

Some Policy Implications of Bank Participation in Small Business Administration Lending Programs

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ABSTRACT. This study examines the relationship of bank participation in SBA guaranteed lending programs to bank characteristics and market demographic characteristics. Bank SBA lending is related to per capita income in the bank's market area, membership in a bank holding company, the loan-deposit ratio of the bank, the percent business loans of the bank, and the total assets of the bank. In markets of 50,000 or less, greater SBA lending is associated with lower per capita income levels. Accordingly, it appears that the economic development function of bank SBA lending is linked to a greater extent with market areas of less than 50,000.

I. Introduction

The significant role of small businesses in job creation, business formation, and economic development is generally recognized (Bennett, 1984; Wessel and Brown, 1988). Initiatives by the Small Business Administration (SBA) to stimulate economic activity in low income areas are now associated with both rural and urban development efforts following the addition of rural economic development to the SBA's mission in 1987 (The Rural Development Initiative of the U.S. Small Business Administration, p. iii). The SBA's loan programs provide a linkage between the banking system and economic development by permitting banks to increase the variety and size of loans

available to small businesses. In addition, the ability of banks to sell the guaranteed portions of SBA loans to outside investors can generate resources in excess of a community's savings base. One objective of the SBA is to encourage economic development by providing incentives for banks to lend to small businesses. This paper seeks to determine whether this objective is being met and, if it is, in what kinds of markets and by what kinds of banks.

Financial institutions such as commercial banks have multiple incentives to participate in SBA loans. The loan guarantee by the SBA (up to 90% of the loan) in the secondary market can provide significant fee income from servicing the sold portion. Since the guaranteed portion of loan is subtracted from the total loan in determining the bank's lending limits, an increased level of lending can result. A General Accounting Office Report (1983) indicated that, when compared with traditional loans to small business, SBA guaranteed loans generally had longer maturities, were somewhat larger than the borrowers otherwise would receive, and were less collateralized. The SBA guaranteed \$2.5 billion in private loans and made \$1 billion in direct loans in 1985 (*Wall Street Journal*, 1986).

Under the authority of Section 7 (a) of the Small Business Act, the SBA administers the business loan program by granting or denying financial assistance, administering and servicing loans, and overseeing the operations of all loan participants (*Code of Federal Regulations*, 1986). To qualify, a business must meet the SBA's small business size regulations. While these vary by industry, for most SIC industries the size standard is 500 employees or fewer.

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Access to bank lending is especially important for small business as primary and secondary money and capital markets often are not accessible. Bank credit and trade credit are therefore the primary sources of working capital for small businesses (Chant and Walker, 1988, p. 861).

Despite linkages with economic development and local community concerns there are few studies examining bank participation in SBA lending programs. The Glassman and Struck study (1982) of 200 banks found that "there is no clear pattern of usage of government loan programs when banks are divided into subgroups by bank size and structure" (p. 86). The Glassman and Struck study was limited in sample size and scope and therefore not conclusive. Glassman and Struck did not attempt to establish linkages with market characteristics.

Rhyne (1988, pp. 69–75), using a four state sample, suggests that banks fall into four categories with respect to their degree of participation in SBA programs: non-users (28%), infrequent users (53%), active users (14%), and intensive users (5%). Intensive users are small banks with assets of \$50 million or less that have 10 or more SBA loans that comprise over 20% of their commercial and industrial loan portfolio. Rhyne contends that intensive user banks should be studied for possible concentration of SBA lending to achieve policy objectives including default reduction.

While studies of other aspects of SBA lending including but not limited to examinations of the types of recipients of loans, are increasing in frequency (Brudney and Hinson, 1987; Fried, 1983; Herman, 1983 and 1985; Chrisman *et al.*, 1985), few studies of the linkages between SBA lending, the commercial banking sector, and local markets exist.

This lack of research is surprising as banks are the principal institutions for implementing the SBA loan guarantee program. Therefore, it is necessary to know if banks are operating in a manner that furthers the effectiveness of the program. In addition, other than our own preliminary study (1987), there does not appear to be any examination of the effects of market concentration on SBA lending. This is unusual as market concentration is thought to have effects on a large variety of banking activities including lending.

Accordingly, the purpose of this paper is to examine bank participation in and implementation of SBA lending as a function of banking and market characteristics. Section II considers the objectives and hypotheses. In Section III, the variables and *a priori* expectations are discussed. Section IV considers the data and methodology. In Section V, the demographic data are examined further. In Section VI, the results are discussed. Section VII examines the independent variables with nonsignificant coefficients. The conclusions are reviewed in Section VIII.

II. Objectives and hypotheses

As stated previously in the literature review, little examination of banks and local markets where SBA loans are made has taken place. As banks are critical to the SBA loan guarantee program (Rhyne, 1988, p. 3), and SBA programs have economic development objectives including rural area development objectives, the purpose of this study is to relate the volume of SBA loans to traditional measures of bank characteristics, market characteristics and local economic activity. The nature of these relationships has implications for the use of loan subsidy programs and bank regulation in economic development strategies. The following hypotheses are examined:

- (1) Larger banks make a proportionately higher dollar volume of SBA loans.
- (2) Banks that are members of holding companies make a larger dollar volume of SBA loans.
- (3) Banks with strong business loan programs make a higher dollar volume of SBA loans.
- (4) Market areas with higher incomes and larger populations are associated with a higher dollar volume of SBA loans per bank.
- (5) The Bank Herfindahl Deposit Concentration Ratio is inversely related to bank participation in SBA guaranteed lending.

The SBA loan program has only recently expanded its objectives beyond the original goal of overcoming an imperfection in the business credit market and assisting a particularly diserving group. Program objectives have been broadened to include the generation of external benefits by beneficiaries (Rhyne, 1988, p. 90) and, as pre-

viously mentioned, to assist in rural economic development. These hypotheses have implications for implementation of the SBA guaranteed loan program to attain current program objectives.

III. Variables and *a priori* expectations

Our Regression model has the following form and signs: $LDV = F (+Y, +P, +HC, +G, +LDR, -FL, +BL, -CL, +TA, -H)$ where LDV is the dollar volume of SBA loans per bank, Y is the per capita income in the banks market area, P is the population in the bank market area, HC is membership in a bankholding company, G is the average 5 year growth rate in deposits, LDR is the loan-deposit ratio of the bank, FL is the percent of farm loans to total loans, BL is the percent of business loans to total loans, CL is the percent of consumer loans to total loans, TA is the dollar volume of total assets, and H is the Herfindahl bank deposit concentration ratio in the bank's market area.

A. The dependent variable

Preliminary tests indicated that the two potential dependent variables that the SBA collects — the number of SBA loans per bank, and the dollar volume of SBA loans per bank — were highly correlated. The dollar volume of SBA loans per bank was ultimately selected as the dependent variable. However, the authors acknowledge that there is little to differentiate between using the dollar volume variable and employing the number of loans as a dependent variable.

B. The independent variables

For the total sample of 1688 banks and for a subgroup of 900 banks in markets with populations of 50,000 or less, ten independent variables were tested for significance. The variables were:

1. Per capita income in Bank's Market (+ Y). Higher income levels should produce a greater demand for small business services leading to expansion of existing small business and greater formation of new ventures. A result should be more small business lending by banks. The same relationship is anticipated for the subsample of banks in markets with populations of 50,000 or less.

2. Population in the Bank's Market area (+ P). In a similar manner, higher population density should increase the viability of new and existing small businesses which in turn should increase the demand for SBA loans. Additional insight into the economic development role of SBA loans should be obtained by examining the relationship between the population variable and the other independent variables such as per capita income (Y). For the subsample of markets with 50,000 or less population, a small positive relationship is expected despite the homogeneity of the market areas. This expectation for small market area is suggested by a previous study of SBA lending by the authors (1987).

3. Membership in a bank holding company (1 = yes, 0 = no) (+ HC). Because of efficiencies in acquiring and implementing expertise in application processing, we anticipate a positive relationship. This is expected to hold for the subsample of banking markets with 50,000 or smaller population as well. As holding companies are a leading vehicle for bank expansion, this variable is linked to legislative policy on easing territorial restrictions.

4. The five year annual average growth rate in deposits (+ G). For both the total sample and the subsample, growth should lead to increased lending opportunities, including SBA lending. The relationship should be positive.

5. The loan-deposit ratio for each bank (+ LDR). This ratio is a general measure of bank lending aggressiveness. A more aggressive bank should have more SBA lending opportunities. Accordingly, expectations are for a positive relationship for both groups. Again, the easing of territorial restrictions issue is relevant.

6. The percent of farm production and farm real estate loans to total loans for each bank (- FL). While farmers are theoretically eligible for SBA loans, a wide spectrum of agricultural lenders exists. In addition, many banks with high percentages of agricultural loans are located in rural areas. Banks in rural areas should have considerably less opportunities to make SBA loans. Accordingly, expectations for a negative relationship are indicated for both groups.

7. The percent Business loans for each bank (+ BL). While there may be some pre-empting of SBA loans by direct lending, banks heavily involved in business lending should encounter

more SBA lending opportunities. Expectations are for a positive relationship for both groups.

8. The percent of consumer loans for each bank ($-CL$). Urban 'retail' banks with high proportions of consumer loans should encounter fewer SBA lending opportunities. In addition, some banks tend to substitute SBA loans for business loans reported as consumer loans because security takes the form of personal assets. Expectations are for a negative relationship for the total sample and the subsample.

9. Total assets for each bank. Large banks should participate to a proportionately small extent in SBA lending because of SBA loan size limits and the increasing importance of larger business loans. In addition, large aggressive business lenders may substitute direct loans for SBA loans. On balance, loan importance should decline with increasing bank asset size.

10. The all bank Herfindahl Deposit Concentration Ratio in the appropriate market ($-H$). Other work by the authors (1987) suggests a small inverse relationship in highly concentrated rural markets. Accordingly, the anticipated relationship is negative. As the Herfindahl Concentration Ratio is a key indicator of the level of competition in a particular market, legislative policy relating to the promotion of competition is again relevant. Income and population data are for 1984. The other data are for 1985.

IV. Data and methodology

Most SBA business loan programs are authorized by Section 7(a) of the Small Business Act as well as the Opportunity Loan Program. Historically, SBA lending has taken three forms: direct loans to applicants; participation in loans with a private lender and guarantees against default risk for eligible loans made by a private financial institution. The SBA will insure up to 90% of a loan made directly by a financial institution. The average percentage guarantee is somewhat lower (Rhyne, 1988, p. 86). Guaranteed loans are the dominant form of SBA involvement in lending in terms of both the number of loans and dollar volume. The SBA loan data used in this study consists of data on guaranteed loans and a small number of participation loans. Both guaranteed loans and participation loans require the involve-

ment of a bank or other financial institution at the time of origination.

The Small Business Administration provided the authors with a 50 state list of about 15,000 banking offices. The data identified banks that are members of multi-bank holding company organizations and provided the dollar volume of SBA loans and the number of SBA loans per bank as of Jan. 30, 1986.

A. *Rationale for the use of the seventh federal reserve district*

State restrictions on bank expansion in the Seventh Federal Reserve District facilitated the calculation of all Bank Herfindahl Deposit Concentration Ratios for bank market areas. Initial tests indicated that many midwestern states with histories of unit banking appeared quite similar in their SBA loan patterns and could be reduced in number for study purposes. In contrast, banks in states with historic traditions of unlimited branching tended to have highly centralized main office reporting of SBA lending activity which precluded the use of Call Report financial data. The mixture of urban and rural markets, banks, and data availability for the Seventh Federal Reserve District was consistent with the objectives of this study. Accordingly, the study was consolidated to reflect only those banks with SBA loans in the Seventh Federal Reserve District, (Ill., Ind., Ia., Mi., and Wi.).

B. *Bank market areas in the seventh district*

The relevant bank market areas were taken from designations contained in a publication of the Federal Reserve Bank of Chicago (Simmons, 1988). Many banking markets are approximated by counties. Other markets, reflecting commuting patterns, include single or multiple counties, with occasional townships from adjacent counties. Using surveys and travel patterns as guidelines, 449 counties in five states were combined into 341 markets (Simmons, 1988). This study contains 295 of the 341 markets. The total was reduced due to the absence of SBA loan participations in some markets and the elimination of markets with ambiguous boundaries that extended across state lines. Of the 295 markets in this study, 225 have populations of less than 50,000. The

average population of these 225 markets was 24,507. Given the propensity to include small areas adjacent to metropolitan areas in the relevant larger banking market, it is likely that the great bulk of the markets with populations of less than 50,000 are located in rural areas.

V. Demographic variables

Demographic data were obtained from the County Statistics File 2 Tape of the U.S. Bureau of the Census and matched or modified as appropriate for the banking markets used in this study.

Efforts to include demographic data on various business size categories were abandoned when a high correlation with the market population variable was found. Financial data on individual banks were obtained from a tape containing bank Reports of Condition and Income for 1985 and earlier and were matched with the SBA bank list. The result was a set of 1688 banks, well distributed as to market size. The data in Table I summarizes the characteristics of SBA Loan Dollar volume per bank, bank size, and population for the 295 banking markets used in this study. The asset size range was from \$5 million to \$33 billion with a mean asset size of \$156 million. The mean SBA dollar loan amount per bank was \$490,000. Major metropolitan areas included in the study were Chicago, Detroit, Des Moines, Milwaukee, and Indianapolis.

Herfindahl Deposit Concentration Ratios were calculated for bank markets (usually county approximated) from the Reports of Condition and Income Data. For markets approximated by

multiple counties, appropriate all bank Herfindahl indexes were computed (Simmons (1988, p. 6) discusses bank Herfindahl concentration ratios).

A. Designating rural banking markets

The authors acknowledge that multiple demographic factors are typically used to designate rural areas. However, the large number and varied size of banks, taken together with the rural nature of considerable portions of the Seventh Federal Reserve District, suggest significant inclusion of rural areas in this study. The use of a population figure of 50,000 or less to designate rural areas was deemed appropriate. The full results of the two regression equations employed in this study are presented in Table II. The first equation uses all banks in all population centers. The second equation also retains the original variables but limits markets to those with a population of 50,000 or less.

When the data in Table II are examined, there are four common variables with significant coefficients but only three have positive signs in both market classifications: (1) The bank loan-deposit ratio; (2) the percent business loans; and (3) total assets. Banks with higher loan-deposit ratios make a higher dollar volume of SBA loans. General aggressiveness in seeking business loan opportunities is associated with a higher level of SBA lending. Banks with higher business loan percentages to total loans also make a higher dollar volume of SBA loans. Finally, greater SBA lending activity is associated with greater asset size but SBA activity declines in relative importance as bank size increases. Hypotheses 1, 2, and 3 are supported. In addition, the variables in Table II with significant coefficients feature strong *T* values.

For markets with populations of 50,000 or less, the variable percent consumer loans has a significant coefficient with a negative sign. It may be that banks in market areas with small populations, that normally report some business loans as consumer loans because personal assets are used as security, have replaced a portion of these consumer/business loans with SBA loans. It is not unreasonable to assume that the guaranteed business loans made by banks in these market areas are both larger and more numerous than they would be if the SBA program were not available.

TABLE I
Selected variables 1688 banks in 295 banking markets

Variable	Range	Mean
SBA loan dollar volume per bank (dependent variable)	\$422 to \$15,000,000	\$490,000
Assets per bank	\$5,000,000 to \$33,000,000,000	\$156,000,000
Population	4400 to 5,000,000	530,356

TABLE II
Relationship between dollar volume of SBA loans per bank, demographic and other market data, and bank structure and performance variables

Dependent variable	Regression coefficients of independent variables (<i>T</i> -values in parentheses)										<i>R</i> ² adjusted
	Per capita income in market	Pop. in market	Part of bank holding co. (1 = yes, 0 = no)	5 yr growth in deposits	Loan deposit ratio of bank	Pct. farm loans of bank	Pct. business loans of bank	Pct. consumer loans of bank	Assets of bank	Market Herfindahl (deposits of all banks)	
Dollar vol. ^a of SBA loans per bank	40.33 (2.18)*	-0.007 (-0.428)	9767.43 (3.043)**	3369.99 (1.19)	9365.04 (5.57)**	-2547.22 (-1.93)	13126.40 (-6.33)**	-1415.28 (-0.645)	0.064 (3.70)**	15.75 (0.902)	0.125
Dollar vol. ^b of SBA loans per bank	-23.08 (-1.669)	-0.508 (-0.664)	-20.90 (-0.011)	-1996.77 (-0.810)	3670.99 (3.489)**	-894.47 (-1.056)	7602.78 (4.894)**	-6212.56 (-3.857)	3.56 (10.662)**	-1.77 (-1.72)	0.191
Dollar vol. ^c of SBA loans per bank	-37.79 (-2.728)**	-1.26 (-0.912)	1992.59 (1.073)	-2103.86 (-0.870)	3074.12 (2.998)**	-808.18 (-0.981)	6142.42 (3.904)**	-4683.22 (-2.800)**	3.789 (8.950)**	-17.857 (-1.757)	0.173

* Sig. at 0.05.

** Sig. at 0.01.

^a All markets in study, 1688 banks.

^b Markets with populations of 100,000 or less, 1096 banks.

^c Markets with populations of 50,000 or less, 900 banks.

In addition, the per capita income coefficient shifts from positive in the all markets regression equation to negative in the regression equation for markets with less than 50,000 population. If per capita income levels are positively linked with employment levels (i.e., high and high, low and low), SBA loans may contribute positively to economic development and job creation in low income, small population markets where borrowers would not otherwise meet the criteria of local lenders.

For the all banking markets equation, banks that are part of a bank holding company make a higher dollar volume of SBA loans than nonaffiliated banks. This result reflects organizational aggressiveness in developing and using SBA lending expertise. The authors are also aware of a history of bank resistance to SBA paperwork. As the membership in a holding company variable is not significant in smaller markets, there may be size requirements before banks that are members of holding companies share SBA loan application preparation skills. On balance, laws that restrict the territorial expansion of holding companies may have a negative effect on SBA lending activity and related benefits.

The hypotheses offered earlier in this paper can now be addressed again with caution. The data suggest that larger banks that are members of holding companies make a higher dollar volume of SBA loans. In addition, general aggressiveness in business lending leads to higher dollar volumes of SBA loans. Higher per capita incomes are positively associated with SBA lending in markets with populations greater than 50,000, but a negative relationship exists in markets with populations of 50,000 or less. It may be that SBA loans play a somewhat greater developmental role in smaller rural markets. Finally, the Bank Herfindahl Deposit Concentration Ratio in a bank's market does not appear to affect SBA lending.

VI. Nonsignificant independent variables

Any discussion of possible reasons for the lack of significance of the coefficients of independent variables is difficult and risky. Accordingly, any suggestions are offered tentatively. The lack of significance of the variable population in the bank's market area may be due to the presence, in heavily populated urban markets, of large banks

not in this study that aggressively make direct (not SBA related) loans to small businesses.

Banks with high levels of farm loans may be in geographic areas that have modest small business loan demand. In addition, management's lending expertise could be concentrated in areas other than SBA lending. Finally, the failure of the Herfindahl Deposit Concentration Ratio to show a significant relationship is somewhat surprising. As indicated earlier, a previous study by the authors of rural areas with high bank deposit concentration ratios was suggestive of a small negative relationship with SBA lending (1987). It should be noted that markets in that study (Iowa only) were more highly concentrated than those in the SBA study reported here.

A possible area for further study would be to investigate the effect of interstate expansion on SBA lending participation. The association between holding company membership and involvement in SBA lending programs found in this study suggests an increase in bank participation in SBA lending if interstate expansion results in an increase in holding company affiliation. In addition, the relation between statewide branching and the degree of participation in SBA lending appears worthy of further study.

VII. Conclusion

This study has investigated the effects of bank characteristics and market demographics on bank participation in SBA lending. Banks that participate more intensively in SBA lending concentrate more on business lending, are more likely to be members of a holding company, and may substitute SBA loans for consumer loans secured by personal assets in market areas with populations of 50,000 or less. It may be that the developmental role of SBA lending is increased by legislation encouraging the territorial expansion of holding companies. In markets of 50,000 population or less, greater SBA lending and the resultant benefits are associated with lower per capita income levels. It therefore appears that the achievement of the SBA's economic development policy objectives may be greater in rural market areas.

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