

---

# FRBSF WEEKLY LETTER

June 1, 1990

## Banking and Venture Capital

At present, the ability of banks in the United States to invest in commercial enterprises is limited. Although they are allowed to extend loans to industrial firms, they may not hold controlling amounts of equity in such firms nor simultaneously lend to a commercial firm and hold its equity. An earlier *Letter* argued that these restrictions on bank powers may handicap the ability of banks to finance productive business ventures in our economy.

This *Letter* discusses the importance of risk control mechanisms in lending to business ventures. Venture capital financing techniques illustrate the kinds of control mechanisms needed to finance risky projects safely. A comparison of the financial instruments used by venture capitalists with those available to U.S. banks suggests that banks' limited powers may contribute to low rates of business investment in our economy.

### **The hazard of lending**

Both venture capital firms and commercial banks are in the business of funding commercial ventures. They both assess and manage the risks associated with their investments, but they differ significantly in the types of instruments they are permitted to use to manage risk.

Banks in the U.S. generally are restricted by regulation to providing pure external debt financing to a firm. ("External" here refers to funding that is provided by those who do not have access to the information about a firm's prospects that is available to the firm's "insiders," or managers.) In addition to the normal uncertainty concerning the payoffs associated with risky projects, external finance is risky because of information asymmetries and the "moral hazard" problem inherent in this type of lending. Specifically, since borrowing firms have a better understanding of their prospects than do outsiders, they may exploit this information asymmetry to obtain financing terms that do not adequately compensate the lender for the risks being undertaken.

In addition, external creditors also face risks associated with a "moral hazard" problem. Specifically, borrowers have an incentive to use funds obtained from external sources to finance a riskier project than originally envisioned since any upside benefits are captured entirely by the equity holders of the firm, while downside risks are shared with the lender. The thinner is the equity position of the firm's insiders, the greater is this moral hazard problem.

To control these risks associated with pure debt financing, U.S. banks generally limit their loan clients to well-capitalized, established firms selling established products or to firms with ample collateral. Unfortunately, these are precisely the firms best positioned to bypass the bank loan market altogether by issuing their debt directly to investors in the form of commercial paper or bonds. The high net worth of these firms reduces the moral hazard problem for outside debt holders, and in recent years, improvements in information and instrumentation technology have helped to reduce problems with information asymmetries and have made direct placement of debt more feasible.

At the other end of the spectrum of potential loan clients are entrepreneurial firms selling new products. They are, by definition, firms with little or no current cash flow to support debt obligations. High quality information may be impossible or very costly to obtain externally, and the thin veneer of equity typically provided by the entrepreneur creates a serious moral hazard problem that must be controlled by the outside investor. On account of the significant informational and moral hazard challenges these firms pose, loans to such firms are not attractive investments for banks, despite the high expected returns.

### **Venture capitalists**

The venture capital industry has evolved as a specialist in intermediation to these thinly-capitalized, entrepreneurial firms. Unlike banks,

# FRBSF

venture capitalists are largely unrestricted in terms of the financial relationship they may establish with their customers. Venture capitalists thus are able to devise instruments to control the informational and moral hazard problems inherent in such lending.

Not surprisingly, simple coupon debt is an uncommon mode of venture finance, except for the financing of mature venture firms. Where debt is issued, it takes the form of a hybrid of debt and equity that combines equity conversion or detachable stock warrant features with the underlying debt. Like the mixed debt/equity ("strip") financing employed in industrial takeovers in recent years, such instruments let the lender participate in the "upside" of any risk-taking. In the process, the entrepreneur's incentive to exploit the moral hazard problem is partially dampened.

For the riskiest ventures (that is, the ones that are very thinly-capitalized and have no earnings track record), simple combinations of outside debt and equity do not provide sufficient control. Such firms are very difficult to monitor externally, and the risk that inside equity holders will exploit outside financiers simply is too great to be held in check by the rather blunt powers afforded lenders or simple equity holders.

As a result, venture capitalists typically seek financing mechanisms that provide additional control and insider-like information. This financing generally takes the form of convertible preferred stock. The preferred stock position gives the venture capitalist some debt-like priority over common stock holders, while the requirement that the preferred stock be convertible to common equity provides opportunities to enjoy the greater upside potential of common stock.

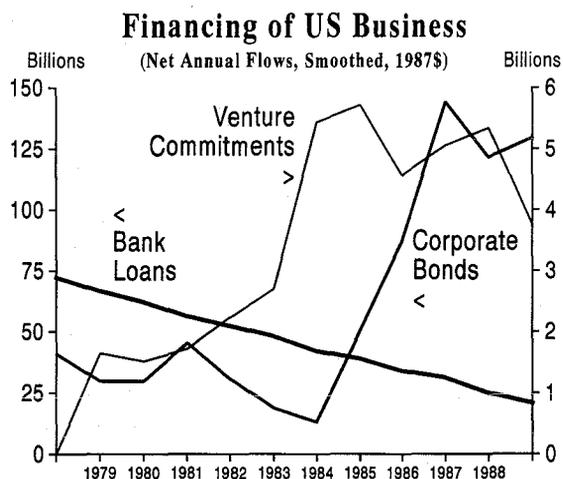
The preferred stock position often includes special rights, such as liquidation priority, which offers priority over other equity holders in liquidation, and thereby provides the venture capitalist with worst-case, downside protection. In addition, the preferred stock often includes redemption rights, which are intended to encourage on-going performance. These rights require that the firm cash out the venture capitalist at a premium over the value of the initial investment if, by a certain time, performance has been less

than anticipated. This feature gives the entrepreneur an incentive to pursue the project aggressively.

In addition to embedding these control features in their outside positions, venture capitalists usually obtain inside (management) rights in return for their significant equity positions. These may be the right to appoint one or more directors or to serve as an officer of the company. These management rights are an important hallmark of venture capitalism, and provide channels for both information and control.

## The role of banks

That the venture capital industry employs instruments other than simple debt raises the logical question whether the economy would benefit if banks enjoyed similar flexibility in their financial relationships with firms. At present, commercial banks are confined to a shrinking middle ground between the direct placement debt market and the market served by financiers like venture capitalists, who enjoy equity powers. On the one hand, direct placement activity has diminished banks' role in funding low-risk credits, while restricted equity powers limit their ability to safely monitor (and therefore, provide funding to) higher-risk credits. As a result, net new bank lending to business has trended down (in inflation-adjusted terms); in contrast, the flow of venture capital financing commitments and bond financing has exhibited a general upward trend. (See the chart.)



---

If banks were given expanded equity powers, the broadest opportunities for banks likely would not be in venture capital *per se*, but in more extensive involvement with their current credit customers. In Germany and Japan, for example, where banks' powers are less restricted, banks provide roughly twice the proportion of total industrial credit that banks in the U.S. provide.

Nonetheless, it is also likely that banks would become more involved in providing true venture funding. Indeed, since banks perform the same essential monitoring function as the venture capitalist, and have superior access to debt and equity markets, they may even come to dominate traditional venture financing channels.

### Foreign evidence

Evidence from other countries appears to confirm the potential for a significantly increased role for banks in venture finance if current restrictions on equity-holding and exercise of control were relaxed. In France, Germany, and Italy, for example, where banks do enjoy such powers, they provided 35, 45, and 65 percent of total venture funding in 1985, respectively. By comparison, banks provide less than five percent of venture funding in the United States, and this primarily arises from the activity of Small Business Investment Company (SBIC) subsidiaries. (SBICs are special entities licensed by the Small Business Administration to pass through debt funding.)

In Japan, banks nominally have narrower powers than do the European banks, but institutional arrangements provide a channel for risk control analogous to that provided by venture capital institutions in the U.S. Specifically, large portions of industry are interconnected through group affiliations (*kieretsu*) and cross-shareholding relationships (*mochiai*), and banks and insurance companies hold over 40 percent of all corporate equity. Another 30 percent is held by other corporations.

On account of these relationships, it is not surprising that attempts to initiate U.S.-style venture capital activity in Japan generally have been unsuccessful. It appears that much new product development in Japan occurs within established firms, where the risk of funding new ventures is controlled by existing relationships.

### Implications for the economy

The key concern, of course, is not who supplies funding to industry, but whether the overall cost of capital is reduced by one funding structure or another. Here, both theory and casual empirical evidence suggest that the U.S. economy may be handicapped in this regard by restrictions on bank powers.

It is clear from finance theory that unresolved information asymmetries are costly to the economy. As Myers and Majluf have demonstrated, the existence of information asymmetries leads to underinvestment since firms are unable to obtain financing sufficient to pursue all worthwhile projects; "outside" investors' lack of information causes them to withhold funding, effectively raising the cost of capital. To the extent that improved equity and control powers at banks would resolve information asymmetries, the cost of capital would be reduced, and investment in the economy enhanced.

International comparisons appear to lend some support to this view. Estimates by Ando and Auerbach, for example, suggest that the Japanese cost of capital may have been as little as half that in the U.S. in the 1967-83 period. Since they carefully control for other factors and still the cost difference persists, Ando and Auerbach conclude that the difference may have been due to the "lower risk" of comparable investments in Japan. This is consistent with the notion that the *kieretsu* and *mochiai* relationships are effective mechanisms of risk control.

It is also interesting to note that both Germany and Japan have higher rates of expenditure on research and development than the U.S. does, and that spending on plant and equipment is roughly twice as great in Germany and Japan as in the U.S., adjusting for the sizes of the respective economies. Whether this laggard performance is a manifestation of an "underinvestment" phenomenon related to inadequate risk-control powers of banks, of course, is difficult to ascertain. It may suggest, however, that as energetic as it is, our unique venture capital industry may not be an adequate substitute for banks with broader financing powers.

**Randall Johnston Pozdena**  
Vice President

---

Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, or of the Board of Governors of the Federal Reserve System.

Editorial comments may be addressed to the editor (Barbara Bennett) or to the author. . . . Free copies of Federal Reserve publications can be obtained from the Public Information Department, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco 94120. Phone (415) 974-2246.

Research Department  
Federal Reserve  
Bank of  
San Francisco

P.O. Box 7702  
San Francisco, CA 94120