

Funding small businesses through the SBIC program

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“Ensuring the availability of sufficient amounts of credit for small- and medium-sized businesses, at affordable interest rates, is vital in any effort

to bring this nation out of recession, create new jobs, and build a strong U.S. economy.”¹

These remarks reflect the growing concern over the availability of funding to small businesses. Because small businesses are perceived to be a major source of growth for the U.S. economy, a number of policy initiatives have been proposed recently in the Congress to increase the availability of funds to these firms.

The debate about the availability of capital to small business is not new. In 1958, the Federal Reserve Board concluded that there was a shortage of funds available to these firms.² In response, Congress authorized the Small Business Administration (SBA) to charter private small business investment companies (SBICs) to act as financial intermediaries for small firms.

SBICs differ from other financial institutions that fund small businesses. Traditional financial intermediaries such as banks provide short-term working capital financing to small firms, while SBICs provide long-term funds, not only through loans, but also through equity investments.³ Furthermore, banking organizations are allowed to participate in the program; hence, while banks are restricted from making direct equity investments, they can do so indirectly by establishing SBIC units. SBICs are also unique in that they have access to government subsidies and thus can leverage their

private capital with government funds, unlike other venture capital firms.

These and other features raise a number of interesting issues about the role of SBICs in funding small businesses. In perfect capital markets, firms can always raise funds for positive net present value projects. Capital market imperfections that are caused by conflicts of interest between outside investors and managers of firms and differences in the amount of information available to them, however, can impose costs on firms and inhibit the flow of funds for profitable investment projects. It has been argued that the characteristics of small businesses exacerbate these problems.

A central issue in financing small firms is the conflict between the types of investors and financing that are most appropriate for these firms. On one hand, because it is hard to evaluate and monitor small firms, and because they

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have few assets that can be collateralized, long-term debt financing is likely to be costly for them. On the other hand, equity financing involves sizable fixed costs, and while banks may have a comparative advantage in financing small firms, they are unable to provide equity capital. Together, these facts restrict the amount of equity financing available to small firms. The SBIC program addresses these issues by increasing the pool of long-term debt and equity financing and by allowing banking organizations to provide equity capital to small firms.

If the SBIC program provides investment opportunities that minimize the problems associated with external finance, the type of financing provided by an SBIC should vary according to the riskiness of the project and the identity of the SBIC. In particular, we expect SBICs to provide debt financing primarily for those activities that generate tangible assets that can be pledged as collateral. By contrast, we would expect equity financing to be dominant in funding activities that generate relatively few tangible assets. Moreover, if the SBIC program affords banking organizations the opportunity to utilize their comparative advantage in evaluating and monitoring investments, then we would expect bank-owned SBICs to provide the majority of capital in the program and to pursue a strategy of extensive equity investments.

In this article, we explore these issues using proprietary data obtained from the SBA. To determine whether SBICs that are associated with banking organizations behave differently than other SBICs, we separated the SBICs into two groups, bank-owned and non-bank-owned.⁴ The results indicate that bank-owned SBICs do, in fact, pursue a strategy of extensive equity financing, while non-bank-owned SBICs appear to rely more on nonequity financing and on direct government subsidies. Interestingly, bank-owned SBICs are more profitable even though they rely far less on government subsidies in the form of matching funds to invest. This suggests that allowing banks to participate in the SBIC program provides some advantages over alternative methods of financing small business, and that direct government subsidies are not required to enable investments in small businesses to be profitable.

The article is organized in four sections. The first section discusses the economic implications of the SBIC program. The second section examines the types of investments SBICs make, the cross-sectional differences in characteristics and investment strategies, and the differences between bank-owned and other SBICs. The third section presents evidence concerning the impact of SBICs' asset-mix decisions on profitability. The final section contains concluding remarks.

The economics of financing small businesses and the SBIC program

One of the central questions in the debate over small business financing is how the characteristics of these firms affect their funding. It is often argued that in small firms, the information gap between outside investors and managers of firms is greater and the conflicts of interest among different stakeholders are more severe.

Small businesses tend to be newer, private companies without established public track records.⁵ Moreover, most small firms are in trade and service industries, which tend to have high ratios of intangible assets that cannot be pledged as collateral for loans. Small businesses also tend to have high failure rates and are concentrated in highly volatile industries.⁶ Although the probability of failure is higher for small firms, comparisons of small and large surviving firms indicate that small firms grow faster. In other words, while young firms are likely to have very little cash flow in the short run, their future growth opportunities tend to be high.

These features of small firms tend to exacerbate the problems associated with capital market imperfections that raise the cost of external financing and inhibit the flow of funds to them. Evidence suggests that collateral, restrictive covenants, mixed equity and debt financing, and long-term relationships with investors mitigate some of these problems.⁷ But such solutions involve fixed costs that are burdensome to firms that need to raise only small amounts of funds. The usual response to these problems has been either to provide government subsidies to defray the fixed costs, or to relax regulations on financial institutions to encourage the flow of funds to small businesses.⁸ The SBIC program offers both of these features.

Under the program, a company may be chartered to operate as an SBIC if it satisfies minimum private capital requirements. SBICs provide equity capital or long-term loans to firms having net worth less than \$6 million or average net income less than \$2 million in the preceding two years.⁹ In addition, SBICs may receive government-guaranteed funds through issuances of debentures and other obligations which can be purchased directly or guaranteed by the SBA. At present, SBICs must have a minimum of \$2.5 million in private capital and may receive up to \$3 in SBA funds for every \$1 of private capital.

SBICs are also subject to restrictions on the types and forms of their investments, summarized in box 1. Because the SBIC program

was designed to encourage the flow of long-term capital to small firms, the regulations specify a minimum maturity for loans and a maximum rate of interest that can be charged. Although regulations allow SBICs to invest in the equity of small businesses, they are not permitted to gain control of a small business without prior SBA approval or a plan of divestiture. SBICs may invest only in qualifying small businesses, or, if an SBIC has temporarily idle funds, in certain short-term investments.

In addition to providing subsidized funds through the SBA, the SBIC program allows banking organizations to provide equity financing to small firms. If, as has been argued, banks have a comparative advantage in evaluating and monitoring small firms, then bank

BOX 1

Current SBIC regulations: a summary

Sources of SBIC funds

- Minimum private capital requirement is \$2.5 million in capital and paid-in surplus.
- SBICs can obtain up to \$3 in SBA funds for every \$1 of private capital.
- SBA funds can be obtained either through sales of debentures to the SBA or through issues of SBA-guaranteed debentures. The majority of the outstanding SBA-guaranteed debentures issued by SBICs are ten-year debentures. Currently, the SBA is restructuring the regulations of the SBIC program. Once the restructuring is completed, SBICs will also be able to obtain SBA funds through issues of preferred securities. In addition, the maximum amount of SBA funds that any one SBIC can obtain is to be raised from \$35 million to \$90 million.
- The interest rate on SBA-guaranteed debentures is the interest rate on Treasury securities of comparable maturity. In addition, the SBA charges a premium averaging 60 to 100 basis points over the interest rate of comparable Treasury securities.

Uses of SBIC funds

- SBICs may invest only in qualifying small business concerns or, if the SBIC has temporarily idle funds, in certain short-term investments. SBICs may not invest in other SBICs, investment or finance companies, finance-type leasing companies, unproved real estate, companies with less than one-half of their investments in the

U.S., or companies not engaged in regular and continuous business.

- SBICs may not acquire a controlling interest in a small business unless a plan of divestiture is filed with the SBA. SBICs may not invest more than 25 percent of their capital in any one small business.
- The minimum maturity of SBIC loans is 5 years. The maximum interest rate that can be charged on these loans (the "maximum cost of money") is determined by the SBA. If the current rate on ten-year debentures sold by the SBA is less than 8 percent, then the maximum cost of money is 15 percent on loans and 14 percent on debt securities. If the debenture rate is more than 8 percent, then the maximum cost of money is the debenture rate plus 800 basis points on loans, or the debenture rate plus 700 basis points on debt securities.

Oversight

- Each SBIC must be audited by an independent accredited auditor to determine whether the SBIC's financial statements conform to generally accepted accounting rules and to SBA regulations. In addition, SBICs are subject to annual SBA examinations.

Note: The information in this table is not exhaustive but only highlights the principal regulations of the SBIC program. The formal text of the full SBIC regulations is given in section 13 CFR 107 of the SBA regulations.

participation in such programs as the SBIC program should increase the amount of funds available to small firms.¹⁰ Until 1976, banks were prohibited from owning more than 50 percent of any one SBIC, and no bank could invest more than 2 percent of its capital and surplus in SBICs. Now, the only constraint on bank ownership is that no bank or bank holding company may invest more than 5 percent of its capital and surplus in SBICs. Furthermore, directors, officers, and employees of a bank may also serve as officers, directors, or employees of an SBIC.

The increase in the pool of equity capital available to small firms should offer several advantages. Because residual claimants can share in the potential benefits of the investments and share the risk with fixed claimants, the program may lower the cost of capital to small firms. Additional capital also improves the balance sheets of these firms, making it easier for them to obtain funds from other sources. Moreover, if SBICs are better able to process information about small firms, then an investment by an SBIC would signal to other investors that the firm offers profit opportunities.

According to SBA statistics, 1,320 companies became licensed as SBICs between 1959 and 1992.¹¹ At the end of fiscal year 1992, there were 204 active SBICs with \$3 billion in capital resources. Over two-thirds of this capital was obtained from private sources; the remainder was supplied by the SBA either through guarantees of debentures issued by the SBICs or through purchases of such debentures. The majority of SBA leverage is provided through guarantees of debentures, which

require direct outlay of SBA funds only in the event of a default by an SBIC.

SBICs' financial characteristics and investments

The SBA has an extensive database on all SBICs. For this article, we examined its files on SBICs' history, reports of condition, and investments in order to determine whether SBICs offer different types of financing to different types of small businesses, and to examine the relationship between SBICs' profitability and their financial characteristics. The reports of condition cover each year from 1986 to 1991, while the investment data cover each year from 1983 to 1992. The sample changes each year because many institutions were liquidated, merged, or voluntarily surrendered their licenses.¹²

Table 1 reports some of the developments in the SBIC program from 1986 to 1991. During this period, the total assets and capital of SBICs increased by more than 28 percent and 50 percent, respectively. By the end of fiscal year 1991, the total assets of the companies in the program were over \$4 billion and capital resources had reached almost \$3 billion. As table 2 shows, these total dollar figures represent an average of \$24.1 million in total assets and almost \$17 million in total capital per firm in 1991.¹³

The higher growth rate of total capital relative to total assets indicates that SBICs leveraged less of their assets in 1991 than in 1986. In fact, SBICs' total amount of SBA financing outstanding actually declined over that period. This decline is indicative of two general trends within the SBIC program. First, the number of active SBICs declined signifi-

TABLE 1

Development of the SBIC program

	All SBICs		Bank-owned SBICs	
	1986	1991	1986	1991
TA	\$3.30 billion	\$4.24 billion	\$1.89 billion	\$3.08 billion
TOTCAP	\$1.99 billion	\$2.99 billion	\$1.35 billion	\$2.46 billion
PRIVCAP	\$1.28 billion	\$2.16 billion	\$0.83 billion	\$1.75 billion
SBAFUND	\$878 million	\$575 million	\$246 million	\$129 million
N	292	176	100	68

Note: Variables are defined in box 2.

Definitions of variables

DEBT	SBIC disbursements as purchases of debt instruments with equity features, such as convertible bonds
EQUITY	SBIC disbursements as purchases of equity
EQUITY and DEBT	SBIC disbursements as simultaneous purchases of equity and debt instruments
LOANS	SBIC disbursements as loans
LOSS	the ratio of provision for losses on accounts receivables to gross expenses
N	number of observations
PDEBT	the ratio of the stock of debt securities with equity features to total portfolio of investments, with all assets measured by their market value
PEQUITY	the ratio of the stock of equity securities to total portfolio of investments, with all assets measured by their market value
PLOANS	the ratio of the stock of loans to total portfolio of investments, with all assets measured by their market value
PRIVCAP	private capital defined as capital plus paid-in surplus
ROE-BV	the three-year average ratio of net income to book value of equity, 1989-91
ROE-MV	the three-year average ratio of net income to total capital (market value), 1989-91
SBAFUND	total amount of funds owed to the SBA
SBALEV	SBAFUND/PRIVCAP
TA	market value of total assets, including unrealized gains or losses on portfolio securities
TOTCAP	market value of total capital, including unrealized gains or losses on securities held

cantly during those years. While a few SBICs were formed during the period, a substantial number either surrendered their license or went into liquidation. At time of liquidation, those firms held about \$467 million in outstanding SBA loans, which accounts for part of the decline in the SBA leverage. Second, the groups of SBICs that experienced the largest growth in assets and capital—bank-owned SBICs—used less SBA leverage on average.

During the 1986-91 period, of all SBICs, bank-owned companies had the highest growth rates in total assets and capital. In fact, over the same period, the total assets of non-bank-owned SBICs actually declined. Bank-owned SBICs typically financed their growth through private capital and relied less on SBA funds. As table 2 shows, in 1991 bank-owned SBICs had approximately \$0.21 in SBA funds for every \$1 of private capital, which was significantly lower than the comparable figure for non-bank-owned SBICs. Bank-owned SBICs also tended to be larger and to have more total

capital relative to assets than non-bank-owned SBICs. The higher capital ratios at bank-owned SBICs suggest that those SBICs had a greater cushion against unanticipated losses on investments. The differences between bank-owned and other SBICs are also evident in the composition of their portfolios. In 1991, non-bank-owned SBICs had, on average, 41 percent of their portfolios in loans and the remaining 59 percent in securities with equity features, such as straight equity and convertible debt securities. Among bank-owned SBICs, loans represented only 11 percent of their portfolios.

The differences in the portfolio compositions of bank-owned versus other SBICs may also explain the differences in their capital structures. Until 1992, prepayment of SBA financings entailed prohibitive costs. As a result, SBICs that received SBA financing when interest rates were high could not refinance their debt when interest rates started to fall, as they did in 1986. In other words, the *ex post* costs of SBA funds were relatively

TABLE 2				
Financial characteristics of SBICs, 1991				
Variable	All SBICs		Bank-owned SBICs	
	Mean	St. deviation	Mean	St. deviation
TA	\$24.12 million	64.72	\$45.33 million ^a	98.54
TOTCAP	\$16.97 million	49.83	\$36.21 million ^a	75.94
PRIVCAP	\$12.28 million	32.24	\$25.71 million ^a	48.55
SBALEV	\$0.82	0.97	\$0.21 ^b	0.42
PLOANS	0.29	0.39	0.11 ^b	0.24
PDEBT	0.52	0.39	0.68	0.34
PEQUITY	0.15	0.26	0.18 ^a	0.27
ROE-MV	-0.06	0.29	-0.03	0.29
ROE-BV	0.02	0.58	-0.02	0.23

Note: All figures are for the fiscal year 1991 except ROE-MV and ROE-BV, which are the three-year averages for the period 1989-91. Variables are defined in box 2.

^aSignificantly higher than the comparable number for non-bank-owned SBICs; $p < .05$.

^bSignificantly lower than the comparable number for non-bank-owned SBICs; $p < .05$.

high for these firms. A General Accounting Office report indicates that the costs of SBA funds were particularly high for SBICs that specialized in equity investments.¹⁴ Firms that had a large fraction of their portfolio in equity investments did not have regular cash flows from their investments and frequently experienced difficulties in meeting their obligations. Bank-owned SBICs, however, were less likely to be subject to these forces. Although a large fraction of their portfolios consisted of equity investments, they had more equity capital and less SBA leverage than other SBICs.

The differences in the growth rates of total assets of bank-owned and other SBICs are also reflected in their total disbursements. As table

3 shows, between 1983 and 1992, SBICs invested almost \$4.7 billion in over 18,900 transactions. Bank-owned SBICs provided about \$2.8 billion in over 5,300 of these transactions. Of the \$4.7 billion invested by all SBICs in the 1983-92 period, \$1.3 billion was in loans; the remaining \$3.4 billion was divided among equity-related investments.

On a year-by-year basis, investments by all SBICs increased between 1983 and 1988; thereafter, they declined. This suggests that if a small firm was unable to obtain funding from banks during the years 1990 to 1993, it was unlikely to obtain funding from an SBIC. Furthermore, the decline in SBIC investments between 1989 and 1992 was not confined to

TABLE 3				
Types of investments made by SBICs				
Investment type	All SBICs		Bank-owned SBICs	
	Total amount	Average size	Total amount	Average size
	<i>(million dollars)</i>	<i>(dollars)</i>	<i>(million dollars)</i>	<i>(dollars)</i>
LOANS	\$1,279.99	\$127,782	\$311.08	\$209,341
DEBT	723.68	237,117	357.19	358,899
EQUITY	1,798.22	366,610	1,423.62	577,533
EQUITY and DEBT	859.96	895,792	704.30	1,623,811
Total	4,661.85	246,217	2,796.19	519,738

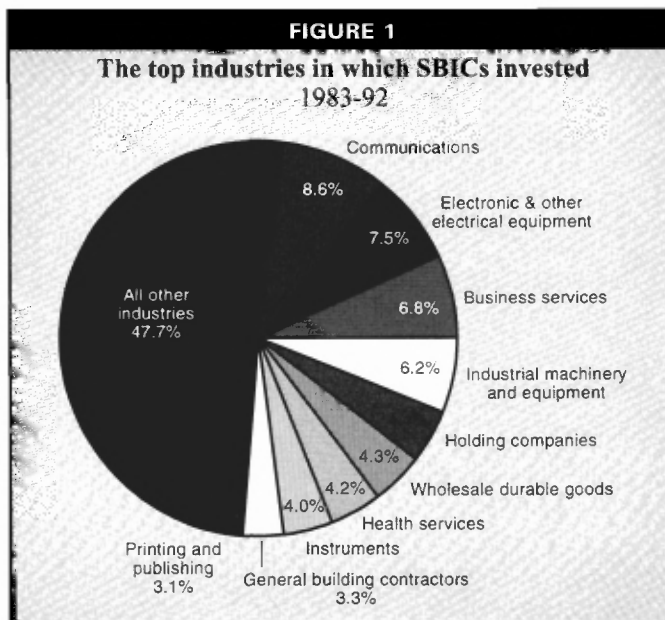
Note: Numbers are the dollar amounts of the flow of investments made in the period 1983-92. Variables are defined in box 2.

bank-owned SBICs; in fact, investments by non-bank-owned SBICs declined more than those by bank-owned SBICs.

A comparison of the flows of investments by bank- and non-bank-owned SBICs indicates that their investment patterns are consistent with the composition of their portfolios. During the period 1983-92, more than one-half of the \$2.8 billion invested by bank-owned SBICs was in the form of straight equity investments. Moreover, bank-owned SBICs accounted for about three-fourths of all investments with equity features.

Figure 1 shows the ten industries in which SBICs invested the largest amounts over that period. Investments in these top ten industries accounted for more than one-half of total investments. The largest amounts of investments were made in communications, electronic equipment, and in business services. While investments of all SBICs appear to be concentrated mostly in service and high-technology industries, there are significant cross-sectional differences in the industries invested in and the degree of diversification. SBICs owned by banks and other financial institutions invested mostly in firms in the semiconductor and computer equipment industries. In contrast, SBICs owned by nonfinancial firms made a little less than one-half of their investments in grocery stores.

There are also differences between bank-owned and other SBICs in terms of their



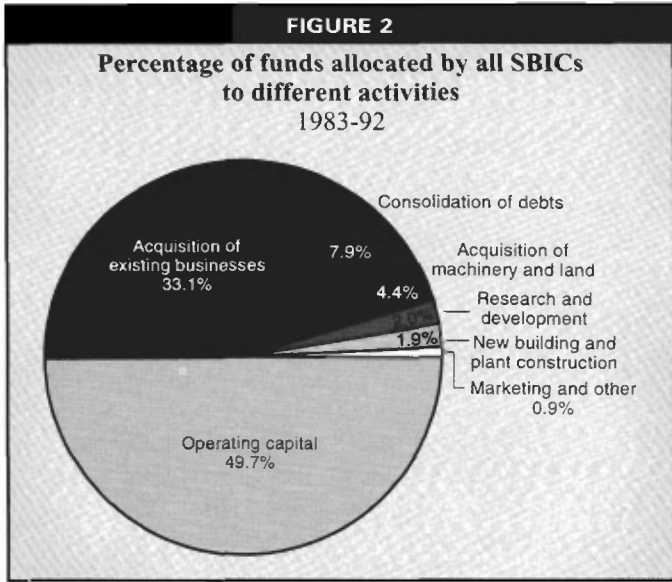
degrees of diversification across industries.¹⁵ As table 4 shows, the top three and top ten industries in which bank-owned SBICs made investments accounted for approximately 23 percent and 57 percent of the portfolio of these institutions, respectively. In contrast, the shares of the three largest industries in the portfolios of other SBICs were 26 percent and 62 percent, respectively.

We also examined the investments of SBICs according to the purpose for which financing was obtained. Figure 2 shows the main reasons for which small businesses obtained SBIC financing. Of the \$4.7 billion invested by all SBICs, about one-half was used for operating capital, one-third to acquire existing businesses, and the remainder to consolidate debts, fund research and development (R&D) and marketing activities, and acquire or construct plants, buildings, machinery, and land.

Figure 3 shows the percentage of funds that were provided as loans, as well as the percentage of funds provided by bank-owned SBICs for each type of activity. When SBIC funds were provided for activities generating little collateral (such as R&D, marketing, and acquisition of existing businesses), a large fraction of the funds was provided through equity investments and by bank-owned SBICs. For example, bank-owned SBICs supplied more than three-fourths of the funds for R&D activities, primarily through equity participa-

TABLE 4
Portfolio shares of the top three industries in which SBICs invested 1983-92

Industry	Percentage of all investments
Bank-owned SBICs	
Top three industries	22.6
Top ten industries	57.0
Non-bank-owned SBICs	
Top three industries	26.1
Top ten industries	61.5



tion. Research and development, marketing, and acquisition of existing businesses are risky activities that are difficult to monitor and that allow managers a great deal of discretion over the disbursement of funds. As a result, the agency costs of debt are likely to be high, and funds are more likely to be supplied through equity participations. On the other hand, when funds financed such activities as new building and plant construction, more than 85 percent was provided through loans, and banks provided only 22 percent. This type of activity generates tangible assets and allows little management discretion. Consequently, the agency

costs of debt are likely to be lower; lenders can monitor managers easily, minimizing the ability of managers to shift funds to riskier projects.

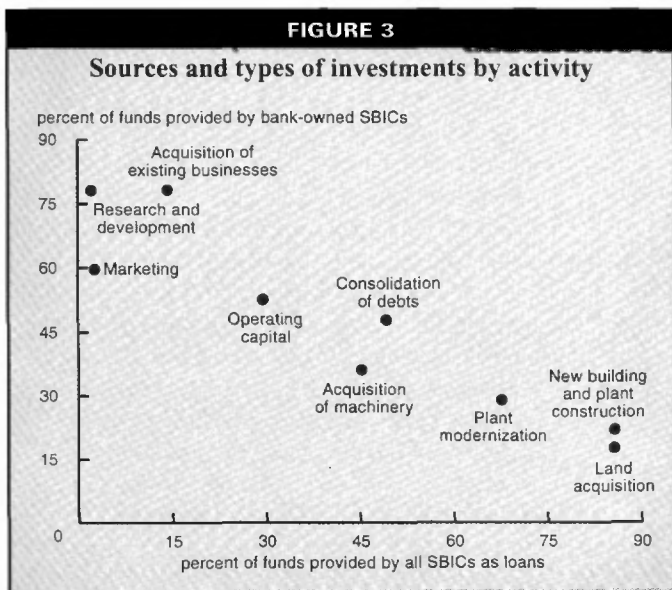
Similarly, firms in high-technology industries tend to invest in risky projects that generate very small or negative cash flows in the short term, yet the future profit opportunities of these firms are relatively high. As a result, when these firms borrow funds, their probability of bankruptcy is high. Furthermore, investors that lend to these firms cannot share in the surplus of high-growth opportunities. In contrast, when SBICs invest in the equity of these firms as resid-

ual claimants, they share in the surplus. The fact that bank-owned SBICs, which tend to specialize in equity investments, invest in high-technology firms suggests that agency costs of debt financing are significant for these firms.

The profitability of SBICs

As in any other business, an SBIC's asset quality, financial leverage, and investment mix are likely to affect its profitability. Return on equity (ROE), as measured by the ratio of net earnings to equity, is perhaps the most commonly used measure of profitability. From the standpoint of financial theory, ROE provides a proxy for the returns available to shareholders. An SBIC with low earnings as a percentage of shareholder claims is likely to experience falling share prices and therefore increased costs of external capital. In such a case, the company's growth potential is likely to be lowered commensurately.

Examination of the mean values of ROE in table 2 reveals that bank-owned SBICs were more profitable than non-bank-owned SBICs during the years 1989 to 1991. Although it appears that all SBICs had negative or very low average ROEs in that period, there were significant cross-sectional differences.



Some of these differences are related to SBA leverage and the mix of SBICs' investment portfolios.

An SBIC's investment portfolio consists of loans, debt securities with equity features, and equity interest. Because SBICs assume credit risk exposure on these investments, asset quality is particularly important for them. If an SBIC is highly leveraged, large loan or security losses can bring insolvency. The quality of assets will be affected both by management's control over its credit review function and by economic conditions. A decline in credit quality can lead to write-offs and reduced earnings on the investments.

Loans are likely to be the least risky of these types of investments. While higher risk investments should be positively associated with higher ROE, imprudent use of asset powers and inadequate risk management practices will produce lower or negative ROE. Thus, changes in investment mix can either increase or decrease ROE. We calculated investment mix (PLOANS) by dividing loans by total portfolio of investments.

A more direct measure of the riskiness of the investment portfolio is the loss experience (LOSS), measured by the provision for losses on accounts receivable divided by gross expenses. Other things being equal, a higher loss provision reflects a higher degree of expected loss in the investment portfolio. Therefore, this ratio should be negatively related to ROE.

Another variable that can influence ROE is the amount of SBA leverage (SBALEV). We calculated this variable by dividing the dollar value of debt that an SBIC owes to the SBA by the sum of the private paid-in capital and paid-in surplus of the SBIC. We expect that the higher the leverage, the more likely it is that an SBIC will have trouble repaying its obligations. On the other hand, greater leverage may enable some SBICs to earn higher returns. Thus, across SBICs, high SBA leverage may or may not be indicative of lower ROEs.

The return on equity may also be related to asset size (TA) because firm size may serve as a proxy for SBIC asset diversification. Large SBICs are more likely to have better diversified investment portfolios than small SBICs. Moreover, larger SBICs are more likely to have professional managers with

considerable expertise and thus should show better performance.

The following equation provides a simple econometric specification of the relationship between ROE and the above-mentioned variable,

$$(1) \text{ ROE} = \alpha_0 + \alpha_1 \text{ PLOANS} + \alpha_2 \text{ LOSS} + \alpha_3 \text{ SBALEV} + \alpha_4 \text{ TA} + \varepsilon,$$

where ε is an error term. We estimated equation 1 using time-series cross-sectional data over the period 1986-91. To determine whether the portfolio decisions of bank-owned SBICs have a different impact on ROE than those of other SBICs, we estimated separate coefficients for the two types of institutions.

SBICs must report each investment using historical cost (book value) and historical cost plus any unrealized gains or losses embedded in the security (market value). We used book values in the estimation of equation 1 to check the reasonableness of our results using market values. Finally, we transformed each of the independent variables to examine how a one standard deviation change in that variable translates into changes in ROE. We calculated the transformed variables by taking each variable, subtracting its mean value over the sample period, and dividing by its standard deviation. Assuming that each variable is a normal random variable, one can show that the transformed variable is its standard normal variate.

The results of estimating equation 1 appear in table 5. The first two columns present the results using the non-transformed variables, and the last two columns present the results for the transformed variables. The market value results in column one show that SBA leverage is negatively correlated with ROE for both bank-owned and other SBICs. Greater use of subordinated debt and debentures provided by the SBA tends to reduce profitability. Losses on accounts receivable (LOSS) are negatively correlated with ROE for both types of SBICs, but they have a significant impact only for non-bank-owned SBICs. Since non-bank-owned SBICs tend to hold relatively more loans than equity compared to bank-owned SBICs, it is not surprising that the ROEs of non-bank-owned SBICs are more sensitive to changes in loss experience.

TABLE 5

The relationship between ROE and portfolio decision variables

Variables	Market ROE	Book ROE	Transformed market ROE	Transformed book ROE
INTERCEPT	-0.0353 (-2.015) *	-0.0447 (-2.185) *	-0.0296 (-2.015) *	-0.0342 (-2.185) *
BLOSS ^a	-0.1491 (-1.554)	-0.1457 (-1.524)	-0.0104 (-1.554)	-0.0102 (-1.524)
BSBALEV ^a	-0.0679 (-2.613) *	-0.0668 (-2.554) *	-0.0275 (-2.613) *	-0.0271 (-2.554) *
BPLOANS ^a	0.1310 (3.249) *	0.1421 (3.311) *	0.0237 (3.249) *	0.0258 (3.311) *
OLOSS ^b	-0.4167 (-4.670) *	-0.4537 (-4.398) *	-0.0413 (-4.670) *	-0.0449 (-4.398) *
OSBALEV ^b	-0.0213 (-2.483) *	-0.0310 (-2.542) *	-0.0224 (-2.483) *	-0.0271 (2.542) *
OPLOANS ^b	0.0813 (3.734) *	0.1042 (3.835) *	0.0327 (3.734) *	0.0427 (3.835) *
TA	0.8229 (5.573) *	1.1230 (6.191) *	0.0360 (5.573) *	0.0426 (6.191) *
BDUM ^c	0.0025 (0.116)	0.0057 (0.234)	0.0025 (0.116)	0.0057 (0.234)
R ²	0.051	0.056	0.051	0.056
F-statistic	10.393	11.356	10.393	11.356
N	1,398	1,398	1,398	1,398

Note: The independent variables ROE, PLOANS, and TA in the "Book ROE" column are measured as market value less the unrealized gains or losses on securities. An estimation of the residuals from the ordinary least squares regression equation indicated the presence of heteroscedasticity in the error term. As a result, we use White's (1980) heteroscedastic-consistent estimate of the coefficient standard errors to compute the t-statistics (in parentheses).

^aThe letter B before a variable refers to a bank-owned SBIC variable.

^bThe letter O before a variable refers to a non-bank-owned SBIC variable.

^cBDUM is a dummy variable taking on a value of one for bank-owned SBICs, zero otherwise.

* $p < .10$.

Larger SBICs tend to have higher ROE. This suggests that large SBICs can diversify their investment portfolio so as to achieve superior performance. The variable measuring investment composition is positively correlated with ROE. A shift in the investment portfolio from equity to loans tends to raise ROEs for both bank-owned and other SBICs. This is an important result because much of the discussion about banking organizations' involvement with SBICs has to do with their using SBICs to hold equity securities. Banks claim they are losing market share in their traditional areas of lending and deposit-taking and therefore need, among other things, to be able to invest

directly in business enterprises. Regulators worry, however, that these direct investments may increase the riskiness of banking organizations and lower their profitability. We find that bank-owned SBICs with above-average investment in loans tend to have above-average ROEs. This implies that a shift in the investment mix from loans to equity is likely to reduce profitability. However, to assess the effect of equity investments on the riskiness of banking organizations, it is not enough to show that SBICs specializing in equity investments have below-average ROEs; one must also evaluate whether they have higher or lower variability of ROE. When we used book value

measures, reported in the second column of table 5, the results are qualitatively the same as the market value results in the first column. This suggests that differences in accounting practices apparently have very little effect on the estimated relationships between profitability and the portfolio decision variables.

The results also suggest that SBICs with above-average investments in loans and below-average SBA leverage will have above-average ROEs. Furthermore, as the third and fourth columns of table 5 show, the implied differences in ROE are not trivial. For instance, the market value results in column three indicate that for bank-owned SBICs, a one standard deviation increase in loans as a percentage of investments would yield a 237 basis point increase in ROE. A one standard deviation decrease in SBA leverage causes ROE to rise by 275 basis points. The sensitivity of non-bank-owned SBICs' ROE to change in the above two variables is not different from that of bank-owned SBICs. The book value results in column four yield similar results in these cases.

Overall, the results seem to indicate that SBICs receiving above-average SBA leverage perform more poorly than other investment companies. SBICs that specialize in equity investments are less profitable, on average, than other firms. Nevertheless, the results suggest that banking organizations, like other firms, tend to perform better when allowed to provide mixed loan-equity financing.

Our preliminary examination of the sources of these relationships between profitability and characteristics of SBICs suggest that the results in table 5 are particularly strong for those institutions that did not survive our sample period.¹⁶ Furthermore, even though bank-owned and other SBICs had similar parameter estimates, test results indicate that the two groups had significantly different regression equations. In other words, the relationship between profitability and firm characteristics is different for bank-owned and non-bank-owned SBICs.

Conclusions

The SBIC program appears to go a long way toward resolving the conflict between the types of institutions that are appropriate for financing small businesses and the types of financing they need. If, as has been argued, banks have a comparative advantage in evaluating and monitoring small firms, allowing banks

to participate in such programs as the SBIC program may offer significant advantages in small business financing.

The empirical results in this article support this argument. SBICs associated with banking organizations play a significant role in the program. On average, bank-owned SBICs were significantly larger, had more capital, obtained less SBA leverage, and invested a greater portion of their portfolio in equity investments than non-bank-owned SBICs. Furthermore, while the total assets and capital of non-bank-owned SBICs declined over the period from 1983 to 1992, the total assets and capital of bank-owned SBICs grew.

These results suggest that bank-owned SBICs were an essential part of the program and that they took advantage of their expanded powers by pursuing an extensive strategy of equity investments. The evidence also suggests that such equity investments were particularly important in funding activities and industries that are perceived to have high costs of debt financing. Specifically, equity financing and financing by bank-owned SBICs were prominent for activities and industries that generate few tangible assets and give greater management discretion in the use of funds.

The empirical results on the relationship between SBIC profitability and portfolio decisions indicate that profitability is positively related to size, the measure of asset quality, and the ratio of loans to total investments. On the other hand, profitability is negatively related to SBA leverage. In addition, bank-owned SBICs, which typically relied less on SBA leverage, had higher returns on equity than other SBICs. These results suggest that offering SBA subsidies was relatively less effective in encouraging the flow of funds to small firms in the long term than was allowing banking organizations to participate in the program.

Our analysis in this article and our preliminary results on the percentage of disbursements that were repeat financings raise some interesting questions.¹⁷ Do the investment patterns of SBICs change over the course of their relationship with small firms? In other words, do SBICs learn more about small firms as their relationships with them develop, and is this reflected in their investment patterns? Does the type and amount of investment in first-time financings differ from those in subsequent financings? Are SBICs more likely

to provide management services at the beginning of their relationship with firms, or in subsequent financings? Do small businesses tend to obtain funds from more than one SBIC? How do the SBIC units of banking organizations contribute to the overall perfor-

mance and riskiness of banks? We plan to address these questions in our future research. We also plan to examine in more detail the relationship between the profitability of SBICs and their characteristics.

FOOTNOTES

¹See Kanjorski (1993).

²Board of Governors (1958).

³See U.S. Small Business Administration (1992) for a discussion of a recent survey on small business financing.

⁴An SBIC is classified as bank-owned if at least 10 percent of its equity is controlled by a banking organization.

⁵Petersen and Rajan (1994) report that nearly 75 percent of the firms in their sample, which consists of 3,404 small firms, are less than 10 years old. Furthermore, the majority of firms in the sample are partnerships, sole proprietorships, and Chapter S corporations.

⁶Evidence on the industries that are dominated by small businesses and the failure rates of these firms is reported in White (1982); Brown, Hamilton, and Medoff (1990); and U.S. Small Business Administration (1992).

⁷Berger and Udell (1990, 1994) report that two-thirds of commercial bank loans and over 50 percent of lines of credit to small firms are secured by collateral. Bank lending to small firms also appears to be positively correlated with the amount of assets that can be pledged as collateral (Hooks and Opler 1993). Furthermore, according to Diamond (1991) and others, asymmetric information problems decrease as lenders learn more about firms through deposit-taking and previous lending arrangements. Empirical evidence in Petersen and Rajan (1994) and Berger and Udell (1994) supports this argument.

⁸For example, the SBA offers guarantees on bank loans to small businesses and the Small Business Incentive Act, recently introduced by Senator Christopher Dodd, would make it easier for investors to finance small businesses by amending the Securities Act of 1933 and the Investment Company Act of 1940.

⁹In the last year, the SBA has proposed to increase the coverage of the program by redefining small firms as those that have net worth less than \$18 million or two-year

average net income less than \$6 million. At present, these revisions are under review.

¹⁰The special role of banking organizations in the financial system is examined in Diamond (1984), James (1987), and Haubrich (1989).

¹¹U.S. Small Business Administration (1993).

¹²Although the data comprise the SBA's entire computer database on SBICs, there are a few missing observations. According to our calculations, there are 94 companies for which there are missing financial statements in the 1986-91 period and 14 firms that have no data for investments. Since these represent a small fraction of the database, we do not expect our qualitative results to be affected significantly by the missing observations.

¹³Despite the healthy gains in the 1986-91 period, SBIC funds represent a small fraction of the total funds in venture capital. According to statistics reported in Deger (1993), venture capital firms managed \$32.87 billion in total capital in 1991, representing a 36 percent increase from 1986.

¹⁴U.S. General Accounting Office (1993).

¹⁵Diversification across industries was calculated using the flow of investments in the 1983-92 period. Therefore, this is a measure of diversification for new investments during this period and does not, necessarily, reflect the degree of diversification for the entire portfolio. Nevertheless, the period examined is sufficiently long for the diversification of new investments to be a good measure of diversification of the entire portfolio.

¹⁶These are institutions that either surrendered their licenses, went into liquidation, or merged during 1986-91.

¹⁷More than one-half of all transactions in our sample were repeat financings. Bank-owned SBICs accounted for more of the repeat transactions than did other SBICs, and equity-related investments were more likely to be repeat financings than were loans.

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