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by

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Small Business Investment Companies: Financial Characteristics and Investments

ABSTRACT

Small business investment companies (SBICs) provide long-term financing to companies whose prospects and profits are difficult to evaluate and monitor by other investors. Banking organizations, which play a major role in providing short-term financing to small firms, use SBICs to channel long-term funds to small businesses. This paper examines the financial characteristics, investment patterns, and profitability of SBICs. The results indicate that the types of activities and industries financed by debt and equity investments are consistent with theories of asymmetric information and agency costs of external financing. In addition, the relationship between the profitability and characteristics of SBICs suggests that allowing banks to participate in the SBIC program provides advantages to small businesses and that direct government subsidies are not required to enable investments in small businesses to be profitable in the long run.

Small Business Investment Companies: Financial Characteristics and Investments

Asymmetric information and agency problems can impose costs on firms and inhibit the flow of funds for profitable investment projects. Recent theories of financial intermediation suggest that intermediaries, particularly banks, have a cost advantage over other outsiders in producing and transferring information (Leland and Pyle, 1977; Haubrich, 1989; Diamond, 1984, 1991). Intermediation is valuable because it reduces the cost of contracting among asymmetrically informed agents and produces information about the return distributions of investment products prior to funding. The results of empirical studies are consistent with the notion that borrowing from intermediaries reduces information costs for a firm's claimants by providing a credit signal about the firm's creditworthiness (James, 1987; James and Weir, 1990; Kwan, 1994). Empirical evidence also suggests that agency problems between firms and their creditors that can lead, for example, to expropriation of wealth can be minimized through collateral requirements, restrictive covenants, mixed equity and debt financing, and relationship lending (Pozdena, 1991; Diamond, 1991; Petersen and Rajan, 1994; Berger and Udell, 1994). This paper extends these studies to venture capital firms by using data for 1983 to 1992 to examine the financial characteristics, investment patterns, and profitability of small business investment companies (SBICs).

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.[1] 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. Such leverage is supplied through government guarantees of SBICs' debt obligations or through purchases of debt instruments directly by the Small Business Administration (SBA).

Using data obtained from the SBA on the financial statements and investments of SBICs, we find, consistent with asymmetric information and agency theory, that debt financing by SBICs is concentrated in industries and activities that generate tangible assets that can be pledged as collateral and give very little discretion to the management over the use of funds. In contrast, equity investments are dominant in industries and activities that generate very few tangible assets and give greater discretion to the management. SBICs affiliated with banking organizations (bank-owned) pursue a strategy of extensive equity financing, while other SBICs appear to make more nonequity investments and use more direct government subsidies.[2]

Some observers maintain that financing small business activity is, on average, risky and inherently unprofitable. We address this issue indirectly by examining the relationship between performance, as measured by the return on equity (ROE), capital structure, and the composition of an SBIC's investment portfolio. We find, among other things, that the extend to which an SBIC's ROE is influenced by its capital structure depends on both the SBIC's identity (bank- or nonbank-owned) and its financial condition. In particular, the ROE of financially distressed investment companies increases with an increase in the fraction of loans in the portfolio and with a decline in SBA leverage. Only the ROE for healthy nonbank-owned SBICs increases with the fraction of loans in the investment portfolio, while only the ROE for healthy bank-owned SBICs

increases with a decline in SBA leverage. The results show that the mix of investment between loans and equity instruments had very little effect on the ROE of healthy bank-owned SBICs. Because bank-owned SBICs are more profitable than other SBICs, these results suggest that a greater percentage of loans in their portfolios is not required to enable them to invest profitably in small businesses in the long run.

The remainder of the paper is organized in four sections. The first section summarizes the characteristics of small-business financing and the role of SBICs in such financings. 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.

1. The Economics of Financing Small Businesses and the SBIC Program

Asymmetric information and agency problems, can raise the cost of external financing, inhibiting the flow of funds for profitable investment projects. For instance, when outsiders are less informed about the investment opportunities and future prospects of firms than managers, investors cannot distinguish firms with good prospects from those with bad prospects. In the absence of monitoring and control by lenders, shareholders may transfer wealth from lenders by shifting from less risky projects to riskier ones. In competitive capital markets, the costs associated with asymmetric information problems and potential opportunistic behavior by various stakeholders are borne by firms.

Financial contracting can alleviate some of these problems, lowering the cost of external funds to firms. Evidence suggests that collateral and restrictive covenants in lending, mixed

equity and debt financing, and long-term relationships with investors mitigate the problems associated with capital market imperfections.

Although all firms are subject to problems associated with capital market imperfections, small firms appear to be particularly susceptible. For instance, small businesses tend to be newer, private companies without established public track records.[3] 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.[4] 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.

The lack of tangible assets that can be pledged as collateral, greater management discretion over the use of funds, and problems in evaluating and monitoring small firms create opportunities for owners of these firms to transfer wealth from creditors. Lenders appear to protect their interests by requiring collateral or placing restrictive covenants on the loans they make.[5] Lenders' use of covenants and collateral, however, may be more burdensome and costly for small firms than for larger companies, especially for firms that require small amounts of funding. Furthermore, the relative scarcity of assets that can be pledged as collateral may impede the flow of funding from traditional sources, such as banks. Asymmetric information problems and fixed costs associated with issuing securities in public capital markets also raise the cost of equity financing for small firms (Stoll, 1984).

The usual policy response to the problems associated with funding small firms has been either to provide government subsidies to defray the fixed costs, or to change financial regulations to encourage the flow of funds to small businesses. The majority of SBA programs, for instance, involve guarantees on small business loans. Furthermore, most of the policy initiatives that are currently being considered by the Congress either provide subsidies or relax financial regulations.[6] The SBIC program offers both of these features.

Under the Small Business Investment Company 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 $18 million or average net income less than $6 million in the preceding two years.[7] 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.[8]

According to SBA statistics, 1,320 companies became licensed as SBICs between 1959 and 1992.[9] At the end of fiscal year 1992, there were 204 active SBICs with $2.5 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.

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 this expansion of banks' powers should increase the amount of funds available to small firms. In addition, the evidence on financial arrangements in Japan suggests that creditors can intermediate risks more effectively if they can also hold residual claims and are involved with the day-to-day management of firms.[10] Although financial regulations and legal restrictions prevent the use of such joint contracts in most transactions in the U.S., the SBIC program permits banking organizations to provide mixed equity and debt financing to small firms.

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.

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. On the other hand, 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.

2. Financial Characteristics and Investments of SBICs

Table 1 gives the description of the variables used in this study. Table 2 describes the financial characteristics of nonbank- and bank-owned SBICs at the beginning and at the end of the sample period. The figures in table 2 indicate that bank-owned SBICs are significantly larger, have more capital, and use smaller amounts of SBA funds than other SBICs. Bank-owned SBICs also have significantly higher capital-to-asset ratios, suggesting that they have a greater cushion against unanticipated losses on investments.

A comparison of the conditions of SBICs in 1986 and 1991 shows that bank-owned companies grew faster than other SBICs during this six-year period. While the average size of a nonbank-owned SBIC increased from slightly over $7 million to approximately $11 million, the average size of a bank-owned SBIC increased from $18 million to over $45 million. Moreover, bank-owned SBICs financed their growth through private capital and relied less on SBA leverage.

The differences between bank-owned and other SBICs are also evident in the composition of their portfolios. In 1991, nonbank-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, pre-payment of SBA financings in

the first five years of debentures 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 high for these firms. The effects of pre-payment restrictions can be inferred from figure 1, which plots the interest rate on 10-year debentures issued by SBICs (SBIC-10 YR), the moving average of the debenture rate in the previous four years (SBIC-MA4), and the rate on corporate bonds with various ratings and maturities over the 1983-1992 period. Movement in the SBIC-10 YR rate tends to follow the pattern of the corporate bonds rate; however, the SBIC rate is systematically lower than the corporate bond rate, reflecting the value of SBA guarantees. The four-year moving average rate on SBIC debentures is a proxy for the cost of pre-payment restrictions on such debentures. For each year, SBIC-MA4 measures the average interest rate for SBICs that obtained funds in the previous four years and could not refinance. As figure 1 shows, SBIC-MA4 is always greater than or equal to SBIC-10 YR, indicating that during 1983-1992 when interest rates were falling, pre-payment restrictions imposed additional costs on SBICs that obtained SBA leverage.

A General Accounting Office report indicates that the cost of SBA funds was particularly high for SBICs that specialized in equity investments.[11] SBICs that had a large fraction of their portfolio in equity investments did not have periodic cash flows from their investments and frequently experienced difficulties in meeting their interest payments. Bank-owned SBICs, however, were less likely to be subject to these forces. Although a large fraction of their portfolio 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, bank-owned SBICs provided $2.8 billion in funding, compared to $1.9 billion invested by other SBICs.

A comparison of the flows of investments by bank- and nonbank-owned SBICs indicates that their investment patterns are consistent with the composition of their portfolios. From 1983 to 1992, 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. In contrast, over 51 percent of investments made by nonbank-owned SBICs was straight loans.

These results indicate that SBICs, and in particular bank-owned SBICs, took full advantage of the opportunity provided to them, not only by making extensive equity investments, but also by providing mixed equity and debt financing. In addition to explicitly combining equity and debt financing in the same transaction, SBICs also provided financing through debt securities with equity features. Such contracts offer the same advantages as a combination of straight equity and debt financing. That is, these contracts align the interests of shareholders and creditors more closely and make it easier to monitor firms through economies of scale and increased availability of information.

Figure 2 shows the disbursements of SBICs between 1983 to 1992 on a year-by-year basis. Investments by all SBICs increased between 1983 and 1988; thereafter, they declined. In recent years, one of the most common reasons given for concerns over the availability of funds to small businesses was the decline in the commercial and industrial loans of banks between 1989 and 1991. It is generally perceived that the burden of declines in bank lending is borne by small

firms, which rely more on bank financing than other firms. It is also generally believed that new requirements on bank capital were at least partially responsible for the decline in lending.[12] The results in figure 2, however, suggest that if a small firm was unable to obtain funding from banks during 1990-1993, it was unlikely to obtain funding from an SBIC. Furthermore, the decline in investments of SBICs was not confined to bank-owned SBICs; in fact, investments by nonbank-owned SBICs declined more than those by bank-owned SBICs between 1989 and 1992.

Table 4 shows the ten industries in which bank- and nonbank-owned SBICs invested the largest amounts from 1983 to 1992. While industries such as communications, business services, and industrial machinery and equipment are among the top ten industries in which both types of SBICs invested, there are also significant cross-sectional differences. Bank-owned SBICs, and among nonbank-owned SBICs, those that are owned by other financial institutions invested mostly in firms in the semiconductor and computer equipment industries. In contrast, SBICs owned by nonfinancial firms and individuals made extensive investments, respectively, in grocery stores and taxicab companies.

There are also differences between bank-owned and other SBICs in terms of their degrees of diversification across industries.[13] The top ten industries in which bank-owned SBICs made investments accounted for approximately 57 percent of the portfolio of these institutions. In contrast, the shares of the ten largest industries in the portfolios of other SBICs were 59 percent. Moreover, as indicated in table 4, the Herfindahl index of diversification across industries was significantly lower for bank-owned SBICs than others, suggesting a higher degree of diversification for the former group of companies.[14]

We also examined the relationship between the forms and sources of investments and the purpose for which financing was obtained.[15] 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 such activities as research and development, 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 research and development activities, primarily through equity participation. Research and development, marketing, and acquisition of existing businesses are risky activities that generate few tangible assets and give greater discretion to management over the uses of funds. Furthermore, while these activities may generate profits in the long run, they are also less likely to generate cash flow in the short run. As a result, the agency and fixed costs of debt are likely to be high and funds are likely to be provided through equity investments by SBICs that specialize in such financing. On the other hand, when SBIC funds financed such activities as acquisition of physical plants or machinery, they were more likely to be provided as loans, and banks supplied only a small fraction of these investments. For instance, of all funds provided for building and plant construction, more than 85 percent was provided through loans, and banks provided only 22 percent. Building and constructing physical structures or acquiring land are relatively less risky activities that generate tangible assets that can be pledged as collateral for loans and give very little discretion to management. Consequently, the agency and fixed costs of debt are likely to be low; 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 little 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 residual 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.

3. The Profitability of SBICs

An examination of investment companies' performance, as measured by the ratio of earnings to equity (ROE) reveals, in table 2, that bank-owned SBICs were more profitable than nonbank-owned SBICs from 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 SBICs' asset quality, 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 account receivables 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 SBALEV 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 variables:

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

where ε is an error term. We estimated equation (1) using time series cross-sectional data from

1986 to 1991. 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.[16]

When an SBIC realizes losses exceeding half of its private capital or is unable to repay SBA financing, the SBA may liquidate the investment company (U.S. GAO, 1993). When this happens, the federal government is exposed to losses. The U.S. GAO (1993) find that between October 1986 and September 1991 the SBA incurred losses of over $90 million from SBICs' liquidation, more than 3 1/2 times the amount it had lost since the beginning of the program. The GAO presents evidence indicating that SBA leverage had a positive and statistically significant effect on the probability that an SBIC would be liquidated. In addition, the GAO finds that the greater the extent to which an SBIC made equity investments rather than loan investments, the greater the likelihood of liquidation.

To determine whether the relationship between ROE and SBICs' financial characteristics is different for financially distressed and healthy companies, we separated SBICs that were still in existence in 1993 from those that were liquidated or surrendered their licenses. On the basis of this separation, two groups are formed. The first group includes surviving, nonliquidated investment companies. The second groups comprises financially distressed, nonsurviving SBICs which either surrendered their license, went into liquidation, or had their license revoked. Table 5 depicts the means of selected financial characteristics at the end of 1986 for both categories of SBICs. At the end of 1986, liquidated investment companies, on average, had greater SBA leverage and proportion of their portfolio in debt securities with equity features than other SBICs. Surviving SBICs, on average, had a higher capital-to-asset ratio than nonsurviving firms.

The results of estimating equation 1 appear in table 6. The results show that SBA leverage is negatively correlated with ROE for both bank-owned and other SBICs. However, the coefficient for surviving nonbank-owned SBICs is not statistically significant. Nevertheless, greater use of subordinated debt and debentures provided by the SBA tends to reduce profitability and the effect is stronger for nonsurviving SBICs than other investment companies.[17] This result combined with the fact that nonsurviving SBICs have higher SBA leverage and hold more equity investments than other SBICs suggests that the use of SBA leverage constrains investment companies' ability to diversify their portfolios. Losses on accounts receivables (LOSS) are negatively correlated with ROE for both types of SBICs, but they have a significant impact only for nonbank-owned SBICs. Since nonbank-owned SBICs tend to hold relatively more loans than equity compared to bank-owned SBICs, it is not surprising that the ROEs of nonbank-owned SBICs are more sensitive to changes in loss experience.

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. For surviving bank-owned SBICs, however, the coefficient on PLOANS is not statistically significant. 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. Among other things, we find that only financially distressed (nonsurviving) bank-owned SBICs with above-average investment in loans will have above-average ROEs. This implies that a shift in the investment mix from loans to equity will reduce profitability. No such reduction is implied by the surviving bank-owned SBIC results.

A test of the differences between the coefficients estimated for surviving nonbank- and bank-owned SBICs shows that the relationship between profitability and characteristics of SBICs is statistically different for the two types of financially distressed investment companies (Wald test, $\chi_4^2 = 22.57$). A pair-wise comparison of the individual coefficients indicate that the differences in the overall relationship stem from differences in the estimate of TA for the two samples. In contrast, the distinctions between the estimated slope coefficients of nonsurviving nonbank- and bank-owned SBICs are not statistically significant (Wald test, $\chi_4^2 = 2.85$). Thus, we conclude that the relationship between ROE and SBIC financial characteristics is dependent on whether an SBIC is both associated with a banking organization and is financially healthy.

4. 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 these institutions to extend their activities in additional investments should 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 nonbank-owned SBICs. Furthermore, while the total assets and capital of nonbank-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.

Appendix

The data we obtained from the U.S. Small Business Administration comprises three sets of files. The first set of data provides information on the history of SBICs since the inception of the program in 1958. A list of all firms that were licensed as SBICs, their current status (whether they are still active), and the reason for their termination if a firm is no longer an SBIC are included in these files. The second set of files, labeled F468 files, contains the financial statements of SBICs for the fiscal years 1986-1991, which provide detailed balance-sheet and income statement information. The third set of files, labeled F1031 files, comprises data on investments of SBICs from 1983 to 1992. According to the SBA regulations, SBICs are required to file a report, form 1031, every time they provide funds to small firms. The information provided in the report includes the name, SIC code, total assets, number of employees, and location of the firm being financed; the dollar amount and type of financing provided (loans, equity or debt with equity investments); if there is a put option on the equity financings which calls for the small firm to purchase back its equity in the future; if the deal includes debt financing, the interest rate that is charged; the activity that is being financed; variables that indicate whether the SBIC provided financing to the firm previously; and whether the SBIC offers management services to the small business.

The total number of observations (financial statements) in the F468 files is 1,447; the number of observations per fiscal year (companies) declines from 292 in 1986 to 176 in 1991. Based on the fiscal year-end dates and the birth and death rates of SBICs from 1986 to 1991, we estimate that there were 94 missing observations in the F468 files. The number of financial statements for each SBIC, including those that were established or ceased to exist during the

sample period, ranges from 1 to 6, with an average of 3.0 statements per company. The total number of observations (transactions) in the F1031 files is 18,934.

Between 1986 and 1993, 204 of the SBICs in the sample ceased to exist, of which 147 were nonbank-owned companies. Of all the SBICs in the sample (369 companies), 300 were established prior to 1986.

SBICs are owned by banking organizations, other financial or nonfinancial firms, or by individuals. Of the 176 SBICs in 1991, 68 had 10 percent or more bank ownership, 13 were owned by other financial institutions, 15 were owned by nonfinancial firms, and 80 were owned by individuals.

Endnotes

1. See U.S. SBA (1992) for a discussion of a recent survey on small business financing.

2. An SBIC is classified as bank-owned if at least 10 percent of its equity was controlled by a banking organization. Otherwise, the SBIC is classified as nonbank-owned. In addition to banking organizations, other financial institutions, nonfinancial firms, and individuals own SBICs.

3. Petersen and Rajan (1994) report that nearly 75 percent of the firms in their sample, which consists of 3,404 small firms, are less than 20 years old. Furthermore, the majority of firms in the sample are partnerships, sole proprietorships, and Chapter S corporations.

4. Evidence 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. SBA (1992).

5. See Berger and Udell (1990, 1994) and Hooks and Opler (1993).

6. For example, 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. On the other hand, the Small Business Capital Enhancement Act introduced by Senator Donald Riegle would provide federal and state government funds for a loan-loss reserve for small business loans.

7. These are the current SBIC size standards for small businesses, which were adopted in April 1994. The size standard that was effective during our sample period was firms having less than $6 million in net worth or two-year average net income less than $2 million.

8. For a summary of regulations regarding SBICs, see Brewer and Genay (1994).

9. U.S. SBA (1993).

10. In a series of papers, Hoshi, Kashyap, and Scharfstein (1990a,b; 1991) find that Japanese firms that maintain close ties to their banks through cross-equity holdings (keiretsu firms) are less liquidity-constrained in their investments and recover faster from financial distress than other firms. Furthermore, the evidence presented in Prowse (1990) suggests that these keiretsu firms are less susceptible to agency costs of debt and the results in Lichtenberg and Pushner (1992) indicate that profitability of firms increases as equity ownership by financial institutions increases.

11. U.S. General Accounting Office, 1993.

12. Since December 1990, banks have been required to comply with a new capital requirement that judges banks' capital according to the default risk of their on- and off-balance-sheet activities. By assigning risk weights to different categories of assets, regulators create

incentives for banks to shift their portfolios toward assets that receive favorable risk weights and away from less favorable asset categories. Business loans have the highest weight. Thus, banks have an incentive to shift out of such loans into other assets.

13. Diversification across industries was calculated using the flows of investments from 1983 to 1992. 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 enough for the diversification of new investments to be a good measure of diversification of the entire portfolio.

14. The Herfindahl index is calculated as the sum of the squared values of the ratio of investments in each four-digit SIC code industry made by an SBICs to its total investments from 1983 to 1992.

15. Brewer and Genay (1994) report that of the $4.7 billion invested by all SBICs in the 1983-1992 period, about one-half was used for operating capital, one-third to acquire existing businesses, and the remainder to consolidate debts, fund research and development and marketing activities, and acquire or construct plants, buildings, machinery, and land.

16. SBICs must report each investment using historical cost (book value) and historical cost plus any unrealized gains or losses imbedded in the security (market value). We estimated equation (1) using both book and market values. The results obtained with the two sets of values were qualitatively the same, suggesting that differences in accounting practices have very little effect on the estimated relationship between profitability and characteristics of SBICs. Consequently, we only report the results obtained by using the market value of investments in table 6.

17. The statistics in table 5 and preliminary results on the profitability of SBICs that were liquidated versus those that surrendered their licenses suggest that the results in table 6 are driven by SBICs that were liquidated.

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Table 1. 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 & 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 investment portfolio, with all assets measured at market value.

PEQUITY -- the ratio of the stock of equity securities to total investment portfolio, with all assets measured by their market value.

PLOANS -- the ratio of the stock of loans to total investment portfolio, with all assets measured at 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, 1989-1991.

ROE-MV -- the three-year average ratio of net income to market value capital, 1989-1991.

SBAFUND -- total amount of funds owed to the SBA.

SBALEV -- SBAFUND divided by PRIVCAP.

TA -- market value of total assets, including unrealized gains or losses on portfolio securities.

TOTCAP -- market value of capital, including unrealized gains or losses on securities held.

CAP -- market value of capital divided by market value of total assets.

Table 2. Financial characteristics of nonbank- and bank-owned SBICs, 1986 and 1991

	1986				1991			
	Nonbank-owned (n=192)		Bank-owned (n=100)		Nonbank-owned (n=108)		Bank-owned (n=68)	
	Mean	St. Dev.	Mean	St. Dev	Mean	St. Dev	Mean	St. Dev.
PRIVCAP	$2.39 mil.	3.64	$8.26 mil.[a]	16.26	$3.82 mil.	6.08	$25.71 mil.[a]	48.55
TOTCAP	$3.28 mil.	5.75	$13.54 mil.[a]	38.68	$4.86 mil.	8.19	$36.21 mil.[a]	75.94
SBAFUND	$3.29 mil.	5.71	$2.46 mil.	5.77	$4.13 mil.	6.16	$1.89 mil.[a]	5.40
TA	$7.33 mil.	12.06	$18.19 mil.[a]	50.23	$10.76 mil.	17.46	$45.33 mil.[a]	98.54
SBALEV	1.35	1.08	0.51[a]	0.82	1.21	1.02	0.21[a]	0.42
CAP	0.52	0.27	0.74[a]	0.28	0.54	0.27	0.84[a]	0.22
PLOANS	0.46	0.42	0.17[a]	0.26	0.41	0.42	0.11[a]	0.24
PDEBT	0.17	0.22	0.20	0.25	0.14	0.23	0.18	0.27
PEQUITY	0.36	0.34	0.60[a]	0.33	0.41	0.38	0.68[a]	0.34
ROE-MV	-0.02	1.08	-0.03	0.55	-0.13	1.19	-0.01	0.32
ROE-BV	-0.08	1.57	-0.01	0.30	0.01	0.96	-0.01	0.31

[a] Significantly different than the comparable number for nonbank-owned SBICs at the 5 percent significance level.

Source: Authors' calculations.

Note: All figures are for the fiscal years 1986 or 1991, except ROE-MV and ROE-BV which are the three-year averages for the 1986-1988 and 1989-1991 periods, respectively, in the "1986" and "1991" columns.

Table 3. Types of investments made by SBICs*

(Million dollars)

Type of Investment	Nonbank-owned	Bank-owned
Loans	$ 973.4	$ 311.6
Debt	368.6	357.6
Equity	377.3	1,432.8
Equity & debt	156.5	705.0
Total	$ 1,875.8	$ 2,807.0

* The dollar amounts of the *flow* of investments made from 1983 to 1992.

Source: Authors' calculations.

Table 4. The top ten industries in which SBICs invested, 1983-1992.

Nonbank-owned SBICs

Two-digit SIC code description[a]	Four-digit SIC code[b]	Percentage of total investments[c]
Communications	4899	10.5%
Business services	7372	8.1
General building contractors	1531	7.5
Local & interurban transit	4121	6.7
Electronic & other electric equip.	3679	5.8
Industrial machinery & equip.	3573	5.1
Food stores	5411	4.7
Wholesale trade — durable goods	5013	3.9
Eating & drinking places	5812	3.8
Instruments & related products	3841	3.0
Top 10 industries — total		59.1
Memo: Diversification index	0.26[d]	

Bank-owned SBICs

Two-digit SIC code description[a]	Four-digit SIC code[b]	Percentage of total investments[c]
Electronic & other electric equip.	3674	8.5%
Communications	4832	7.3
Industrial machinery & equip.	3573	6.8
Holding & other invest. offices	6719	6.7
Business services	7372	5.8
Health services	8071	5.3
Instruments & related products	3841	4.7
Wholesale trade — durable goods	5088	4.6
Food & kindred products	2086	3.8
Printing & publishing	2782	3.6
Top 10 industries — total		57.1
Memo: Diversification index	0.18[d,e]	

[a] The description of top ten industries (at the two-digit SIC code level) in which SBICs invested.
[b] Within the two-digit SIC code classification, the subcategory of industries (at the four-digit SIC code level) in which SBICs invested.
[c] The percentage of the total *flow* of investments made by SBICs from 1983 to 1992.
[d] The diversification index is the Herfindahl index of the *flow* of investments by four-digit SIC code classification of industries. Smaller values of the index indicate a higher degree of diversification across industries.
[e] Statistically different than the index for nonbank-owned SBICs at the 5 percent significance level.
Source: Authors' calculations.

Table 5. The financial characteristics of active and inactive SBICs; 1986

	Active	License Surrendered/Revoked	Liquidated
PRIVCAP (million dollars)	$6.97	$2.28[a]	$2.61[a]
TOTCAP (million dollars)	$12.32	$2.67[a]	$2.62[a]
SBALEV	1.06	0.52[a]	1.61[a]
TA (million dolalrs)	$18.97	$3.69[a]	$7.49[a]
CAP	0.61	0.74[a]	0.43[a]
ROE-MV	0.04	0.03	0.10
ROE-BV	0.06	0.03	-0.11[a]
PLOANS	0.38	0.41	0.33
PDEBT	0.15	0.18	0.22[a]
PEQUITY	0.47	0.39	0.45

---

[a] significantly different from active SBICs; $p < 0.05$.
Note: "Active" SBICs are those companies that were still licensed as of June 1993. "License surrendered/revoked" are SBICs that either surrendered their licenses or whose licenses were revoked by the SBA between 1986 and 1993. Similarly, "liquidated" are SBICs that went into liquidation between 1986 and 1993.
Source: Authors' calculations.

Table 6. The relationship between market ROE and SBIC characteristics: surviving and nonsurviving SBICs

	Nonsurviving		Surviving	
Variables	Nonbank-owned SBICs	Bank-owned SBICs	Nonbank-owned SBICs	Bank-owned SBICs
INTERCEPT	-0.0575	-0.1223	-0.0210	-0.0090
	(-1.790)[a]	(-2.104)[a]	(-1.363)[a]	(-0.791)
LOSS	-0.5046	-0.2935	-0.1438	-0.0525
	(-4.207)[a]	(-1.323)	(-1.907)[a]	(-1.600)
SBALEV	-0.0770	-0.1423	-0.0048	-0.0068
	(-4.465)[a]	(-2.791)[a]	(-0.577)	(-2.528)[a]
PLOANS	0.0836	0.2244	0.0543	0.0815
	(2.319)[a]	(2.399)[a]	(2.510)[a]	(0.273)
TA	0.0663	0.0982	0.0228	0.0048
	(5.199)[a]	(1.709)[a]	(5.224)[a]	(4.347)[a]
F-statistic	11.661	3.268	7.245	4.708
R^2	0.093	0.060	0.050	0.042
N	419	142	475	337

Note: 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).

[a] $p < .10$.

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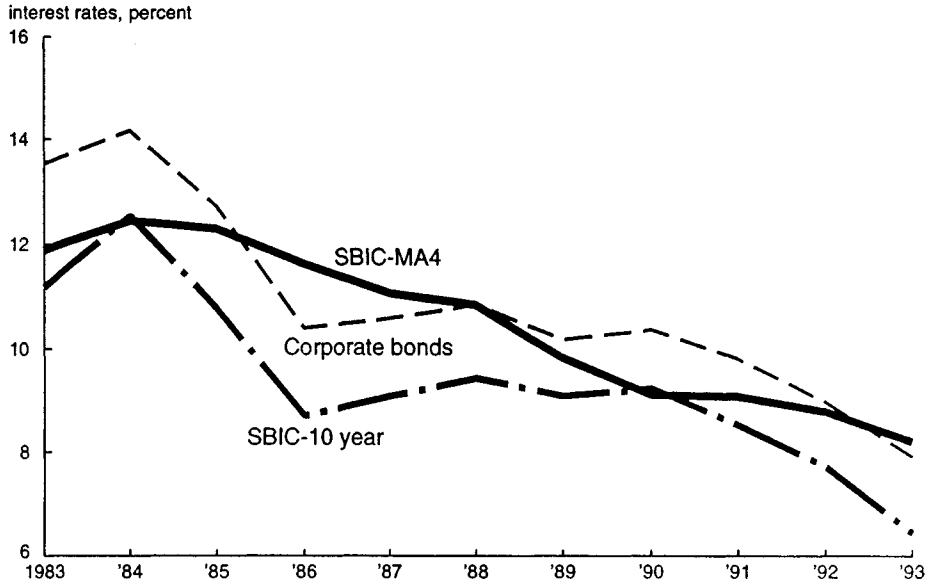
ADDENDUM
The following charts were inadvertently left out of the original publication of the paper.

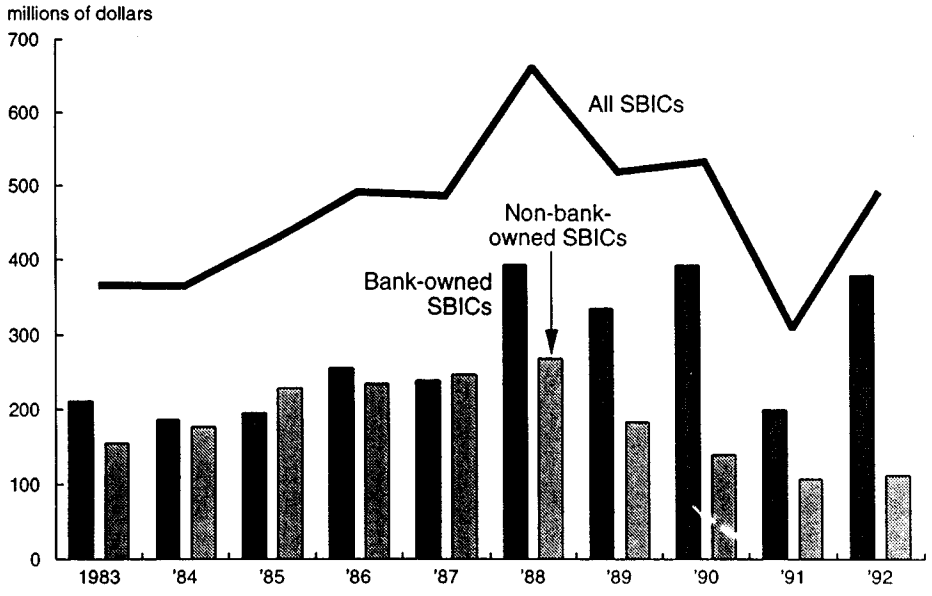
Figure 1
COST OF SBA FUNDS FOR SBICs



Notes: SBIC-10 year is the average of monthly interest rates on 10-year debentures issued by SBICs. SBIC-MA4 is the four-year moving-average of the SBIC-10 year series. Corporate bonds is the average of daily interest rates on Baa-rated corporate bonds.

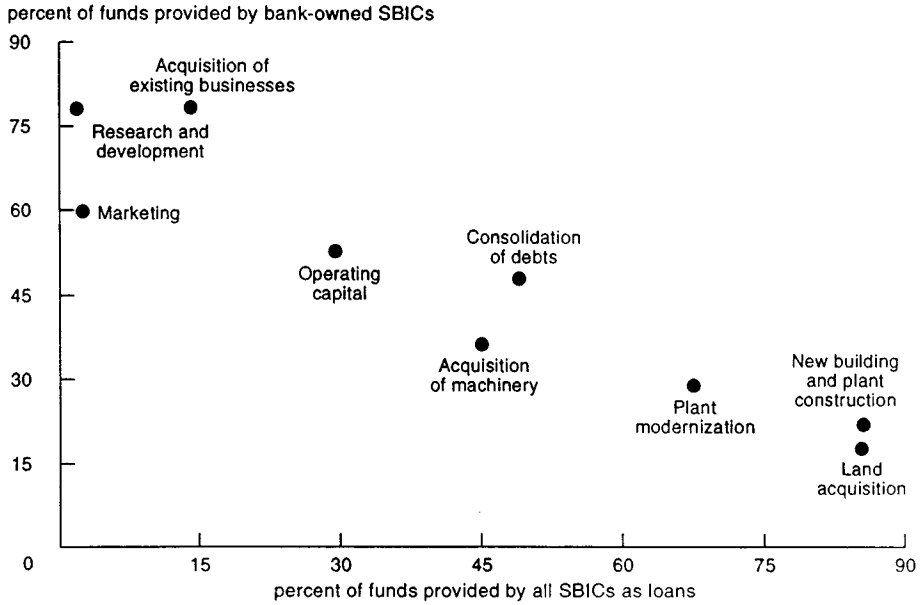
Sources: SBIC-10 year is from U.S. SBA (1993) and corporate bonds is from various issues of the *Federal Reserve Bulletin*, Board of Governors of the Federal Reserve System.

Figure 2
SBIC DISBURSEMENTS



Source: Authors' calculations.

Figure 3
SOURCES OF FUNDS BY ACTIVITY



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