	3.01 (1.15)	3.68 (1.43)
R-squared	0.44	0.40	0.21	0.46	0.24	0.16
No. of observations	43	46	50	43	46	49

Note: T-statistics are in parentheses. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

In Table 4, the results from the firm growth regressions show that SBA lending has a significant but smaller impact in states with high minority populations during the 2002-07 period, especially as this lending activity affects black-owned employer firms. In addition, the growth of black-owned firms fell in the retail trade sector; however, these firms were more vital in states with a higher minority share of the population. Changes in the state’s industry mix, primarily in

retail trade, also had a negative effect on Hispanic firms. The economic freedom index was positively significant in explaining growth of Hispanic and Asian employer firms.

In the period 2002-07, employment growth in African-American-owned firms was positively correlated with initial income and high minority population, and was negatively related with the SBA*Minority term. These relationships were also reflected in the employment growth of Hispanic-owned firms. Moreover, bank deposits had the significant but unexpected negative effect on black employer firms. No significant employment effects were found for Asian firms during this period.

Although the two U.S. Census Bureau Surveys of Business Owners from which the minority firm statistics are gathered from may not be necessarily comparable, the data were pooled to see if there are any significant differences in the patterns and relationships compared to those found for the separate survey periods. Panel regression of the general model was initially applied to the pooled data and tested for redundant fixed and random effects. The results indicated that both null hypotheses of redundant cross-section effects and no period effects cannot be rejected. Pooled OLS with White cross-section standard errors and covariance was estimated for all minority-owned firm groups (African-American, Hispanic, and Asian), for each of the minority employer groups, and for employment growth in each minority employer group.

Table 5. All Minority Firms (with and without paid employees), Pooled Data

Variable	All Black/African-American-owned Firms	All Hispanic-owned Firms	All Asian-owned Firms
Constant	12.18 (0.43)	23.02 (0.26)	48.68 (2.05)**
Retail trade	1.03 (10.14)***	-1.24 (-7.58)***	-1.02 (-9.35)***
Unemployment rate	1.18 (197.14)***	0.80 (1.74)*	-0.55 (-6.67)***
Per capita personal income	-4.62 (-1.98)*	-1.00 (-0.11)	-3.76 (-1.09)
Bank deposits	0.64 (0.77)	-0.27 (-0.34)	-0.09 (--0.09)
SBA loans	3.72 (1.54)	-2.17 (-1.83)*	0.43 (0.77)
Minority population dummy	10.53 (9.36)***	-12.59 (-3.15)***	-6.38 (-1.50)
SBA*Minority interaction	-3.06 (-5.95)***	2.19 (1.47)	1.05 (0.90)
CRA loans	0.35 (5.52)***	0.91 (4.58)***	0.46 (6.69)***
Economic Freedom index	0.83 (1.19)	2.44 (6.52)***	1.64 (5.60)***
R-squared	0.12	0.46	0.38
No. of observations	97	99	100

Note: T-statistics are in parentheses. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

The results in Table 5 show that SBA lending has an inconsistent relationship with minority business growth: the estimated regression coefficient has the expected positive sign but is statistically insignificant vis-à-vis black- and Asian-owned firms, while the SBA coefficient is negative and highly significant at the 1% level for Hispanic-owned businesses. The SBA-minority population interaction term is significantly and inversely related with black-owned firms only. On the other hand, small business loans from the Community Reinvestment Act program are consistently positive and highly correlated with the growth of all three minority firm groups. Among the regional control variables, retail trade and unemployment rate are statistically significant independent variables for all three minority groups, but have varying impacts. For example, the retail trade industry is positively related with black firm growth, but is not pro-growth or conducive for Hispanic and Asian firms. The estimated coefficient of the fiscal environment variable, EFNA index, is consistently positive and is statistically significant at the 1% level for Hispanic and Asian-owned firms. Finally, the bank deposits variable is consistently redundant and insignificant for all minority firm groups.

Table 6. Minority Firms with Paid Employees, Pooled Data

	Employer Firms	Employer Firms	Employer Firms	No. of paid employees	No. of paid employees	No. of paid employees
Variable	African-American	Hispanic	Asian	African-American	Hispanic	Asian
Constant	143.76 (1.78)*	-19.87 (-0.65)	71.09 (2.51)**	58.19 (1.66)	109.42 (0.97)	132.09 (9.84)***
Retail trade	-0.66 (-0.29)	-0.35 (-0.20)	-0.88 (-6.79)***	-2.61 (-3.18)***	-0.63 (-0.40)	-1.22 (-4.10)***
Unemployment rate	0.51 (0.77)	0.55 (1.05)	-0.90 (-11.17)***	-1.16 (-2.11)**	1.90 (10.14)***	-1.93 (-2.20)**
Per capita personal income	-17.25 (-2.11)**	0.66 (0.16)	-6.38 (-3.40)***	5.06 (0.69)	-18.16 (-1.20)	-13.54 (-38.95)***
Bank deposits	0.76 (0.28)	0.67 (0.37)	0.63 (1.06)	-7.24 (-6.73)***	5.36 (1.05)	2.45 (6.17)***
SBA loans	9.94 (2.13)**	-2.16 (-2.12)**	0.21 (0.27)	0.36 (0.11)	0.42 (0.13)	0.51 (1.03)
Minority population dummy	37.63 (1.21)	8.70 (0.59)	-10.22 (-7.66)***	67.98 (4.38)***	47.83 (7.08)***	-4.97 (-57.53)***
SBA*Minority interaction	-10.13 (-1.55)	-2.19 (-0.64)	2.21 (3.28)***	-15.70 (-4.81)***	-11.78 (-5.98)***	1.08 (16.80)***
CRA loans	0.003 (0.01)	0.15 (1.17)	0.36 (5.12)***	0.43 (2.17)**	0.63 (9.42)***	1.13 (15.07)***
Economic Freedom index	-1.03 (-0.60)	2.84 (2.34)**	0.95 (0.87)	-0.41 (-0.32)	3.94 (9.62)***	1.53 (2.11)**

R-squared	0.08	0.16	0.14	0.23	0.19	0.21
No. of observations	90	94	100	88	94	97

Note: T-statistics are in parentheses. *Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.

Similarly, Table 6 shows the results of applying panel regression to minority employer firms in the various states. For minority firms with paid employees for the two consecutive periods, the pooled regression findings indicate that SBA lending activity is a pro-growth variable for African-American-owned firms but has a depressing effect on Hispanic firms. On the other hand, CRA loans have a more positive influence on Asian firm growth. Although the coefficient for SBA loans is positive but insignificant for Asian employers, the interaction term SBA*Minority variable implies that SBA lending has a larger positive impact in high minority areas, consistent with Craig *et al.* The results also show that the regional factors of unemployment, retail trade, personal income, and minority population are more important in explaining Asian employer firm growth.

More important, the results in Table 6 show that the estimated general model is a better predictor of employment effects for all three minority employer groups. Compared to SBA loans, the CRA loans are directly and significantly related with minority firm’s employment growth. Contrary to Craig *et al.*’s finding, the coefficients for the SBA*Minority term is negative and highly significant for employees in black- and Hispanic-owned businesses, indicating that SBA guaranteed loans have a smaller differential impact on employment in high minority areas. Regarding the state-level control variables, employment growth is found to be highly and negatively correlated with retail trade and unemployment particularly for black and Asian firms. The significant estimated coefficients for the minority dummy variable indicate that high minority areas are favorable for workers in black- and Hispanic-owned firms, but not necessarily so for employees of Asian firms. The economic freedom index is positive and significant for Hispanic and Asian firms, indicating that fiscal and labor policies are effective in promoting employment growth. Finally, the bank deposits variable, the measure of local financial development and credit availability, is found to be positively and highly related with employment change in Asian firms as expected, but has a negative impact when it comes to black-owned firms.

CONCLUSIONS

The number and share of minority-owned firms in the U.S. has increased steadily over the past few decades. Researchers have long been interested in the determinants, both internal and external, of this business growth. This current study examined the impact of financial capital sources, specifically government lending programs such as the SBA and CRA, on minority business growth and employment across states and over time.

For all minority firms (with and without paid employees), lending activity by SBA and CRA was significant in promoting black-owned firms for the 1997-02 period; only CRA loans were helpful for Hispanic firms. These relationships disappeared in 2002-07; moreover, there was a finding of a perverse negative effect of SBA lending on Hispanic firms. The results of the pooled sample confirmed the comparative advantage of CRA over SBA loans in fostering minority-owned firms, especially for black- and Hispanic-owned businesses.

When focusing on the three minority firm groups having employees during the two time periods, the most important outcome and pattern is the negative coefficient for the interaction term SBA*Minority. Contrary to Craig and others, this study finds that the impact of SBA lending on black-owned and Hispanic-owned firms (numbers and employees) is smaller in states that have a high percentage of minority population. Estimates from the pooled regression support this major finding particularly with the employment effects of SBA; on the other hand, the comparative influence of CRA loans is consistently positive and significant. The exception is Asian-owned firms which show a positive and significant estimated coefficient for SBA*Minority interaction term for explaining changes in Asian firm numbers and employment. The main implication of these results is that policymakers should consider the differential effects of government financing programs on various minority business firms. Black-, Hispanic, and Asian and other minority-owned firms not only differ in terms of their internal characteristics but also in their external environments and responses to economic incentives.

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