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VENTURE CAPITAL AND INNOVATION

A STUDY

PREPARED FOR THE USE OF THE

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LETTER OF TRANSMITTAL

DECEMBER 26, 1984.

To the Members of the Joint Economic Committee:

I am pleased to transmit a study entitled "Venture Capital and Innovation." The study was prepared by Dr. Robert Premus, a former Joint Economic Committee staff economist, who is currently Professor of Economics and Director of the Center for Industrial Studies at Wright State University, Dayton, OH.

A healthy venture capital market is vital to the long-run competitiveness of the American economy. Conditions in the venture capital market are indicative of the nation's overall climate for entrepreneurship and innovation.

Of particular interest to policy makers is the analysis of the sensitivity of venture capital markets to government actions. Capital gain taxation, pension fund regulations, and Securities and Exchange Commission regulations governing access to capital market funds were found to have a large impact on the financial climate for entrepreneurship and innovation. I concur with the study's main conclusion that the best way to deal with capital gap problems is to pursue policies that increase the supply of venture capital and entrepreneurial activities.

Congressman Daniel E. Lungren; Franklin Johnson, National Venture Capital Association; Walter Stultz, National Association of Small Business Investment Companies; and Jerry Feigen and Anthony Robinson, Small Business Administration, are to be thanked for reviewing the entire manuscript and for offering their suggestions. Research assistance was provided by Wendy Schacht, Alexis Stungevicius, Karl Snow, and Ken Schapiro. Of course, the views expressed herein are those of the author and do not necessarily represent the views of the Joint Economic Committee or its Members, or others involved in the study.

Sincerely,

ROGER W. JEPSEN,
Chairman, Joint Economic Committee.

FOREWORD

By Representative Daniel E. Lungren

In the mid-1970s when Steve Jobs and Steve Wozniak needed money to finance a computer idea they wanted to develop, the two entrepreneurs were able to convince some venture capitalists to provide the monetary backing which they were unable to secure from the more traditional lending sources. The rest, as the expression goes, is history, as they established one of the most successful American business stories to date.

Apple Computer, the company they founded, was the first company ever to have made it onto the prestigious Fortune 500 in less than five years of operation. Few need to be reminded of the revolutionary impact the personal computer, which Jobs and Wozniak helped pioneer and develop, has had on our every day work and home lives. Importantly, it was the venture capital financing which Jobs and Wozniak received which was integral to the tremendous progression of Apple.

During the past ten years, the venture capital process—whereby informed investors specialize in risky investments of new high growth companies—has become firmly established as a vital institution in the development of innovative and entrepreneurial ideas. Many other companies, like Federal Express Corporation, Tandem, Digital Equipment Corporation, to name just a few, point to their ability to obtain venture capital as enabling their companies to evolve, expand, or prosper at some critical stage of their business development.

Admittedly, some skeptics might speculate that even without the greater availability of venture capital in recent years at least some of these companies would still have been established. Surely some of these growth companies might have been able to secure funding through alternative sources. However, the odds of that happening to the hundreds of companies which have successfully relied upon venture capital for their growth make it highly unlikely. In fact, the results of this Joint Economic Committee Venture Capital Market Survey point to the conclusion that venture capital has become indispensable to the nation's overall climate for entrepreneurship and innovation.

The findings of the Survey document that it has been the recent surge in venture capital which, in large part, has helped to fuel the great entrepreneurial boom we have been experiencing in the United States. Without the availability of venture capital it is extremely doubtful that the rate of technological change and economic growth, which we have witnessed during the past few years, would have resulted at all. Furthermore, Silicon Valley, Route 128

and other technology centers now emerging in the United States certainly would not exist in the form as we have come to know them.

In discussing the importance of the venture capital process, one thing should be kept in mind. As Burton McMurtry, general partner of Technology Venture Investors, acknowledged in field hearings which I chaired for the Joint Economic Committee in Silicon Valley last August, financial support is only a part of the overall equation for the high growth company. "The key to (the venture capital) process," he pointed out, "is (still) the entrepreneur, or business person who starts his or her own company. Venture capital assists the entrepreneur with the money and expertise to make that company a success." (emphasis added) Venture capital is an essential component in what may be viewed as a symbiotic relationship or marriage between an idea and the financial support and management for the development of that idea.

In contrast to the traditional financial institutions such as banks, and savings and loans which for the most part are largely asset based, venture capitalists are idea based. The established institutions which have procedural and risk averse biases, are geared more to a strict track record of lending which is highly collateralized. Because of this propensity it is difficult for more traditional financial institutions to assess the capabilities of an entrepreneurial idea alone. In contrast, venture capitalists start with a longer term outlook and are willing to take a sophisticated risk based on their developed expertise. It is because of this different approach and willingness to take an experienced risk that venture capital has come to serve a unique role in the market place.

The comprehensive survey—including 277 of more than 500 of the leading venture capital firms—documents a surprising fact. While the business news headlines during the early 1980's reported the forecasts portending continued future lethargic economic growth for the country, one of the greatest periods of investment in high growth companies was occurring at the same time. As the mood of much of the nation and many policy makers was fixated on what turned out to be incorrect economic forecasts, the venture capitalists demonstrated that they were willing to bet on the continued long term future of the United States and the ideas of its entrepreneurs.

Importantly, the study also identifies a strong correlation between the increase of venture capital and the increase in resulting entrepreneurial activity. This finding refutes the myth or fiction that has developed in some circles asserting that "there is too much venture capital chasing too few good deals." With the recent surge in venture capital funds, the study identified an increase in the volume and quality of business proposals. Additionally, larger sources of private funds become available for the earlier stages of business development—typically the most difficult to acquire—allowing more ideas to get off the drawing board and onto the assembly line.

From this, the conclusion can be drawn that a low availability of funds serves as a significant barrier to entrepreneurship. These very important lessons for public policy must not be lost during the upcoming tax reform debate. Since the larger availability of funds

resulted essentially from reduced taxation of capital gains, the consequences of increasing the capital gains tax rate *or* removing the differential in taxation of capital gains and ordinary income holds serious ramifications for our country's ability to maintain its technological leadership.

Additionally, the survey makes an important contribution to those in public policymaking roles, as it quantifies and characterizes the industry of venture capital as has never been done before. Previously, the word venture capitalists had been frequently used as an almost catch-all reference to describe the sophisticated financial risk-taker who is willing to take a chance on the ideas of entrepreneurs. The Survey identifies varied segments within the venture capital industry who become involved with diverse types of deals. Not only are the sources of funding different for sizes and types of venture capital firms, but investment occurs in different stages of business development and also satisfies distinctive market demands.

Our country has always had its share of nobel prize winners and innovators. Additionally, our society has historically demonstrated a predisposition and cultural willingness to take risks and undertake challenges. Government policy must be careful not to stifle or impose unnecessary barriers to this entrepreneurial process in our country.

This landmark survey, conducted for the Joint Economic Committee by Dr. Robert Premus, will, I believe, significantly contribute to a sharpening of the discussion and understanding of the process of entrepreneurship and innovation. One of the important conclusions of the Survey Study is that venture capitalists are inclined to fund new high growth companies oriented to new technologies which "improve productivity and extend and improve the quality of life." Other studies had shown that venture capital investments assist in the creation of a large number of new jobs, generate new tax revenues, and improve the productivity of all industry.

Policy makers will now have to ponder how that process can be sustained over time, particularly since the conclusions of the JEC Venture Capital Market Survey find that our quality of life and economic growth of the United States hinge, in large part, on our ability to innovate and take risks. The primary question which policy makers will have to address is, absent the presence of venture capitalists, what alternative, if any, in the marketplace would exist to support the idea and the entrepreneur? Nothing less is at stake than continued technological leadership of our country.

CONTENTS

EXECUTIVE SUMMARY

The nation's venture capital industry is the subject of study in this report. The study begins by looking at those factors responsible for the post-1978 surge in venture capital availability. It then proceeds to discuss the major investment patterns within the venture capital industry. Investments by stages in business development, geographical zones, and technological orientation are discussed. The "capital gap" and "regional gap" issues are also discussed. Finally, the complexity of the nation's institutional environment governing the venture capital process is emphasized in discussions of capital gains taxes, pension fund regulations, commercial and investment banking, and industrial policy strategies.

The study is based upon a comprehensive survey—the first of its kind—of the nation's venture capital markets. Over 47 percent, or 277, of the nation's leading venture capitalists participated in the survey.

Venture capital firms were found to be highly specialized investors who participate, with other venture capital firms and investors, largely in seed, start-up, and early expansion investments. The majority of investments receiving venture capital backing are in companies that use technology to expand the Nation's economy into new products and processes that raise productivity and improve the quality of life. Venture capitalists are hands-on investors who try to minimize risk by diversifying their firm's investment portfolio across companies by stages in business development, by regions, and by coinvestments with other venture capital firms.

This study of the nation's venture capital process has significance not only for the insights it provides into the dynamics of the venture capital process, and the public policies that influence that process, but because it has implications for a much broader range of entrepreneurial activities within the economy. Venture capital is only a small part of the nation's total entrepreneurial community, but the process of company formation, early expansion, and mature development experienced by venture capital companies is indicative of what other entrepreneurial companies must experience.

A major conclusion of the study is that policies to aid venture capital formation and innovation must follow a two-pronged path. A two-pronged policy path is necessary because of the interdependence of venture capital and the availability of entrepreneurial deals.

Another finding was that the capital gains tax differential was, and continues to be, a major factor behind the post-1978 surge in venture capital availability. Other important contributing factors include improved pension fund regulations; lower SEC registration, reporting, and filing costs for small firms seeking private and public access to equity funds; and an improved market for initial public stock offerings. The combined effect of these contributing

factors resulted in a shift in the proportion of capital market resources (saving) directed to risky investments. As a result, venture capital supply has been increasing at a faster pace than growth in the nation's supply of total saving.

Without an active venture capital market, a serious misallocation of resources would exist in the nation's capital markets: an inadequate supply of risk capital for entrepreneurial investments would emerge. Substantial empirical evidence is provided which shows that large institutional investors (e.g., life insurance companies, pension funds, and commercial banks) are biased in their portfolio choices regarding risky, small business and other entrepreneurial investments. A lack of institutional expertise in small business investing and high information costs were found to be the primary reasons for the existence of a capital gap problem.

An active venture capital market, spurred on by preferential capital gains tax treatment, improved pension fund regulations, lower SEC regulatory costs, and an improved market for initial public offerings, has emerged to fill much of the void caused by the increasing role of large institutional investors in the nation's capital markets. Without a thriving venture capital market, many economically profitable entrepreneurial investments would go unfunded. Productivity growth and job creation would suffer from capital market inefficiencies and a lower rate of technological innovation. For this reason, the JEC study found venture capital availability to be a major factor in the health of the nation's overall climate for entrepreneurship and innovation.

While venture capital has grown substantially in recent years, it is still in short supply. An examination of the portfolio performance of venture capital firms reveals that they anticipate a minimum rate of return, 30 percent per annum, on individual investments. Most formal business proposals submitted to the venture capital community cannot meet this standard and go unfunded. Of the deals they do make, venture capitalists calculate that about 50 percent will be "winners" and about 15 percent will be "losers". Over 60 percent of the portfolio companies are expected to be liquidated by going public or merging upwards.

Unquestionably, only the "cream of the crop" of entrepreneurial investments receive funding from the venture capital community. Implied in the analysis, and corroborated by other studies, is that venture capital investments offer a risk adjusted rate of return substantially in excess of risk adjusted rates of return on other types of investments. This finding suggests that the "capital gap" problem is real. Economic efficiency requires that capital market funds be allocated until risk adjusted rates of return on alternative investments are equated at the margin. Only when this condition is satisfied will the capital gap problem be eliminated.

The JEC study found that the best way to close the capital gap is to encourage growth in the overall supply of risk capital. Policies to increase the nation's saving rate—the elimination of double taxation of saving and a reduction in the deductibility of interest expenses on consumer durables—would be appropriate. Other policies to increase the proportion of capital market resources flowing into entrepreneurial investments will also be necessary. Continued preferential tax treatment of capital gains; improved pension fund reg-

ulations; lower SEC filing, registration, and reporting costs of small businesses; and an expanded market for initial public stock offerings would be helpful. Also, regulatory barriers could be removed to enable large institutional investors to rely more on specialized financial intermediaries, such as venture capital firms and investment bankers, to select and manage their small business investment portfolios.

Monetary and fiscal policies to provide for stable non-inflationary economic growth, gradual deficit reductions to lower real interest rates, and continued improvements in the nation's tax and regulatory environment are other policies that would be helpful in encouraging continued growth in venture capital markets and related activities.

The number and quality of entrepreneurial deals have increased sharply in response to growth in venture capital availability. Continued expansion of the venture capital industry must be accompanied by an improved climate for entrepreneurship in the United States. Public policies to improve the entrepreneurial climate might include liberalized incentive stock options so entrepreneurial companies can attract the needed talents, strong basic research at American universities, improved technology transfer from government laboratories, R&D tax credits to encourage commercial research, antitrust regulations to encourage formation of R&D joint ventures among American firms, the provision of a highly educated labor force, and competition in domestic and international markets. Competitive markets are necessary to increase entrepreneurial adjustments within the economy as it responds to worldwide technological and market trends.

The State and local government role is important because of the "regional gap" in the availability of venture capital. California, Massachusetts, New York-New Jersey, and Texas have the most active venture capital markets. Venture capital markets are thinly spread throughout the other States and regions. An important finding of the JEC study was that, because of these regional gaps, entrepreneurs in the venture capital poor regions are at a competitive disadvantage in getting otherwise comparable deals funded by the venture capital industry. The primary significance of this finding is that there are inefficiencies in the inter-regional allocation of venture capital market resources in the United States.

The Federal Government can mitigate the adverse effects of the "regional gap" problem by pursuing policies to expand venture capital supply at the national level. At the State and local level, policies to encourage the development of private venture capital markets are necessary. A small, but thriving, regional venture capital market can help local entrepreneurs gain access to venture capital markets in other regions by arranging coinvestment opportunities with venture capital firms in other regions. Other State policies to encourage risk taking (e.g., lower capital gains taxes), reduced risk aversion of institutional investors, and coordinated Federal and State securities regulations would be helpful.

Finally, governments are often tempted to stimulate economic growth through direct interventionists methods. This study recommends, as an alternative to industrial policy approaches, that Federal, State, and local governments use their tax, regulatory, and

expenditure authority to "target the process of innovation." Government owned and operated venture capital firms are not condoned in this study.

VENTURE CAPITAL AND INNOVATION

By Robert Premus*

I. INTRODUCTION

Entrepreneurship and innovation are frequently heard topics in public policy discussions on how to improve U.S. economic and industrial performance. This attention is well deserved since entrepreneurial innovations are the wellspring for new industries, new technologies, and improved productivity growth in our competitive, changing economy. Unfortunately, there is a paucity of systematic studies on what constitutes a favorable national environment for entrepreneurship and innovation. As a result, these public policy discussions often end up as emotional or political pleas for more government support for innovation, but they offer little substance as to what should be done.

Purpose of Study

This study attempts to rectify this deficiency in the research literature. In particular, the study examines what constitutes a favorable economic and political climate for entrepreneurship and innovation. The study draws upon the views of the Nation's venture capital community on this subject. The venture capital community provides financial, management, and technical services to leading technology-oriented and other innovative companies during their formative years. Because of their unique role in the Nation's economic growth process, the venture capital community is well aware of the factors that affect the Nation's overall climate for entrepreneurship and innovation.

The sensitivity of the Nation's venture capital process to government policies and other factors that influence entrepreneurship and innovation was highlighted in a 1982 study by the General Accounting Office [GAO], on behalf of the Joint Economic Committee [JEC].[1] This excellent study found that venture backed companies contributed significantly to job growth, exports, and technological innovation. The study also found that Government regulations, taxes, and other policies have a large impact on capital formation and expansion, but policymakers are often either unaware that the impacts occur or they are unaware of the implications of these impacts for national economic growth. In many respects, this current

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[1] U.S. General Accounting Office, "Government-Industry Cooperation Can Enhance the Venture Capital Process," GAO/AFMD-82-35, August 1982.

JEC study effort extends the GAO study by examining in more detail the complexities of the venture capital process, and how Government policies affect the financing of entrepreneurial innovations, such as new company formation, technology development, and the development and marketing of new products and processes.

Research Methodology

A mail questionnaire was used to solicit the opinions of the venture capital community on a wide variety of issues that affect the venture capital process. The mail questionnaire approach was chosen because of the advantages that it offers over other approaches. The mail questionnaire assures that all participants in the survey receive the same set of questions in an identical sequence. The result is a more objective approach in collecting and reporting of information. Also, the information requested often required some preparation on the part of the respondent. Quick and top-of-the-head analysis was inadequate for many of the questions. Most important, the questionnaire approach was chosen to give the respondents an opportunity to rank and quantify the relative intensity of their feelings about various issues. In all, the study identified approximately 35 potential Government actions that affect the venture capital process. Respondents were asked to compare and rank many of these actions in terms of their expected effects.

The JEC Venture Capital Market Survey was conducted over the period June 4, 1983, to December 30, 1983. This was a period of flourishing venture capital activity in the United States. An increase in the supply of venture capital funds was flowing into venture capital pools and the new issues market was "booming." Ironically, the outlook for the rest of the economy remained gloomy in spite of the vigorous recovery that was underway. The unemployment rate remained high. Doom-and-gloom forecasts permeated the industrial policy movement that was also flourishing at this time. Warnings of mounting long-term structural unemployment and declining U.S. international competiveness were frequently heard from the industrial policy advocates, who called for larger Government and more direct controls over the allocation of the Nation's capital market resources.

Perhaps the economic conditions over the period in which the study was conducted explain the high response rate to the survey. Questionnaires were mailed to 565 of the Nation's leading venture capital firms and 267 were returned in usable form, resulting in a response rate of 47 percent. Few mail questionnaire surveys received such a high response rate. A copy of the questionnaire is included in appendix A. Included in the sample were all of the approximately 100 members of the National Venture Capital Association, 358 equity-oriented Small Business Investment Companies [SBIC's], and 30 of the Nation's largest Minority Enterprise Business Investment Companies [MESBIC's]. Also included in the survey were 77 of the Nation's leading corporate venture capital subsidiaries. Venture Economics, a Boston-based consulting firm, assisted in identifying the corporate venture capital firms that were included in the survey.

Throughout the study, the data (survey responses) are organized by type and size of venture capital firms. For purposes of analysis, the three categories of venture capital firms identified in the study are the independent, corporate, and SBIC's (inclusive of MESBIC's) firms. The size categories are broken down into small, medium, and large venture capital firms. Small firms are defined as having $1.3 million in funds or less. Medium-sized venture capital firms are defined as having funds of between $1.3 million and $13.5 million. All venture capital firms with funds in excess of $13.5 million are classified as large firms.

All of the respondents in the JEC survey were very closely involved or they have had considerable involvement in the investment portfolio decisions of their venture capital firms. In most cases, they were a general partner in the firm that received the JEC questionnaire. The central point is that all of the respondents involved in the survey have had considerable hands-on experience with the problems and barriers encountered in launching new companies and raising large sums of capital to finance their rapid expansion. While venture capital activity is only a small part of the total innovation process in the United States, it is the most visible and sophisticated segment. In particular, activities in the venture capital market mirror the broader range of entrepreneurial and technological opportunities and activities in the American economy. For this reason, this indepth study of the venture capital process has valuable lessons for a much broader national public policy to encourage entrepreneurship and innovation.

Outline

The study is organized into eight chapters. Chapter II examines recent trends in the growth of venture capital markets and the various factors that have contributed to the growth of venture capital availability in the past several years. The issues associated with the recent surge in venture capital funds, such as its impact on the quantity and quality of entrepreneurial deals, the price of deals, and the venture capital process are also examined. An important conclusion of the chapter is that venture capital availability, and associated activity, is a major contributing factor in the overall rate of entrepreneurial activity in the United States.

Chapter III begins by examining sources and uses of funds by type and size of venture capital companies. Although the venture capital community invests in risky deals, they also take every precaution to avoid unnecessary risks. This chapter examines a number of the methods venture capitalists employ to eliminate or avoid unnecessary risks. Also, the chapter found a close link between venture capital and technological innovation by examining the types of investments made by venture capital firms. Young, entrepreneurial firms struggling to bring new products and process technologies to market, or old industries attempting to restructure around advanced technology, receive the lion's share of venture capital industry investments.

Chapter IV looks at the alleged "capital gap" problem in considerable detail. Evidence that capital markets are systematically biased against small, risky venture was found. Factors that contrib-

ute to the capital gap problem and public policies to remedy the situation are also examined. An increase in the supply of venture capital was found to be the best remedy. Also, policies to encourage large institutional investors to rely on financial intermediaries to make small business investments and to support the creation of secondary markets in industrial mortgages and small business securities are suggested.

The regional gap problem is discussed in chapter V. Evidence that the ability to fund comparable deals varies among the States and regions is presented. The factors that contribute to interstate and interregional differences in the availability of venture capital are also discussed. Finally, the chapter examines the feasibility and likely success of various State and local government programs aimed at improving small business financing. In particular, the chapter discusses what the venture capital community thinks about the various State and local programs to remove financial barriers to entrepreneurship and technological innovation within their jurisdiction.

Next, the issues that have been identified in earlier chapters, or in the venture capital literature, as being very important to the venture capital process are examined in greater detail in chapter VI. Capital gains tax reductions and reform, pension fund regulations, commercial banking reform, industrial policy, and flat-rate tax proposals are discussed.

Finally, the study is concluded in chapter VII with a brief summary of the findings and a discussion of the major contributions of the study. A national public policy agenda to improve the overall financial climate for entrepreneurship and innovation is presented.

II. SIZE AND GROWTH OF THE VENTURE CAPITAL INDUSTRY

Supply and demand theory provides a fruitful framework for analyzing the various factors that contribute to the size and growth of the venture capital industry. The supply of venture capital is determined by the willingness of individuals and institutional investors to allocate a portion of their investment portfolios to venture capital pools. In principle, the national saving rate, favorable tax treatment of capital gains, and regulations governing the decisions of institutional investors (for example, pension funds) are potentially important determinants of the venture capital supply.

Entrepreneurial activities are reflected on the demand side of the venture capital process by the volume of business proposals. Important entrepreneurial activities include launching new companies, rapid expansion into new markets, revitalizing slumping companies, and developing new technologies. These entrepreneurial activities are vital to longrun U.S. competitiveness because they are instrumental to improving the Nation's productivity and comparative advantage.

Throughout this study it becomes strikingly clear that many of the factors that influence the supply of venture capital also influence the demand for venture capital. The direction of causality runs both ways. In the economist's lexicon, this means that market clearing quantity and price are jointly determined. Thus, many of the variables that affect the availability of venture capital and the price of deals are jointly reflected in the supply and demand for venture capital.

The chapter begins by examining the size of the venture capital market. It then discusses factors responsible for the rapid surge in venture capital supply after 1978. An important finding is that the capital gains tax differential was, and continues to be, a major contributing factor. Another important finding is that growth in venture capital supply, in turn, contributed to the growth in entrepreneurial activities. In particular, the venture capital community was found to experience an increase in the quantity and quality of formal business proposals concomitant with the surge in venture capital availability. On the negative side, the price of deals, length of time for making decisions, and the quality of decisionmaking were all adversely affected by the current expansion of the venture capital industry.

The chapter concludes with a discussion of the problems confronting the venture capital industry and lessons for national public policy. High real interest rates and a shortage of experienced venture capitalists are among the most important problems confronting the venture capital industry today.

Availability of Venture Capital Funds

The total amount of money available to venture capital firms is listed in table II.1. The availability of venture capital increased from an estimated $2.5 to $3.5 billion prior to 1978 to over $11 billion in 1983. Thus, historical trends show a marked acceleration in the growth of venture capital supply following the 1978 capital gains tax rate reduction. Interestingly, the supply of venture capital continued its rapid expansion during the severe 1981–82 recession and the current economic recovery.

TABLE II.1.—NEW FUNDS RAISED BY VENTURE CAPITAL COMPANIES, THE SIZE OF THE TOTAL VENTURE CAPITAL POOL AND ESTIMATED DISBURSEMENTS, 1969–83

	New funds raised by venture capital companies	Size of the total venture capital pool	Estimated disbursements to portfolio companies
Year:			
1983	$4,100	$11,500	$2,800
1982	1,700	7,600	1,750
1981	1,300	5,800	1,400
1980	900	4,500	1,100
1979	319	3,800	1,000
1978	570	3,500	550
1977	39	.....	400
1976	50	.....	300
1975	10	[1] 2.5 to 3.5	250
1974	57	.....	350
1973	56	.....	450
1972	62	.....	425
1971	95	.....	410
1970	97	.....	350
1969	171	.....	450

[1] The estimated size of the total venture capital pool fluctuated between $2.5 and $3.5 billion for the years prior to 1978.
Source: Venture Economics.

Associated with the growth in the availability of venture capital has been an increase in the number of venture capital firms and an increase in the size of funds. The Joint Economic Committee JEC survey asked each respondent to report the startup date of their venture capital firm. The responses, presented in table II.2, clearly indicate a sharp increase in the rate of venture capital firm formation after 1978. The large response rate to the JEC survey provides some assurance that the results are statistically valid, although the venture capital firms that went out of existence prior to the survey are not included in the sample, creating a downward sample bias for earlier periods. Also, venture capital firms formed after April 1983 are not included in the total for that year.

The average venture capital firm in the JEC survey began operations in 1975, with some variation by type of fund. On average, SBIC's are 2 years older than the group of independent and corporate firms. The average SBIC was formed in 1974 in comparison to 1976 for the independent and corporate firms.

Table II.3 shows the median size of venture capital firms at their startup dates, on December 31, 1982, and on December 31, 1984. The typical SBIC had $650,000 in funds at startup. The median corporate firm attracted $2.5 million at startup. Independent firms

were much more successful in attracting funds, beginning their operations with an initial fund of $7 million. The typical independent firm was nine times larger than the median SBIC and three times larger than the median corporate firm at startup.

TABLE II.2.—FREQUENCY DISTRIBUTION OF THE STARTUP DATE OF VENTURE CAPITAL FIRMS PARTICIPATING IN THE JOINT ECONOMIC COMMITTEE VENTURE CAPITAL MARKET SURVEY

	Number of startup firms	Cumulative percentage
Year:		
1910	1	0
1946	2	1
1958	3	2
1959	3	4
1960	4	5
1961	9	9
1962	4	10
1963	2	11
1964	3	12
1965	2	13
1966	1	13
1967	5	15
1968	7	18
1969	3	19
1970	9	23
1971	9	26
1972	12	31
1973	5	33
1974	6	35
1975	6	37
1976	12	42
1977	14	47
1978	13	53
1979	16	59
1980	26	69
1981	36	83
1982	34	96
1983	10	100

TABLE II.3.—MEDIAN SIZE OF VENTURE CAPITAL FIRMS BY TYPE OF FUND AT STARTUP, DECEMBER 1982, AND DECEMBER 1984

	Startup	December 1982	December 1984
Type of fund: [1]			
SBIC	$650,000	$1,450,000	$2,000,000
Independent	7,000,000	24,000,000	32,375,000
Corporate	2,500,000	10,000,000	20,000,000

[1] The median startup date for SBIC firms was 1976. The median was 1978 for independent firms and 1977 for corporate firms.

By 1982, the median SBIC's attracted $1.45 million in funds, for a gain of 123 percent over the size of the startup pool. Independent firms had a median size of $24 million by December 1982, or 243 percent over the initial startup size. The median size of the corporate firm increased the most, advancing 300 percent over the startup level of $10 million by December 1982. The independent firms remained larger in size but the typical corporate firm has grown more rapidly.

The growth in the median size of SBIC and independent venture capital firms reflects the way the venture capital process works, and it reflects growth in the median size of the new venture capital firms. The typical investor in the venture capital firm makes a total commitment to the fund but initially invests only a portion of the total commitment, typically 45 to 50 percent. Thus, the actual amount of funds available to the venture capital firm will rise over time until the full commitment of funds is achieved. Also, the number of firms expanded over the period and, on average, they were larger. The result is that growth in the new firms increased the median size of venture capital firms.

The rapid growth of corporate venture capital firms reflects a concern of major corporations that they must become more innovative to maintain current markets and expand into new markets. Venture capital firms formed within the corporate structure, or as an appendage to that structure, provide one mechanism that enables the larger corporate community to participate in, and reap the commercial benefits of, technological change and industrial innovation.

The period 1982 to 1984 witnessed continued rapid growth of the venture capital firms. The annual compound growth rate of corporate firms was 57 percent over this period, in comparison to 39 percent and 26 percent for independent and SBIC firms. The growth of corporate venture capital firms clearly outpaced the growth of other firms in absolute and in relative terms, but funds were being committed to all of the types of venture capital funds at a remarkable rate. For SBIC's and corporate firms, the pace actually quickened over the startup to December 1982 phase. Thus, the period of time in which the JEC survey was being conducted could be considered "boon" times for the venture capital industry.

The optimistic outlook of the venture capital industry stood in sharp contrast to the rest of the Nation. For the most part, the rest of the economy, in early 1983, was still suffering from a recession psychology since the positive effects of the pending rapid economic recovery had not yet reached the broad spectrum of American society.

Determinants of Venture Capital Availability

Over the past several years, a number of actions have been taken to improve the Nation's financial and entrepreneurial climate. Among these actions were the 1978 and 1981 reductions in the capital gains tax, improvements in pension fund [ERISA] regulations, and revisions of Securities and Exchange Commission [SEC] regulations. Also, a revival of the market for initial public offerings [IPO's], partly in response to these actions, aided capital formation over this period. More recently taxes have been reduced and new provisions were put into the Tax Code to encourage saving and investment.

An important question of public policy is the likely contribution of these various factors to the current post-1978 surge in the supply of venture capital. To answer this question, the JEC survey asked each of the respondents to rate the relative importance of each of the alledged contributing factors. An open category, "other," was

used to allow the respondents to list important factors not included on the questionnaire. The overwhelming response in the "other" category was that the "track record" of venture capital firms, and of the industry as a whole, is an important factor in attracting funds.

The results of the JEC survey by type of venture capital firm and by the size of these funds are presented in table(s) II.4 and II.5. The capital gains tax rate reductions, improvements in ERISA regulations, and the revival of the IPO market all received high ratings as contributing factors, with the 1978 and 1981 capital gains tax rate reductions leading the way. The improved inflationary environment, improved SEC regulations, and the other tax provisions of the Economic Recovery Tax Act of 1981 [ERTA] (for example, investments tax credits and accelerated cost recovery) consistently received low ratings as causal factors.

The 1978 and 1981 reductions in the capital gains tax were listed by 81 percent of the small firms and 70 percent of the SBIC's to be "extremely important or important" as a factor contributing to the post-1978 surge in venture capital supply. A much higher percent of the independent and corporate venture capital firms ranked capital gains tax reductions as "extremely important or important."

TABLE II.4.–THE IMPACT OF PUBLIC POLICY CHANGES ON THE POST–1978 SURGE IN VENTURE CAPITAL AVAILABILITY BY SIZE OF FUND

	Size of fund (in percent)		
	Small	Medium	Large
Contributing factors:			
Lower capital gains tax	80.6	84.5	97.0
Improved IPO market [1]	63.3	73.5	79.1
Revised ERISA regulations [2]	50.0	61.0	79.7
Improved SEC regulations [3]	50.8	30.5	35.5
Inflation (interest rates)	42.4	38.1	29.7
Other ERTA provisions [4]	35.7	20.8	22.0

[1] The IPO market is the market for public stock offerings by firms seeking to market their issues for the first time.
[2] ERISA stands for the Employment Retirement Insurance Act of 1978, in which the Department of Labor attempted to clarify its position on allowing pension fund managers to invest in small business firms.
[3] The Security and Exchange Commission [SEC], in a number of actions beginning in 1978, attempted to lower the cost of access to private and public capital for small businesses.
[4] The Economic Recovery Tax Act of 1981 [ERTA] contained a number of tax changes to spur investment, including liberal depreciation allowances and investment tax credits.

TABLE II.5.—THE IMPACT OF PUBLIC POLICY CHANGES ON THE POST–1978 SURGE IN VENTURE CAPITAL AVAILABILITY BY TYPE OF FUND

	Type of fund (in percent)		
	SBIC	Independent	Corporate
Contributing factors: [1]			
Lower capital gains tax	78.7	95.1	100.0
Improved IPO market	68.7	76.5	78.6
Revised ERISA regulations	50.0	88.0	64.9
Improved SEC regulations	42.0	38.2	45.0
Inflation (interest rates)	45.0	31.6	25.6
Other ERTA provisions	24.4	30.4	26.3

[1] See table II.4 for definitions of IPO, ERISA, SEC, and ERTA.

The improved IPO market and the revised ERISA regulations were ranked second and third in order of significance by the SBIC's and the corporate firm managers, but they were ranked third and second in importance by the independent firm managers. Both of these factors were viewed as "extremely important or important" by a large percent of the managers of independent venture capital firms. The slightly greater significance given to improved ERISA regulations by the independent firm managers undoubtedly underscores their greater dependence on pension trust funds as a source of venture capital.

The improved regulatory environment for small companies attempting to seek private or public financing was also rated as important, being ranked fourth as a contributing factor to fund growth. Not surprisingly, small venture capital firms ranked the improved SEC regulatory environment higher than the managers of the larger firms. About 51 percent of the small firm managers thought that the SEC regulations were extremely important or important, in contrast to 31 percent and 36 percent for the medium-sized and large venture capital firm managers.

The reduction in inflation and nominal interest rates after 1980 and the other tax provisions of the Economic Recovery Tax Act of 1981, such as investment tax credits and accelerated cost recovery, were clearly ranked as secondary contributing factors to the venture capital boom over this period. Generally, an improved inflationary environment might be expected to instill the confidence in the economy that is necessary to encourage long-term venture capital investments, but inflation fell at a faster pace than nominal interest rates. The result was that high real interest rates remained as a potential barrier to U.S. venture capital market activity and industrial innovation.

With regard to the other provisions of ERTA, the venture capital community apparently does not see accelerated cost recovery and investment tax credits as contributing directly to the growth of venture capital funds. In fact, by stimulating large-scale investment projects in established large firms, these provisions of the act may initially draw funds away from the venture capital pools. This view may be shortsighted, however, because it ignores the potential impact of a higher after-tax rate of return on investment on the supply of saving. It also ignores the impact of a higher rate of capital formation on the rate of technological innovation in the United States. As will be discussed in the next section, technological innovation is an important source of entrepreneurial deals that venture capital firms finance and nurture. Other things equal, a higher after-tax rate of return on investments, to the extent that it raises saving and capital formation, can be expected to increase the supply of, and the demand for, venture capital.

Impact of Funds Growth

The recent surge in the supply of venture capital has resulted in a number of adjustments within the economy and within the venture capital industry. The impact of greater venture capital availability on entrepreneurial activities and on the quality of the venture capital process are examined in this section.

Impact: Entrepreneurial Activities.—One of the important findings of this study—discussed in this section—is that the recent surge in the availability of venture capital improved the Nation's entrepreneurial climate. One consequence was an increase in the volume and quality of formal business proposals received by the venture capital community. Another important finding is that funds increased for startups, other early stage financings, and management leveraged buyouts. These are entrepreneurial activities where capital markets have allegedly been deficient in providing an adequate supply of capital.

Also, a strong link between technological innovation and venture capital market entrepreneurial activities was found. Technological innovation impacts the demand side of the venture capital process by increasing the number of entrepreneurs—or formal business proposals—seeking venture capital market assistance. For this reason, the long-term development of the venture capital industry is heavily dependent upon Federal Government policies that influence research and development [R&D], capital formation, and technological innovation. These activities are the primary source of entrepreneurial deals that the venture capital community funds.

Table II.6 presents the annual volume of formal business proposals received by venture capital firms, the percent of proposals that actually get funded, and the average number of days before the funding decision is made. Apparently, most venture capital firms are not hurting for potential investment opportunities. On average, venture capital firms receive 470 potential deals, or formal business proposals, annually.

TABLE II.6.—AVERAGE ANNUAL VOLUME OF FORMAL BUSINESS PROPOSALS, PERCENT FUNDED, AND AVERAGE DAYS TO MAKE FUNDING DECISION BY TYPE AND SIZE OF FUND

	Annual volume of business proposals [1]	Percent of business proposals funded	Average days to review business proposals	Sample size
Type of fund:				
SBIC	212.2	11.1	52.3	(135)
Independent	546.5	3.2	52.8	(82)
Corporate	485.2	4.9	59.0	(43)
Size of fund:				
Small	122.4	9.6	53.0	(63)
Medium	288.9	8.4	55.7	(88)
Large	753.0	3.5	53.7	(68)

[1] A formal business proposal generally contains an assessment of market potential, risks, and the management team. Forecasts of the competition and market potential, and legal considerations, are also generally involved. For purposes of the Joint Economic Committee study, a formal business proposal was defined by the respondents as one that they considered to be of significant quality and potential.

There is wide variation in the number of proposals received by type and size of venture capital firms. Independent firms annually receive and review an average of 547 business plans, in comparison to 485 for corporate venture capital firms, and 212 for SBIC's. When business proposals are analyzed by size of venture capital firm, the variation is even more marked. At the upper end are the large firms that receive an average of 753 business plans annually. Medium and small firms annually receive an average of 229 and 122 proposals, respectively.

On average, independent firms fund only 3 percent of the business proposals that they receive, in comparison to 11 and 5 percent for SBIC's and corporate firms, respectively. Thus, it would appear that independent venture capital firms have a much wider choice in selecting portfolio companies.

The high volume of business proposals suggests the frequently heard complaint that currently there is too much money chasing too few deals is without foundation. Although the supply of venture capital funds has increased sharply in recent years, the volume of business proposals has also increased sharply. As table II.7 indicates, most venture capital firm managers feel that the current volume of business proposals is up sharply or, at least up slightly, over the 1978–80 period.

TABLE II.7.—PERCENT OF VENTURE CAPITALISTS REPORTING AN INCREASE IN THE VOLUME AND QUALITY OF FORMAL BUSINESS PROPOSALS OVER THE 1978–80 PERIOD BY TYPE AND SIZE OF FUND

	Percent responses volume up	Percent responses quality up
Type of fund:		
SBIC	77.8	65.6
Independent	94.4	84.9
Coporate	91.7	83.3
Size of fund:		
Small	78.0	53.7
Medium	81.4	80.0
Large	95.2	88.9

Nor has the growing volume of venture capital activity resulted in a decline in the quality of venture capital deals. In fact, just the opposite appears to have occurred. Over 83 percent of the independent and corporate venture capitalists in the survey rated the quality of deals as up substantially or up slightly in comparison to the quality of business proposals in the 1978–80 period.

Interestingly enough, venture capital activity remained strong during the 1980–82 recessionary period, when entrepreneurial activity might be expected to be at a low ebb. Instead, entrepreneurial activity surged during this period as was reflected in the growing volume and quality of business proposals.

The vigorous expansion of venture capital activity during the 1981–82 recession remains a phenomenon that scholars will probably take years to explain, but the JEC Venture Capital Market Survey may offer some important insights into this remarkable phenomenon. As discussed in chapter I, the venture capital process is highly sensitive to perceived risk-reward conditions in the economy. The occurrence of a recession may suggest that the reward-risk factor would decline and lead to a reduction in venture capital activity, but it must be remembered that venture capitalists take a long view on the economy. The long-term outlook for the economy and the expected rate of technological innovation are likely to be significant determinants of venture capital and entrepreneurial decisions.

The fact that the venture capital community is optimistic about the long-term prospects for the American economy probably ex-

plains why venture capital markets continued to expand even as the American economy slumped into its deepest recession since the 1930's.

Table II.8 indicates that most venture capitalists feel that the long-term prospects for the American economy are very bright. Approximately 46 percent of the venture capitalists felt the United States would, at least, maintain its technological edge.

TABLE II.8.—OUTLOOK OF VENTURE CAPITAL COMMUNITY ON THE RATE OF TECHNOLOGICAL INNOVATION IN THE UNITED STATES OVER THE NEXT DECADE BY TYPE OF FUND

[Percent responses]

	Type of fund [1]		
	SBIC	Independent	Corporate
Expected rate of technological innovation:			
Maintain technical edge	48.6	45.7	44.2
Some acceleration	40.1	43.2	48.8
Sharp acceleration	26.8	29.6	14.0
Rate to remain same	17.6	17.3	14.0
Lose technical edge	11.3	16.0	11.6
Continued deterioration	6.3	1.2	7.0
Other [2]	1.4	3.7	2.3

[1] The totals willl not necessarily add up to 100 percent because more than one response was appropriate.
[2] Other includes considerations such as a technological acceleration in some industries and deterioration in others, presenting a mixed pattern.

Approximately 29 percent expected a sharp acceleration in the rate of U.S. technological innovation over the next decade or so. About 43 percent of the independent venture capitalists felt that there would be at least some acceleration. Only about 17 percent felt that the rate of technological innovation would remain the same, and only 16 percent felt that it would actually decline. Moreover, well over 50 percent of the respondents felt that the United States would increase its technological leadership over other industrialization nations.

The link between the favorable long-term outlook for U.S. technological innovation and the high volume of venture capital market activity in the 1980's is not difficult to explain. Technological innovation and entrepreneurial activities are clearly connected. Studies have found that small entrepreneurial companies account for the majority of innovations.[1] Technological innovation, by opening up the prospects for new markets, creates an environment in which entrepreneurial activities flourish. At the same time, demographic trends have led to keen competition for upper and middle management and professional jobs. The loss of job security in existing firms and growth of entrepreneurial opportunities throughout the economy provide strong incentives for would-be, long-term employees of established firms to venture out on their own. The result has been an increase in the quantity and quality of entrepreneurial deals to fund.

[1] U.S. President. Report to the Congress. "The Small Business Role in Innovation," *The State of Small Business: A Report of the President,* Washington, DC: Government Printing Office, March 1983, pp. 121-134.

Impact: Venture Capital Process

Most of the fund managers reported that the recent increase in venture capital availability reduced the quality of their decisionmaking and significantly increased competition for deals within the venture capital community. The venture capital firm managers also reported an escalation in the price entrepreneurs were asking for their deals and a reduction in the average time of making these deals. These negative impacts are presented in table II.9 by size and type of firm.

When analyzing the survey results by type of firm, it becomes apparent that the independent and corporate firms were more adversely affected by the increase in competition for deals. Forty-five percent of the independent firms and 47.6 percent of the corporate firms reported a decline in the quality of decisionmaking, in comparison to only 24 percent for the SBIC's. Also, 96 percent of the corporate firms experienced an increase in the price of deals in contrast to 93 and 74 percent for the independent and SBIC firms, respectively. Finally, a significantly higher percentage of the independent firms (59 percent) reported a reduction in the average time it takes to make venture capital investments. In contrast, 37 percent of the corporate and 33 percent of the SBIC firms reported a decline in the time to consummate deals.

On the positive side, the increase in the availability of venture capital funds, and the more favorable terms for entrepreneurs, apparently stimulated entrepreneurial activity. As stated, the availability of deals was reported up by a large percentage of the fund managers, with a higher percentage of the independent firms reporting an increase in the availability of deals. Also, as might be expected, the increased availability of venture capital and managerial constraints on growth of existing firms led to growth in the number of venture capital firms. A large percent (90 percent and over) of the venture capitalists reported that the increased availability of venture capital led to at least some increase in the number of venture capital firms.

TABLE II.9.—IMPACT OF THE POST-1978 INCREASE IN VENTURE CAPITAL AVAILABILITY ON THE VENTURE CAPITAL PROCESS BY TYPE OF FIRM

[Percent responses]

	Some increase			Some reduction		
	SBIC	Ind	Corp	SBIC	Ind	Corp
Venture capital process:						
Price of quality deals	74.0	93.2	95.5	2.3	0.0	0.0
Quality of decisionmaking	26.4	18.8	21.4	24.0	45.0	47.6
Length of time to make deals	25.0	22.5	30.2	32.6	58.8	37.2
Available of deals	64.1	81.3	72.7	14.5	7.5	13.6
Competition for deals	79.5	91.3	93.2	3.0	3.8	2.3
Growth in venture capital firms	90.8	100.0	97.7	1.5	0.0	0.0
Startup financing	74.4	92.5	90.9	1.6	2.5	0.0
Financing for management buyouts	73.4	68.8	69.0	3.9	3.9	7.1

The increase in the availability of venture capital, price of deals, and the availability of deals are interrelated. The availability of

funds on generally more favorable terms provides an additional powerful incentive for latent entrepreneurs to quit their secure jobs and start out on their own, to realize that long-term dream of owning their own business.

There are sound economic reasons why the supply of entrepreneurs, as reflected in the volume of formal business proposals, can logically be expected to increase with an increase in the supply of venture capital. Relinquishing a secure career to enter the entrepreneurial world carries with it an enormous opportunity cost. Those who are unhappy in their current positions or who are in the unemployment line have a lot less to lose, making entrepreneurial opportunities all that more attractive to them. For those with a successful career, however, having funds available to launch a new enterprise and to finance its expansion substantially reduces the risks associated with entrepreneurial developments, and it probably also raises the potential reward because the entrepreneur is in a better position to keep ahead of competition in exploiting new market opportunities.

The flow of venture capital into the startup phase of business development financing also increased as a direct result of the increase in the availability of venture capital funds. Over 92 percent of the independent firms and 91 percent of the corporate firms reported that an increase in financing for business startups resulted from the increased availability of venture capital. Management-leverage buyout financing also benefited from the higher flow of funds into the venture capital community. A significant percentage of the venture capitalists reported that financing for management-leveraged buyouts—defined as the purchase of a corporate division by division managers by using the assets of the division as collateral for loans and by attracting venture capital—increased in recent years because of greater venture capital availability.

Barriers to Expansion

The venture capital community is clearly divided on the issue of whether or not its industry is growing too rapidly. When asked "Do you believe that there is a danger that the venture capital industry is growing too rapidly?", a slight overall majority responded negatively. SBIC's were most optimistic with about 63 percent responding negatively. Fifty-one percent of the managers of independent firms and 52 percent of corporate firm managers responded affirmatively. Slightly over one-half of the independent and corporate firm managers view the current in-flow of funds with some alarm (see table II.10).

The JEC Venture Capital Market Survey found evidence that the rapid surge in venture capital availability has created stresses and strains within the venture capital industry. An important question of public policy is the extent that these stresses and strains are now acting as a constraint on continued expansion of venture capital market activity. Another important question concerns the Federal Government's role in removing these barriers.

TABLE II.10.—PERCENT RESPONSES TO THE QUESTION "IS THE VENTURE CAPITAL INDUSTRY GROWING TOO RAPIDLY? BY TYPE AND SIZE OF FUND

	YES	No
Type of fund:		
SBIC	38	63
Independent	51	49
Corporate	52	48
Size of fund:		
Small	42	58
Medium	41	59
Large	49	52

Each of the respondents to the JEC Venture Capital Market Survey were asked to rate the relative importance of the most frequently sited problems confronting the venture capital industry. In particular, on a scale of 10 (high) to 0 (low), they were asked to rate the importance of each of these problems as "a barrier to expansion of the nation's venture capital industry." A list of the problems and the ratings assigned to these problems by the venture capital community are presented in table II.11.

All of the problems received a rating between 4.3 and 7.5 in the JEC survey. This finding suggests that all of the problems are perceived to be of intermediate importance as a barrier to continued venture capital market expansion. The fact that none of the problems received a score above 7.5, however, suggests that, although problems exist, none of them are of a sufficient magnitude to single-handedly hold back growth in the venture capital industry.

TABLE II.11.—RELATIVE RATING OF THE IMPORTANCE OF POTENTIAL PROBLEMS CONFRONTING THE VENTURE CAPITAL INDUSTRY BY TYPE OF FUND

	Relative rating [1]		
	SBIC	Independent	Corporate
Potential industry problems:			
High real interest rates	7.5	6.5	6.6
Overall tax burden	7.0	6.7	6.5
Inadequate training	6.7	6.9	6.4
Escalating price of deals	6.6	6.5	6.9
Instability of IPO	6.3	6.6	6.2
Shortage of entrepreneurs	6.5	5.7	6.4
Decline in R&D competitiveness	5.7	5.9	5.5
Federal SEC regulations	6.1	5.3	5.4
Lack of quality deals	5.9	4.3	5.4
State securities regulations	5.3	4.9	5.0

[1] A value of 10 (high) to 0 (low) could be assigned to each problem in terms of its preceived importance as a barrier to venture capital market expansion. The responses were averaged by type of venture capital firm responding to the survey.

The problems that received the highest ratings as constraining factors to industry expansion were:

(1) High real interest rates,
(2) The overall tax burden,
(3) Inadequate training of venture capital managers,
(4) The escalating price of good deals

Second in order of importance were:

(5) Instability in the market for the new issues (or IPO) market,

(6) A shortage of entrepreneurs with technical knowledge and business survey, and

(7) Concern over future deterioration in long-term U.S. research and development competitiveness.

Federal SEC regulations, lack of quality deals, and State securities regulations were ranked at the bottom of the list of current problems (barriers) confronting the industry and preventing future expansion.

Summary and Conclusions

To summarize, the surge in venture capital funds availability after 1978 removed a major barrier to entrepreneurial activities and innovation in the United States: the insufficient availability of risk capital for startup, spinoff, and other entrepreneurial activities. As might be expected, the huge surge in the availability of venture capital generated stresses and strains within the venture capital industry. Venture capital firm managers reported that increased competition for deals led to an escalation in the price of deals, a decline in the quality of their decisionmaking, and a reduction in the time that it takes to consummate deals. Nevertheless, these findings do not support the argument advanced by some that in recent years there is "too much money chasing too few deals." In fact, just the opposite is true. The increase in venture capital availability contributed to the current surge in entrepreneurial activities. As a result, most of the venture capitalists in the survey reported that the number of formal business proposals that they received increased substantially in quantity and quality.

Rather than reflecting a glut of venture capital funds, the stresses and strains reflect an inadequate surge capacity for the venture capital community. Being involved investors, experienced venture capital firm managers cannot simply double or triple their investment portfolio in a short period. The result is that experienced venture capitalists get spread too thin and inexperienced firm managers enter the industry to fill the gaps. To the extent that a deterioration in the quality of the venture capital process occurs, the best interest of the Nation's long-term climate for entrepreneurship and innovation is not served.

An important finding of the survey is that growth in the availability of venture capital leads to a filtering down of venture capital investments to startup and early stage financing. Financing for management-leverage buyouts also increased. Thus, it would appear that activities that are traditionally unattractive to the venture capital community become attractive when competition for deals is up.

Another important finding is that the venture capital process is sensitive to a wide variety of government policies. The tax treatment of capital gains, other tax laws, securities regulations, pension fund regulations, and monetary and fiscal policies have a profound impact on the course of venture capital market activity. In general, the venture capital industry is particularly sensitive to government actions that directly, or indirectly, alter the reward/

risk ratio of the various investment opportunities confronting investors in society.

The JEC Venture Capital Market Survey suggests that a Federal Government policy to lower real interest rates, improve training for venture capital managers, and stabilize the IPO market could have a substantial impact on expansion of the venture capital industry, provided that other Federal policies, such as strong support for R&D, favorable treatment of capital gains, and improved access of small and medium sized businesses to the public and private securities markets remain intact. In addition, the analysis suggests that a reduction in the overall tax burden, additional improvements in SEC regulations and an increase in basic research will also ultimately stimulate additional venture capital activity.

Achieving more stability in IPO markets may present a formidable challenge because it is not directly under the control of Federal Government policy. Neverthless, a monetary and fiscal policy to lower long-term real interest rates should do much to stabilize and expand the IPO market. The appropriate fiscal policy would be one that would emphasize a gradual reduction in the Federal deficit. Preferably deficit reduction would be accomplished by maintaining or lowering the overall tax burden. Any reduction in real interest rates due to deficit reduction will be a "boon" to venture capital market activity only if it is not offset by a negative "tax effect."

Providing ways to improve the training of venture capital managers may be the single largest policy challenge confronting the Nation. Venture capitalists are involved investors who bring, besides money, important entrepreneurial and managerial skills to the deal. While formal training may help to sharpen the skills of venture capitalists, it cannot substitute for experience. The venture capitalist is best described as providing a reputation good: His services are intangible and impossible to quantify except through a "track record" of success in "picking a winning portfolio." Probably the best government policy to pursue is one that maintains a vigorous entrepreneurial climate, and allows the venture capital process to sort out the competent and incompetent, would-be venture capitalists.

III. THE VENTURE CAPITAL PROCESS

This chapter provides insights into the nature of the venture capital process by analyzing the sources and uses of venture capital funds. It also examines the expected rates of return for different types of venture capital investments, classified by stages of business development financing. The analysis shows that the expected rate of return from investments increases for riskier, early-stage financing and declines for the less-risky, later stage financings, although it remains above the 30 percent annual rate for all classes of venture capital investments. Also, the chapter examines the geographical pattern of venture capital investments. Venture capitalists were found to allocate a significant portion of their investment portfolios to deals in more distant regions, primarily through coinvestment relationships with venture capital companies located in these more distant regions. Most venture capital firms maintain a large regional orientation, however.

Where venture capital deals originate and how they are evaluated is also examined. Finally, overall venture capital portfolio performance is evaluated to see to what extent venture capitalists are successful in picking a winning portfolio.

The venture capital community was found to be willing to assume unusual risks, in the sense that venture capitalists commit funds to risky investments that more prudent, institutional investors would avoid. Nevertheless, venture capitalists do not take risks for the joy of it. Their investment behavior, as revealed by the Joint Economic Committee's (JEC) Venture Capital Market Survey, suggests that they engage in the following risk-avoidance practices:

(1) Diversification of sources and uses of funds;

(2) Regional diversification of investment portfolio;

(3) Diversification across stages of business development financing ranging from early to later stage financings;

(4) Coinvestment relationships with other venture capital firms; and

(5) Close involvement with the management team of portfolio companies.

While there are many exceptions, the overall objective of these mechanisms for diversification and control is to lower overall portfolio risks and increase expected rates of return on investments. An analysis of expected and actual portfolio performance suggests that the venture capital community is quite successful in this regard.

Sources of Funds

In theory, funds will continue to flow into the venture capital community until after-tax risk adjusted rates of return between

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venture capital investments and other business investments are equalized at the margin. According to table III.1.1, for small firms, wealthy individuals, families, and operating corporations are the largest sources of funds. Operating corporations are much more important sources of funds to SBIC's and corporate venture capital firms than they are for independent firms; whereas, small independent firms are more reliant on wealthy individuals and families for support. Pension funds also favor independent firms over SBIC's and corporate firms in the small category. They provide about 18 percent of the original capital for small venture capital firms. While this is not an insignificant source, it is clear that pension fund managers are not looking to small venture capital firms as a major investment outlet for their financial capital.

TABLE III.1.1.—SOURCES OF FUNDS FOR SMALL VENTURE CAPITAL FIRMS BY TYPE OF FUND [1]

[In percent]

	Type of fund		
	SBIC	Independent	Corporate
Sources of funds:			
Individuals, families and partnerships	41.2	77.5	50.0
Operating corporation	44.4	2.5	33.3
University endowment funds	0.0	0.0	0.0
Pension funds	0.1	17.5	0.0
Foundations	2.3	0.0	0.0
Foreign sources	0.0	2.5	16.7
Other	10.1	0.0	0.0

[1] A small venture capital firm is defined as having a venture capital fund of $1.2 million or less.

A similar pattern holds for medium-sized firms (table III.1.2). Wealthy individuals and families and pension funds are the two most significant sources of funds for medium-sized venture capital firms. The operating corporation is a main source of funds for medium-sized SBIC's and corporate venture capital subsidiaries.

Independent venture capital firms in the medium category rely on wealthy individuals and families for the bulk of their private capital. Pension funds are also an important source of funds to the medium-sized independent venture capital companies contributing about 12 percent of their capital. Operating companies and foreign sources each provide about 18 and 6 percent of the initial capital for medium-sized independent firms, respectively.

Independent funds in the category of $13.5 million or over have a much different profile of fund sources (table III.1.3). Individuals and families are replaced by pension funds as a single largest source of funds for the large independent firms. The large firms reported that they received over 32.4 percent of their funds from pension funds, in comparison to 11.8 percent for medium-sized firms and 17.7 percent for the small independent firms.

TABLE III.1.2.—SOURCES OF FUNDING FOR MEDIUM-SIZED VENTURE CAPITAL FIRMS BY TYPE OF FUND [1]

[In percent]

	Type of fund		
	SBIC	Independent	Corporate
Individuals, families and partnerships	26.0	57.7	16.5
Operating corporation	40.6	17.7	50.7
University endowment funds	0.0	2.0	1.3
Pension funds	4.0	11.8	1.7
Foundations	3.3	0.3	0.0
Foreign sources	2.2	5.8	21.7
Other	25.7	7.3	8.1

[1] A medium-sized venture capital firm is defined as having a venture capital fund of between $1.2 and $13.5 million.

TABLE III.1.3.—SOURCES OF FUNDING FOR LARGE VENTURE CAPITAL FIRMS BY TYPE OF FUND [1]

[In percent]

	Type of fund		
	SBIC	Independent	Corporate
Sources of funds:			
Individuals, families, and partnerships	16.3	24.5	19.1
Operating corporation	22.3	14.4	45.8
University endowment funds	7.2	9.8	3.7
Pension funds	11.4	32.4	15.1
Foundations	2.0	2.6	2.2
Foreign sources	29.3	9.7	1.7
Other	32.1	10.5	13.4

[1] A medium-sized venture capital firm is defined as having a venture capital fund of between $1.2 and $13.5 million.

Small corporate venture capital subsidiaries draw the bulk of their funds from wealthy individuals and families and from the operating corporations of which they are a subsidiary or an affiliate. These remain the most significant sources of funds for larger corporate venture capital funds, but there are important differences. Wealthy individuals and families subside in relative importance as a source of corporate venture capital as size increases, but pension funds and foundations increase in importance as sources of funds.

Foreign money also apparently finds its way into the corporate venture capital community, at least for the small- and medium-sized firms. In the small category, foreign sources accounted for about 17 and 22 percent of the corporate venture capital funds, but under 2 percent of the funds for large corporate venture capital firms. The JEC survey was not designed to determine the origin of foreign venture capital in the United States, by country, or by type of venture capital sources.

The source of funds flowing into the venture capital industry has been documented in a number of studies, but the JEC survey adds a new dimension to our understanding of the venture capital process. It reports sources of funds by size and type of venture capital firms, permitting a comparative analysis of sources. In this regard, probably the most significant finding is that pension fund managers primarily look to the larger established, independent venture capital firms in their investment strategies. In fact, pension funds

become the largest single source of venture capital to the larger independent firms. SBICs and, to a lesser extent, corporate venture capital firms are unattractive to pension fund managers.

Uses of Funds

This section examines the investment behavior of venture capital companies to see how venture capital firm managers put the funds of their investors to use. The analysis begins with a brief discussion of the size and number of portfolio investments for the various types of venture capital firms. It then discusses several types of investment patterns within the venture capital industry. In particular, venture capital portfolio investments are analyzed by stages of business development, their link to technological change, and geographical distance from home office.

One of the sections' major findings is that the venture capital community has a strong preference for funding young, innovative companies that offer significant potential to improve productivity and extend and improve the quality of life. Their affinity for funding entrepreneurial companies of this nature places the venture capital community at the centerstage of the riskiest, and least understood, segment of the Nation's capital markets. Parenthetically, it also makes the venture capital community a vital link in the process of capital formation, technological change, and economic growth for the Nation.

Another major finding is that venture capitalists are not "risk lovers" in the classic sense of the term, meaning that they do not take risks for the joy of it. They are unquestionably risk takers in that they specialize in risky deals, but they also engage in a number of portfolio diversification and management strategies to avoid or reduce unnecessary portfolio risks. Probably, it would be more accurate to characterize venture capitalists as informed investors who specialize in risky investments because they have confidence in their ability to assess and help manage the risks.

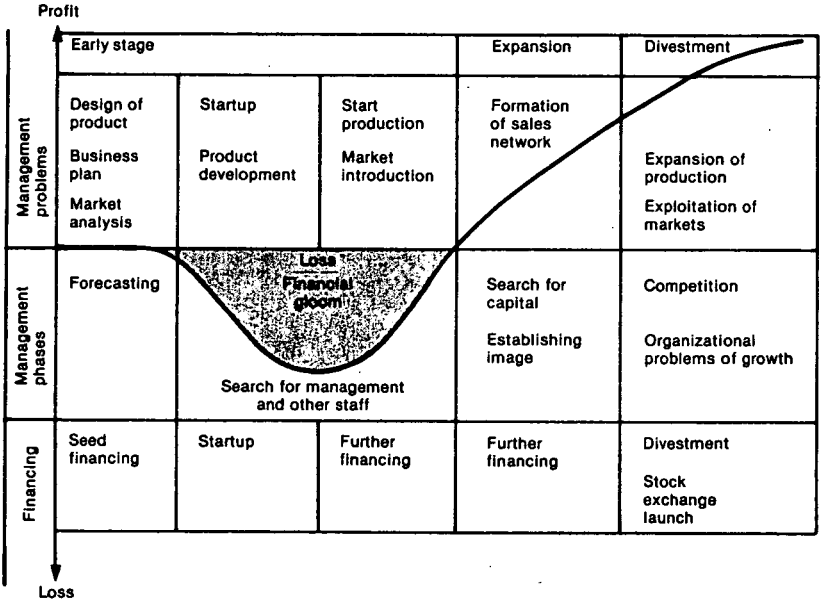
Finally, it was found that venture capital firms are linked together through an elaborate system of coinvestment arrangements with other venture capital firms. This intricate investment network makes it possible for venture capitalists to compete for deals on a nationwide basis. For entrepreneurs in regions where venture capital is in short supply, it means that they have an opportunity to draw upon venture capital funds from other regions where the supply of venture capital may be more plentiful. From a national perspective, coinvestment arrangements are important because they promote more efficient geographical allocation of entrepreneurial activities.

Stages of Business Development Financing

The literature on the historical development of companies in the United States suggests that companies go through a number of identifiable growth stages. The financial, technical, and managerial needs of the company varies with each of the growth stages, as does the potential risk reward ratio for alternative investments.

Figure 1 presents a symbolic view of the hypothetical stages in the life-cycle of business growth and development.[1] Of course, no two firms exhibit the same life cycle growth pattern, but there are enough commonalities among companies to render the life cycle model a useful description of the process. Because of cash flow problems, companies in their formative years are in greatest need for a long-term equity capital. Also, at this stage, external technical and managerial assistance may be necessary to help a firm realize its market potential. As the company becomes more established in the market and matures, a greater blend of debt and equity finance may be appropriate. Also, at some point, organizational and management styles must change. Managing a company along its rapid growth stage requires an organizational structure and a management style that can be inappropriate for companies that have already achieved market success.

Figure 1.—Profile of a Company Startup by Venture Capital



SOURCE: *Nature Magazine*, vol. 307, Feb. 3, 1984, p. 403.

The following is a brief description of each of the phases of business development that were used in the JEC survey:

(1) *Prestartup or seed financings.*—The company is at the idea stage only. Seed financing is needed for research and product development. The company may be in the process of being organized but a formal business plan has not been established and key management personnel have not been selected. Market feasibility studies may or may not be underway.

[1] See figure 4. Profile of a Company Startup by Venture Capital, in Nature magazine, vol. 307, February 3, 1984, p. 403.

(2) *Startup or first-stage financing.*—The company is organized, key personnel are selected, and a formal business plan is available. Additional R&D funding may be necessary. A successful prototype has been developed and tested. Marketing studies have been completed. Financing is needed to initiate commercial manufacturing and sales.

(3) *Early expansion or second-stage financing.*—Funds are needed for the initial expansion of a company, which is producing and shipping its products and services. The company has growing accounts receivable and inventories. Although the company has clearly made progress it may not yet be showing a profit.

(4) *Rapid expansion or third-stage financing.*—Additional funds are required to provide for major growth and expansion of a company. Sales volume is increasing and the company is breaking even or it is showing a profit. These funds are utilized for further plant expansion, marketing, working capital, or development of an improved product.

(5) *Bridge financing.*—Temporary financing is needed for a company expecting to go public within 6 months to a year.

(6) *Management-leveraged buyout.*—Funds are needed to enable operating management and investors to acquire an existing product line, corporate division, or business.

The respondents to the JEC survey were asked to calculate the percent of their overall investment portfolio in each of the stages of business development financing. The results are arranged by type of venture capital firm and presented in table III.2. Table III.3 presents the expected minimum annual compound rate of return for the various types of investments at each stage of the firm's life-cycle.

TABLE III.2.—INVESTMENT PORTFOLIO OF VENTURE CAPITAL FIRMS BY STAGES OF BUSINESS DEVELOPMENT FINANCING

[Percent distribution]

	Type of fund		
	SBIC	Independent	Corporate
Stages of business development:			
Prestartup or seed	5.1	11.9	16.9
Startup	22.9	32.9	28.0
Early expansion	31.8	26.3	24.2
Rapid expansion	17.2	12.0	13.4
Bridge finances	2.6	3.6	2.2
Management-leveraged buyouts	13.3	9.6	13.1
Other	6.5	3.3	3.4

TABLE III.3.—AVERAGE MINIMUM EXPECTED COMPOUND ANNUAL RATE OF RETURN ON VENTURE CAPITAL PORTFOLIO INVESTMENTS BY STAGES OF BUSINESS DEVELOPMENT FINANCING AND TYPE OF FUND

[Percent distribution]

	Type of fund		
	SBIC	Independent	Corporate
Stages of business development:			
Prestartup or seed	51.9	75.2	55.3
Startup	39.2	59.3	62.9
Early expansion	34.3	42.1	47.2
Rapid expansion	32.0	36.4	38.9
Bridge financing	32.6	34.4	51.0
Management-leveraged buyouts	29.5	51.5	30.8
Other	29.5	37.7	32.5

All of the venture capital firms show a strong affinity for early-stage financing, such as the pre-startup, and early expansion stages. Independent firms place, on average, about 71 percent of their investments in these early stages of business development. In particular, of their total funds, 11.9, 32.9, and 26.3 percent go into seed, startup, and early expansion investments, respectively. SBIC's and corporate venture capital firms average about 60 and 69 percent of their investments in these early stage categories, respectively. SBIC's place a significantly lower proportion of their funds in pre-startup and startup financings, preferring instead the less risky early and rapid stage financings. Over one-half of all SBIC investments are concentrated in the early and rapid expansion phases.

After a company is launched and it enters the rapid expansion phase, the overall risk of company failure is reduced substantially. Cash flow becomes stable and internal cash flow and debt capital become preferred to equity capital in order to avoid dilution of ownership and control. As the company moves toward the public market, which is the preferred exit mechanism for venture capital portfolio companies, bridge financing may be needed. Independent, SBIC, and corporate venture capital firms invest, on average, about 3.6, 2.6, and 2.2 percent of their investments in bridge financing, respectively.

Management-leveraged buyouts attract between 10 and 13 percent of the Nation's venture capital. Companies that are not fully realizing their market potential, because of poor management, are prime candidates for management-leveraged buyouts. Current management may bring in outside investors in order to gain control of the company, or a division manager of a major corporation may form a management team and seek outside venture capital to purchase the division. A corporate division that is not a major part of the parent companies' long-run strategic plans becomes a prime target for this type of management-leveraged buyout. In either case, management-leveraged buyouts are an important mechanism to recycle old capital and make it more productive. Also, they give current investors an opportunity to "cash out."

The venture capital community is interested in management-leveraged buyouts because of their potential for capital gains. A company with depressed stock values can realize substantial capital

gains for its investors if its new managers can redefine its purpose and help the company achieve its market potential. The growth in value per share is a reward to the venture capitalists for their involvement. The relative distribution of the capital gains from success between the venture capital investors and the company's new entrepreneurs will depend upon the relative assessment of risks inherent in the investment decision. The fact that the venture capital community invests a substantial portion of its investment funds in management-leveraged buyouts suggests that they perceive the potential reward-risk ratio as favorable.

Expected annualized rates of return follow the generalized life cycle pattern. As expected, because risks are higher, the price for attracting venture capital to the earlier stage investments is greater than for later stage investments. As table III.3 indicates, most venture capitalists expect, on any individual deal, an annualized rate of return of 50 percent or greater for seed and early stage financings, and slightly over 30 percent for later stage financings and for bridge and management-leveraged buyout financings. Of course, overall portfolio performance will be below expected annualized rates of return on individual deals because venture capital risks are high. Nevertheless, the fact that the expected annualized compound annual rate of return on individual deals remains above 30 percent for all classes of venture capital investments suggests that the rewards to investors are potentially large, and certainly well above rates of return of approximately 12 and 18 percent that could be earned in bonds and stocks at the time of the JEC survey.[2]

Technological Innovation

Technological innovation and the growth of venture capital markets are clearly interrelated. Table III.4 shows that the investment pattern of venture capital firms is heavily skewed toward technology-oriented companies. These are typically entrepreneurial companies that are struggling to bring a new technology to market, improve existing technology inherent in existing products, or they are trying to apply technology to the creation of new products and services.

Technology-oriented companies are not the only kinds of firms that offer substantial opportunities for capital gains, but a change in technology creates many new potential market opportunities. Entrepreneurial activities flourish in this type of environment, creating a strong demand for venture capital. As discussed in the pre-

[2] Some analysts have interpreted the persistence of above average rates of return on venture capital investments as evidence of a "capital gap" problem, reasoning that institutional impediments must keep capital market resources from flowing to investments that offer a higher rate of return. What these analysts fail to adequately consider is the substantially higher risks of committing large sums of money to unproven products and entrepreneurs. Also, they fail to fully recognize that venture capital deals involve much more than money. In most cases, the technical and managerial expertise of the venture capital industry is a vital factor in the success of portfolio companies. These non-cash resources require competitive rates of return in addition to the risk adjusted rate of return associated with the commitment of cash to the deal. Nevertheless, the JEC study supports the view that capital market imperfections are causing an underallocation of capital market resources to risky, entrepreneurial deals. The venture capital industry has emerged to fill the capital market void caused by the bias of institutional investors against small business investments. More will be discussed on the "capital gap" problem in chapter IV.

vious section, venture capital will flow to those deals that offer the highest potential rate of return, adjusted for the risk preferences of investors.

Table III.4 presents the investment portfolio of venture capital firms classified by investments in companies that are engaged primarily in technological innovations that enhance productivity and/or extend and improve the quality of life. The results show a strikingly skewed pattern in favor of investments that enhance productivity and improve and extend the quality of life. Independent and corporate firms allocate 57.4 and 32.6 percent and 61 and 28 percent of their investments in these categories, respectively. SBIC's place a combined 44 percent of their funds in these technology-oriented investments. Other types of investments favored by SBIC's includes financial support for service and production-oriented companies. The SBIC investors definitely broaden the reach of the venture capital community by extending financings to firms and industries that are outside the investment scope of independent and corporate fund managers. This finding is important because it shows that SBIC's are satisfying a capital market need that is not currently being met if SBIC's did not exist. Of course, whether or not the net result is an improvement in capital market efficiency depends on whether or not the SBIC's are putting these funds to a more productive use than would occur if these funds were allocated differently.

TABLE III.4.—PERCENT OF VENTURE CAPITAL PORTFOLIO FUNDS COMMITTED TO INVESTMENTS THAT USE NEW TECHNOLOGY TO ENHANCE PRODUCTIVITY AND THE QUALITY OF LIFE, OR OTHER

	Technology to improve productivity	Technology to improve quality of life	Other investments
Type of fund:			
SBIC	31.4	12.5	56.1
Independent	57.4	32.6	10.0
Corporate	60.6	28.0	11.4
Size of fund:			
Small	35.1	15.3	49.6
Medium	39.0	14.4	46.6
Large	59.9	28.8	11.2

The breakout of investment patterns by size of firm shows that the larger firms have a much stronger orientation toward the technology-oriented companies. Large firms place about 88 percent of their investments in companies that advance productivity and the quality of life through technological innovation. In contrast, about 53 and 50 percent of the investments of the medium and small firms are in these categories.

Regional Investment Patterns

One of the interesting findings of the JEC survey came from analyzing the coinvestment activity of venture capital firms within an interregional context. The percent distribution of venture capital portfolio investments by geographic distance, or zones, from the main office of the venture capital firm is presented in table III.5.

TABLE III.5.—PERCENT DISTRIBUTION OF PORTFOLIO INVESTMENTS BY GEOGRAPHICAL DISTANCE FROM MAIN OFFICE

	0–50 miles	50–200 miles	200–500 miles	Beyond 500 miles
Type of fund:				
SBIC	45.8	18.6	16.5	21.7
Independent	35.9	17.7	14.7	36.1
Corporate	31.0	11.3	11.4	48.5
Size of fund:				
Small	50.1	19.1	12.3	21.4
Medium	41.8	15.6	16.7	27.9
Large	27.4	15.5	15.2	44.8

Independent firms invest about 36 percent of their funds in companies within a 50-mile radius of their home office. Corporate funds and SBIC's invest about 31 and 46 percent, respectively, within this geographical market area.

The 50- to 200-mile zone gets about 18 percent of the dollar investments from independent and SBIC firms, and about 11 percent for the corporate funds. The 200- to 500-mile zone receives about 11 and 17 percent of the venture capital investments for the various types of funds.

Of particular interest is the pattern of investments at a distance of 500 miles or more from home office. Independent firms place approximately 36 percent of their funds in investments in companies located 500 miles or more from their home office. SBIC's invest about 22 percent in corporate funds, about 48 percent of their funds is in companies in this distance zone.

The portfolio structure by size of firm shows a marked difference in geographical investment patterns by type of fund. The small- and medium-sized firms reserve about 50 and 42 percent of their investment portfolio for companies within a 50-mile radius from their home office, respectively. In comparison, the large firms reserve about 20 percent of their investment portfolio for the local market.

An elaborate system of coinvestment arrangements with other venture capital firms is apparently the mechanism that the venture capital community uses to bridge the gap imposed upon them by geographical distance. As table III.6 indicates, 73 percent of the venture capital firms indicate that they "regularly or frequently" coinvest with venture capital firms in other regions for the express purpose of investing in deals far removed from home office. As reported, 38 and 66 percent of the SBIC and corporate firms, respectively, coinvest with venture capital firms in other regions on a frequent and regular basis.

A coinvestment arrangement can involve two or more venture capital firms and other outside investors. Because venture capitalists prefer close and frequent contact with the management teams of their portfolio companies—as is discussed later in this chapter, the lead investors are typically located within the 200-mile zone of the portfolio company. The venture capital investors from outside of the region become passive investors but they are assured that their new portfolio company receives the managerial and technical

skills available within the venture capital community whenever they are needed.

TABLE III.6.—*Extent of regular or frequent syndication of investments with venture capital investors in other regions of the country*

	Percent of deals syndicated regularly or frequently
Type of fund:	
SBIC	37.7
Independent	73.4
Corporation	65.9

Table III.7 analyzes the coinvestment behavior of venture capital companies in the more general context of the overall investment portfolio strategy of venture capital firms. As the data indicate, coinvesting is almost synonymous with the venture capital industry. Almost all of the independent firms are engaged in coinvesting with other venture capital firms on a frequent or regular basis, and very few firms report that they prefer to go it alone. Specifically, about 90 percent of the investments of independent and corporate venture capital firms, respectively, are coinvestment arrangements; whereas, only 8 percent of the venture capital deals of SBIC's involve only one venture capital firm.

TABLE III.7.—MEDIAN NUMBER OF COINVESTMENT ARRANGEMENTS WITH OTHER VENTURE CAPITAL FIRMS BY TYPE AND SIZE OF FUND

	Median number of portfolio companies	Median number of portfolio coinvestments	Percent of portfolio coinvestments
Type of fund:			
SBIC	16.0	5.0	33.3
Independent	16.5	15.0	91.0
Corporate	12.0	9.0	75.0
Size of fund:			
Small	8.0	3.5	43.8
Medium	17.5	11.2	64.0
Large	26.0	23.0	88.5

Foreign Investing

Of the 83 independent firms in the JEC survey, 2 of them indicated that they are involved in overseas venture capital financing on a frequent basis. Two other companies reported that they participate in overseas venture capital financing on an occasional basis; 19 other firms reported that their participation in overseas venturing is infrequent.

There is a tendency for the large independent and corporate firms to be more oriented toward foreign investing, but their predominant orientation is domestic. Sixty-eight percent of the corporate and large venture capital firms indicated that they never have invested in an overseas deal. Only two independent firms and one SBIC claimed to be engaged in foreign investing on a frequent

basis.[3] In general, it would appear that most venture capital firms do not participate in off-shore deals. Since foreign sources supply about 18 percent of the total funds to the American venture capital industry, it would appear that the United States is a net importer of venture capital relative to the rest of the world.

Attention in the chapter has so far focused on sources and uses of funds within the venture capital industry. Next, we examine the origin of venture capital deals, criteria for funding, and overall venture capital portfolio performance. The chapter is concluded with a summary and a discussion of the main implications for public policy.

Origin of Deals

Many of the deals that a venture capital firm funds originate from within the venture capital firm. As a rule, the venture capital firm that initiates negotiations with the entrepreneur usually becomes the lead investor in the deal. The success of these deals is dependent upon the ability of the lead venture capitalists to find the appropriate entrepreneurial talent and the coinvestors to develop the idea. The other deals originate from within the larger venture capital community and find their way to the venture capital firm in the form of coinvestment opportunities. In either case, public policies that influence the Nation's rate of entrepreneurial activities and technological innovation impact the demand side of the venture capital process.[4]

Table III.8 presents information on the extent to which venture capital deals originate within the venture capital firm. Regardless of size or type of venture capital firm, about one-third of all deals were reported to have been initiated from within venture capital firms. The remaining two-thirds of all venture capital firm deals, for the typical firm, are initiated by other venture capital firms.

The association of venture capital with the development of venture capital deals should not be a surprise. Since venture capitalists are suppliers of technical and managerial assistance in almost all of the deals they make, they are in a unique position to spot good deals and assemble the necessary resources. The Nation's venture capital community benefits by having a larger number of entrepreneurial opportunities to exploit. Nevertheless, the main orientation of the venture capital industry is for entrepreneurs to seek out and convince venture capitalists, and other investors, that their deals are worth funding. For this process to work, however, individual venture capital firms must take the initiative and make the necessary arrangements with other venture capital firms and other investors.

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[3] SBIC's cannot invest in foreign investments. This claim would appear to be in violation of SBIC regulations which limits foreign investment to those associated in financing imports of raw materials or joint venture or foreign operations of U.S.-based companies. (See 13 CFR 107.901(e).)

[4] Because of the joint determination of the supply and demand for venture capital—discussed in chapter II—entrepreneurial policies will also ultimately influence the supply of venture capital as well.

TABLE III.8—PERCENT OF VENTURE CAPITAL DEALS ORIGINATING FROM WITHIN VENTURE CAPITAL FIRMS OVER THE PAST 5 YEARS

	Percent of deals originating within venture capital firms [1]	Number of responding firms
Type of fund:		
SBIC	37.2	128
Independent	32.0	80
Corporate	27.6	43
Size of fund:		
Small	30.0	60
Medium	37.6	87
Large	32.0	69

[1] The origin of a deal refers to those business deals that are just discovered by the venture capital firm, rather than those deals that the venture capital firm receives as coinvestment opportunities with other venture capital firms.

Criteria for Funding

There is this little disagreement among the venture capital firms as to what constitutes a good business deal. All of the venture capital firms ranked the management team as the most significant factor. The management team must have the capability and experience of organizing production, personnel, marketing, and financial resources.

All of the venture capital firms, regardless of size or type, were consistent in their ranking of the management team as the most significant factor that they consider in evaluating business proposals. On a scale of 10 (high) to 0 (low), management team received a score of 9.7, 9.4, and 9.8 by the small, medium, and large firms, respectively (table III.9). SBIC's scored management team 9.7, independent venture capital firms, 9.8, and corporate venture capital firms, 9.8 (table III.10).

Market niche received a mean score of 8.3 by the venture capital community, with the smaller firms and SBIC's ranking market niche slightly lower than the larger, corporate, and independent venture capital firms. Nevertheless, market niche was ranked a close second by all of the venture capital firms.

The technical assessment of business proposals is another of the very important factors in the evaluation process. Technical assessment was consistently ranked by the various firms, regardless of size or type, as the third factor most important in their evaluation process.

TABLE III.9.—THE IMPORTANCE OF CRITERIA THAT INFLUENCE THE VENTURE CAPITALIST'S EVALUATION OF BUSINESS PROPOSALS

	Size of fund			
	Small	Medium	Large	Mean
Evaluation factors: [1]				
Management team	9.7	9.7	9.8	9.7
Market niche with high growth potential	7.8	8.3	8.6	8.2
Technical assessment of product	7.2	7.5	8.0	7.6
Price of equity participation	6.5	7.1	8.0	7.2
Market type (for example, technology or services)	5.9	6.0	6.6	6.2
Timing of presumable positive cash flow	6.2	6.4	5.6	6.1
Percent of equity ownership	5.5	5.5	5.6	5.5
Patent and legal considerations	3.6	4.1	3.8	3.9
Others	7.7	6.3	8.1	7.2

[1] A value of 10 (high) to 0 (low) could be assigned to indicate the importance of each factor in the evaluation process. The responses were averaged by type of venture capital firm responding to the survey.

TABLE III.10.—THE IMPORTANCE OF CRITERIA THAT INFLUENCE THE VENTURE CAPITALIST'S EVALUATION OF BUSINESS PROPOSALS

	Type of fund			
	SBIC	Independent	Corporation	Mean
Evaluation factors [1]:				
Management team	9.7	9.8	9.8	9.7
Market niche with high growth potential	7.9	8.5	8.8	8.2
Technical assessment of product	7.2	8.0	7.7	7.5
Price of equity participation	6.7	7.6	7.7	7.2
Timing of presumable positive cash flow	6.5	6.0	5.5	6.2
Market type (for example, technology or services)	6.0	6.5	6.1	6.2
Percent of equity ownership	5.4	5.7	5.4	5.5
Patent and legal considerations	4.1	3.9	3.5	3.9
Others	7.4	6.6	7.0	7.1

[1] A value of 10 (high) to 0 (low) could be assigned to indicate the importance of each factor in the evaluation process. The responses were averaged by type of venture capital firm responding to the survey.

One of the most difficult problems in making a venture capital deal is settling on the price. The price of a deal has two components. One is the total price (or cost) of equity participation. The other is the percent of the company's total shares that must be relinquished to obtain outside funding (that is, percent of equity participation). The price of equity participation (or total dollars committed to the deal) ranked ahead of percent of equity participation as a factor in evaluating potential business proposals. The two are related. Other things equal, venture capitalists expect a higher percent of equity participation in deals in which a larger amount of their capital is at risk. Entrepreneurs are understandably reluctant to give up equity control when making a deal, but a greater percentage of equity is necessary to attract larger sums of capital when risks are high. The entrepreneur must decide on how much control and ownership he is willing to relinquish for an immediate infusion of cash.

Involvement With Management Team

Venture capitalists are involved investors, meaning that they bring more than cash to the deal. This relationship between the

venture capitalist and portfolio companies is unique among financial institutions that participate in business development financing.

The JEC survey asked the venture capitalists to reveal the degree of their firms preferred involvement with the management team of companies in their firms investment portfolio. According to table III.11, over 97 percent of the independent firms and 95 percent of the corporate firms prefer close or frequent involvement with the management team. This finding adds empirical support to the frequently heard claim that venture capitalists are involved investors; that is, they bring entrepreneurial and managerial experience to the deal along with the cash.

TABLE III.11.—PERCENT OF VENTURE CAPITAL FIRMS THAT PREFER CLOSE OR FREQUENT INVOLVEMENT WITH THE MANAGEMENT TEAM

[In percent]

	Prefer close or frequent involvement	Prefer occasional or little involvement
Type of fund:		
SBIC	77.1	22.9
Independent	97.6	2.4
Corporate	95.3	4.7

The JEC survey also asked the venture capitalists to reveal the types of involvement with the management team that their firm prefers. According to table III.12, future financial arrangements and planning development are types of involvement preferred by the overwhelming majority of the venture capitalists. Involvement with marketing decisions is important for independent firm managers, less important for corporate firm managers, and unimportant for the SBIC's. Involvement with supplier relationships and the day-to-day operations of portfolio companies received low ratings by all of the types of venture capital firms.

The reason for the venture capitalists preference for involvement with their portfolio companies is not difficult to explain. The bread and butter skill of the venture capitalists is the ability to create capital gains for their investors. Success depends upon spotting potentially lucrative market opportunities before others and, once committed, seeing that these markets are developed as quickly as possible. Acquiring resources, assembling a work force, and making the needed product improvements for high growth firms are critical decisions in the long-term development of an enterprise. Providing the necessary entrepreneurial and managerial assistance at critical stages of the company development process is an important mechanism whereby the venture capital community attempts to lower overall portfolio risks.

TABLE III.12.—THE TYPES OF INVOLVEMENT PREFERRED BY VENTURE CAPITALISTS WHO WANT CLOSE OR FREQUENT INVOLVEMENT WITH THE MANAGEMENT TEAM OF THEIR PORTFOLIO COMPANIES

[Percent distribution]

	Type of fund		
	SBIC	Independent	Corporate
Key issues:			
Future financial arrangement	94.9	93.9	86.4
Planning development	87.5	95.1	93.2
Marketing	35.3	63.4	50.0
Personnel issues	25.0	73.2	56.8
Supplier relationships	5.9	9.8	6.8
Day-to-day operations	3.7	7.3	4.5
Others	8.8	12.2	6.8

Overall Portfolio Performance

The ultimate test of success in the venture capital industry is the ability of venture capital firms to create capital gains for their investors. To attract funds, venture capital firms must be able to consistently select portfolio companies that perform, on average, substantially above business investments selected randomly from the economy.

As discussed previously, venture capitalists expect a hefty annual compound rate of return of 30 percent or above on their individual portfolio investments. Of course, expecting and achieving these results is not necessarily the same. This section examines the extent to which actual portfolio performance matches expected portfolio performance for venture capital firms, and it provides an estimate of the rate of capital appreciation from portfolio investments.

Picking Winners

Each respondent to the JEC survey was asked to classify their firm's portfolio companies as potential "winners" or "losers." The results are presented in table III.13.

Regardless of size or type of venture capital firm, approximately one-half of the portfolio companies were considered to be winners. Winners are portfolio companies that perform equal to or better than they were expected to perform at the time the deal was consummated. SBIC's and small venture capital firms regarded a slightly larger percentage of their portfolio companies as winners.

TABLE III.13.—AVERAGE PERCENT OF PORTFOLIO COMPANIES RATED AS WINNERS, LOSERS, OR OTHER BY TYPE AND SIZE OF VENTURE CAPITAL FIRMS

	Percent winners	Percent losers	Percent others	N [1]
Type of fund:				
SBIC	50.3	17.3	32.4	117
Independent	49.8	14.1	36.1	70
Corporate	44.3	13.3	42.2	36
Size of fund:				
Small	52.1	20.0	27.9	52
Medium	46.1	15.6	38.3	77
Large	48.3	9.8	41.9	58

[1] Number of respondents.

About 13 and 14 percent of the corporate and independent venture capital firm investments were classified as "losers," respectively. SBIC's put about 17 percent of their portfolio investments in this category. Losers are considered to be investments that perform substantially below investor expectations at the time when the deal was made. The remaining portfolio companies, roughly about 33 percent, can be classified as "the living dead." These investments consist of portfolio companies that are viable businesses but they lack sufficient growth potential to ultimately go public or merge upward.

Another way to evaluate the overall portfolio performance of venture capital firms is to examine the percent of portfolio companies that go public or merge upward. Industry analysts generally classify as winners these portfolio investments that are liquidated by either of these exit mechanisms. As table III.14 indicates, the venture capital firm managers are quite optimistic about the likely course of events regarding the liquidation of their portfolio companies. Independent firm managers expect that about 42 percent of their companies will ultimately go public and another 26 will ultimately merge upward. Since not all companies going public or merging upward are going to offer large capital gains for the investors, it is not surprising that the venture capital respondents rated as winners a lower percent of their portfolio companies than they indicated would go public or merge upward. Corporate and SBIC firms expected that approximately 60 percent and 70 percent of their companies would go public or merge upward, respectively.

TABLE III.14.—AVERAGE PERCENT OF VENTURE CAPITAL PORTFOLIO COMPANIES EXPECTED TO GO PUBLIC, MERGE UPWARD, JUST SURVIVE OR FAIL

	Go public	Merge upward	Just survive	Fail outright
Type of fund:				
SBIC	21.1	19.7	41.1	11.9
Independent	42.4	26.2	16.3	13.0
Corporate	42.8	25.3	16.3	11.3
Size of fund:				
Small	25.0	18.0	39.7	12.6
Medium	27.0	19.9	34.7	12.7
Large	42.2	25.8	16.7	11.9

Capital Appreciation

As discussed, venture capitalists seek funds for their investors primarily in the form of capital gains, although corporate venture capital firms are more interested in developing and acquiring new technologies for the companies that they fund. Also, because SBIC's make loans with equity features, current income ranks higher on their list of investment priorities.

An examination of the portfolio performance of venture capital firms suggests that fund managers have been quite successful in creating capital gains. Table III.15, based upon the total investment portfolio value for venture capital funds, by type, in 1982 and in 1984, presents the annual compound growth rate in portfolio values over this period. Independent firms increased the value of their portfolio companies by 70 percent per annum for the 1982–84 period, setting the pace for the industry. Corporate firms experienced compound growth of 62 percent per annum and SBIC's 45 percent per annum for this period.

TABLE III.15.—GROWTH IN VENTURE CAPITAL AVAILABILITY AND ESTIMATED GROWTH IN VENTURE CAPITAL PORTFOLIO VALUES, 1982–84

[In percent]

	Compound annual rate of growth of funds committed to venture capital pools	Compound annual rate of growth in portfolio valuation of venture capital firms
Type of fund:		
SBIC	25.5	44.5
Independent	39.4	70.2
Corporation	57.7	61.9

Growth in portfolio value reflects a commitment of new funds and capital appreciation of all investments. The fact that the growth in portfolio values outpaced growth in sources of funds committed to the venture capital firms suggests that capital appreciation occurred.

The annual compound growth of capital appreciation can be approximated by calculating the difference between the annual growth in funds committed to venture capital pools and the annual growth in the value of investment portfolios of these companies. Table III.16 presents this calculation. Independent venture capital companies appear to be able to achieve a higher rate of capital appreciation than the other types of venture capital funds. On average, independent firms experienced a 31-percent annual net capital appreciation rate over the period 1982–84. SBIC's were second in line with a 19-percent net capital appreciation rate. Surprisingly, corporate venture capital firms achieved only 4 percent annual capital appreciation in excess of annual growth in funds committed.

TABLE III.16.—*Compound annual rate of net capital appreciation of venture capital firms, 1982–84*

Type of fund:	*Net capital appreciation [1] (percent)*
SBIC	19.0
Independent	30.8
Corporation	4.2

[1] Net capital appreciation is calculated as the algebraic difference between annual compound growth in funds committed to venture capital pools and annual compound growth in the estimated portfolio valuation of venture capital firms (see table III.15).

The relatively poor performance of corporate venture capital firms probably reflects their peculiar investment strategy. Independent venture capital firms, and to a lesser extent SBIC's, are much more narrowly focused on the objective of achieving capital gains for their investors. Corporate fund managers, on the other hand, serve complex organizational structures that place a multitude of demands on the use of corporate venture capital funds. In some cases, corporations establish venture capital subsidiaries to acquire access to technology that can be more effectively developed in smaller firms outside the corporate structure. To the extent that this occurs, they are more interested in acquiring the technology than they are in achieving capital gains for their investors.

Because of the lack of emphasis on creating capital gains, corporate fund managers can place more emphasis on long-term corporate objectives. These are riskier investments and often may take many years before commercial fruits can be harvested. In any case, if their data are reported correctly, it would appear that corporate venture capital firms are not directly competing with independent and SBIC firms for the deals that they fund.

SUMMARY AND CONCLUSIONS

Venture capitalists bridge the gap between investors and young, promising entrepreneurial companies. They generally fund early-stage companies that are denied access to conventional sources of capital. The percent of the Nation's capital market resources devoted to venture capital deals depends upon the reward-risk ratio for venture capital deals in comparison to other investments. Evidence was provided throughout the study that venture capital investors are quite sensitive to change in reward-risk conditions in the economy.

The risks associated with venture capital deals are much higher than for typical business investments because venture capitalists specialize in young, entrepreneurial companies struggling to bring new technologies and products to market. In many deals, the entrepreneurs, products, and technologies are unproven, reducing substantially the probability of success.

Evidence was found that venture capitalists try to manage risks in order to attract outside investors. A number of portfolio diversification strategies are pursued by venture capitalists to reduce unsystematic, or portfolio, risks, but the venture capitalists involvement with the management team is the primary mechanism to manage risks.

Evidently the venture capitalists approach pays off handsomely for investors and for society. In spite of the fact that venture capital deals are too risky for traditional capital market investors, the JEC survey found that overall portfolio performance of venture capital firms is well above average. In particular, evidence was presented to show that the venture capitalists track record in liquidating the portfolio companies through going public or merging upward is quite good. As a result, venture capitalists are able to offer substantially above average after-tax rates of return for their investors.

Society benefits from venture capital activity in the form of higher economic growth and more jobs. These are benefits emanating from a more efficient allocation of capital market resources, since, without active venture capital markets, many investments that offer high rates of return would remain unfunded. However, the persistence of above average rates of return on venture capital investments suggests that capital markets may be underallocating funds to risky, entrepreneurial investments.

IV. NATIONAL CAPITAL GAP PROBLEM*

Advocates of a strong role of Government in the allocation of capital market resources generally base their case on capital market imperfections. One argument is that capital markets overlook small business investment opportunities because of high information and transactions costs. This problem is often referred to as the capital gap problem. Another problem is the regional gap problem resulting from the highly skewed geographical concentration of venture capital market activities. This chapter addresses the capital gap problem and leaves discussion of the regional gap problem to the subsequent chapter.

The capital gap problem is often defined as the unmet financing needs of young, entrepreneurial firms in the range of $50,000 to $300,000 beyond the informal resources of family and friends.[1] Other studies put the range in the $25,000 to $150,000 category.[2] In any case, the capital gap literature implies the existence of substantial numbers of small investment projects that offer competitive market rates of return but remain unfunded because of certain capital market deficiencies. A corollary of the alleged problem, also stated in the literature, is that the venture capital community invests in deals of $500,000 or more and traditional financial institutions are too risk adverse, or circumscribed by regulations, to provide the needed equity capital.

Another version of the capital gap problem focuses on the financial needs of entrepreneurial companies in the rapid growth stages of their company's life cycle. Many of these companies do not offer sufficient growth potential and size to achieve access to the public market for stocks and bonds. To the extent that the Securities and Exchange Commission regulations governing access to equity and debt markets reduces public access to these markets, an exit-capital gap problem exists at this stage.

It is important to note that the capital gap problem addresses the issue of whether U.S. capital markets operate efficiently in allocating resources among competing investments. A related problem, often incorrectly incorporated into the capital gap literature, is the problem of capital adequacy. The capital adequacy problem addresses the issue of the Nation's overall rate of capital formation. Many scholars, including the author, believe that the United States has a serious problem of capital adequacy because of a large tax wedge between the rates of return on investment and saving.[3]

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*Dr. Steven Renas, professor of economics, Wright State University, provided useful comments on this chapter.

[1] William E. Wetzel, Jr., "Risk Capital Research", *Encyclopedia of Entrepreneurship*, Calvin A. Kent, Donald L. Sexton, and Karl H. Vesper, eds., Prentice-Hall Inc., 1982, pp. 147-159.

[2] Karl H. Vesper, *Entrepreneurship and National Policy*, Heller Institute for Small Business Policy Papers, 1983, p. 62.

[3] Martin Feldstein, "Does the United States Save Too Little," *American Economic Review*, Vol. 67, No. 1, February 1977, pp. 116-121.

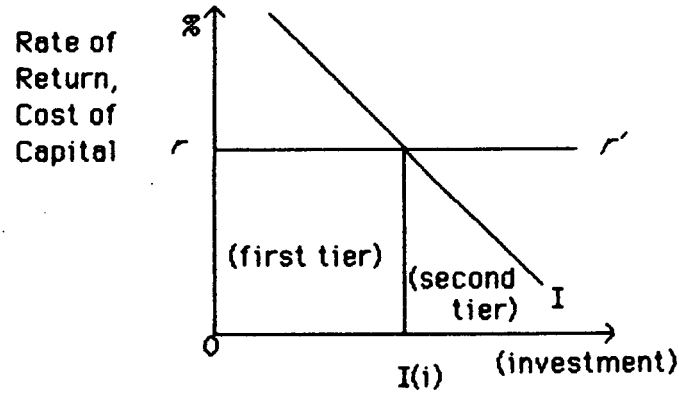
The chapter begins by discussing the general nature of capital market imperfections and appropriate public policy responses. It then discusses empirical evidence from the Joint Economic Committee survey as to the existence of a capital gap problem.

Theoretical Evidence

The fact that many investment projects in society remain unfunded, even though they offer positive rates of return, is not evidence, per se, of capital market imperfections, because the opportunity cost of obtaining funding must be considered.

Figure 1 illustrates the capital market allocation process. Projects are theoretically ranked on the horizontal axis in descending order in terms of their expected rates of return, adjusted for risks. The cost of obtaining capital (r) is represented by the line rr. In competitive markets, with perfect knowledge, all investment projects to the left of I(i) will obtain funding. For simplicity, these investments will be called first tier investments. They represent the cream of the crop of the potentially profitable investment opportunities existing at any point in time. The fact that capital markets deny funds to investment projects to the right of I(i), even though they may offer positive rates of return, is not evidence of capital market inefficiencies. Many advocates of industrial policy confuse this point when they suggest that the Government should intervene in capital markets and see to it that these submarginal, or second tier, investment projects get funded.

FIGURE IV.1 CAPITAL MARKET ALLOCATION PROCESS



Industrial policy advocates would have the Government borrow money in the capital markets at a rate of "r" and use these funds to invest in projects that offer rates of return less than "r". The net result would be a reallocation of capital market resources away from first tier investments in order to provide funding for second

tier investments.[4] The economic loss to society would be felt in terms of less productive capacity, slower economic growth, and a job market that is less prolific than it could be. Moreover, the overall rate of return on investments would fall, resulting in a reduction in the incentive to save.

Of course, if investments within the I(i) range remain unfunded, because of capital market imperfections, a case can be made for Government intervention to improve economic efficiency. For example, if there is a systematic bias against small business investments or if access to public funds is arbitrarily too costly for some firms, a capital gap problem would exist. Whether Government action should intervene would depend on whether or not Government officials could spot these good business deals better than the private market. Although many would question the ability of Government to act as an omniscient observer, if we concede for the sake of argument that Government could, the proper Government action would not necessarily be direct capital market intervention. The dissemination of this information to the business community and to the public, or Government actions to remove the imperfections, may be adequate.

Many theoretical arguments advanced in support of the capital gap problem are unconvincing. The high cost of obtaining information on small investments, the inherently greater riskiness of small business investments, differentially high transactions cost for small business deals, and an illiquid market for small business issues have all been advanced to improve the theoretical existence of a capital gap problem. All of these factors are undoubtedly potential barriers to capital market access for small businesses, but they are part of the investment landscape just as diseconomies of large scale in organizational structures is a problem for big firms.

These considerations must be factored into financial and business investment decisions. To the extent that they are, their impact will be reflected in differential risk adjusted rates of return offered by the various investment opportunities, large and small. Whether they lie in the first tier or the second tier of investment opportunities, the current cost of capital should determine which projects get funded. The essential point is that the mere existence of differential rates of return for different classes of business investment is not, in itself, evidence of capital market imperfections.

Of course, if investors who have inadequate information are prejudiced, or lack expertise, capital market efficiency will be impaired. If capital market inefficiencies resulting from these sources result in a systematic bias against small business investments, a capital gap problem of the nature discussed in this paper would exist. In principle, the role of public policy ought to be focused on rearranging the landscape—at redressing institutional deficiencies so that capital markets can work efficiently—and not on lavishing government subsidies, tax favors, and grants on targeted small- and medium-sized businesses.

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[4] U.S. Congress, Joint Economic Committee, "State and Local Industrial Development Practices", *Industrial Policy Movement in the United States: Is It The Answer?*, A chapter in a staff study prepared by Robert Premus and Charles Bradford, Washington, DC: Government Printing Office, June 8, 1984.

Empirical Evidence

Many empirical studies have attempted to prove the existence of a capital market bias against small businesses. These studies are too numerous to thoroughly review in this report, but suffice it to say that the empirical evidence is largely anecdotal and inconclusive. According to Gallagher, in study of small business taxation, capital formation, and innovation published in 1980 by the Congressional Research Service:

> Because no strong documentation on capital market failures exist, policy makers have little guidance regarding the "appropriate" tax treatment of small business. Inadequate data sources and lack of knowledge of various capital market processes have prevented definite conclusions.[5]

Small Business-Capital Gap Problem

One of the major problems with the current empirical literature is its inability to discover concrete evidence that investment decisions are systematically based against small businesses, because of inadequate information, prejudices, or lack of expertise. The Joint Economic Committee [JEC] Survey is designed to provide information that can help to overcome this deficiency in the literature. Institutional bias generally cannot be seen or measured, but it can be experienced. The venture capitalists were asked to report, based upon their experience, whether large institutions have a bias against investing in small businesses. The evidence presented in table IV.1 strongly suggests that the small business capital gap problem is real. Seventy-two percent of the SBIC's, 64 percent of the independent firms, and 54 percent of the corporate firms agreed that "institutional investors (including banks) have a bias against investing in small businesses." Small- and medium-sized venture capital firms were more prone than large firms to agree with this statement.

TABLE IV.1.—PERCENT OF VENTURE CAPITALISTS WHO FEEL THAT INSTITUTIONAL INVESTORS ARE OR ARE NOT BIASED AGAINST INVESTING IN SMALL BUSINESSES

	Percent responses, biased	Percent responses, unbiased
Type of fund:		
SBIC	72.5	27.5
Independent	64.4	35.6
Corporate	53.6	46.4
Size of fund:		
Small	74.5	25.5
Medium	67.2	32.8
Large	59.6	40.4

When asked the reasons for institutional bias against small business investments, lack of institutional expertise in small business

[5] Thomas Gallagher, "Small Business Taxation, Capital Formation, and Innovation", Congressional Research Service, Report No. 80-120E, October 1980, p. 51.

investing and the excessive risk adverse behavior of institutional investors were listed as leading causes (see table IV.2).

The high costs of managing a portfolio with many small investments, an inadequate secondary market for small business issues, and the high cost of acquiring information on small business investments also received high ratings as causal factors. As stated, these factors are generally incorrectly referred to in the literature as capital market imperfections. Other reasons given for the existence of a capital gap problem—inadequate risk adjusted rates of return on small business investments, Government regulations, and uncertainty over pension fund regulations—were all ranked low as causal factors. The one exception is the high rating (71 percent) given to inadequate risk-adjusted rates of return on small business investment by the SBIC's.

TABLE IV.2.—PERCENT OF VENTURE CAPITALISTS WHO RATED AS "VERY SIGNIFICANT OR SIGNIFICANT" THE REASONS GIVEN FOR INSTITUTIONAL BIAS AGAINST INVESTING IN SMALL BUSINESSES

	Type of fund		
	SBIC	Independent	Corporate
Lack of institutional expertise	73.8	98.4	82.8
Excessive risk-adverse behavior	76.9	73.8	79.3
High transaction portfolio costs	84.6	65.6	67.9
Inadequate secondary securities market	74.3	62.5	70.4
Costs of acquiring information on small business securities	64.7	57.8	57.1
Inadequate risk-adjusted returns	71.3	30.2	44.4
Impact of government regulations	51.5	55.0	40.7
Uncertain DOL and ERISA regulations	40.2	56.5	40.7

The JEC survey provides substantial evidence that small and large investments are not being evaluated solely on the basis of their economic merits. Noneconomic factors such as lack of institutional expertise in evaluating risky investments are contributing to the capital gap problem. Evidence was provided that the so-called market imperfections such as high transactions and information costs and a poor secondary market for small business securities are also contributing to the problem. It is important to note that the phenomenal growth of the venture capital industry owes much of its success to its ability to fill the capital market gap caused by the apparent unwillingness of large institutional investors to become involved in financing high risk, entrepreneurial companies on the adequate scale, as determined by market forces. The venture capital industry is a private market response to providing the needed financial capital to worthy entrepreneurial investments.

One solution to the small business capital gap problem is to reduce its magnitude by increasing the overall supply of venture capital to the economy. According to chapter II, an increase in the supply of venture capital results in a filtering down of venture capital investments to small and more risky deals. To the extent that this occurs, the ill effects of the capital gap problem will be reduced but not eliminated. Other policies to end institutional discrimination and increase competitive pressures within the finan-

cial markets will also be necessary. A secondary market to improve the liquidity of small business issues might be helpful.

An obvious way to overcome institutional bias is to encourage institutional investors—pension funds, insurance companies, and commercial banks—to rely more on financial intermediaries that specialize in small business problems and investments, such as venture capital firms and investment bankers. A secondary market would reduce risks and it would provide a substantial amount of public information on small business investment opportunities, thus reducing private information and transaction costs. In general, a thorough examination of the effects of Government tax and regulatory policies on the risk behavior of institutional investors would be a good starting point for institutional reform.

The average size of venture capital investments is often cited as additional proof that the small business-capital gap problem is real. To see if there is any validity to the argument that venture capital is beyond the reach of small businesses, each of the respondents to the JEC survey was asked to report their smallest, largest, and average portfolio investments. The median responses by type of venture capital firm are averaged and presented in table IV.3.

TABLE IV.3.—MEDIAN SIZE OF INVESTMENTS AVERAGED BY TYPE OF VENTURE CAPITAL FIRM FOR THEIR SMALLEST, AVERAGE, AND LARGEST INVESTMENT CATEGORIES

[Average median resources]

	Investment categories		
	Smallest	Average	Largest
Type of fund:			
SBIC	$50,000	$150,000	$280,000
Independent	125,000	600,000	1,350,000
Corporate	150,000	528,000	1,500,000

Apparently, the argument that venture capital is beyond the reach of small businesses is only partially valid. While it is true that the median size investment for independent and corporate venture capital firms is over the $500,000 range, these venture capital firms also make investments in the $125,000 and $150,000 range, respectively. Moreover, SBIC investments are typically in the $150,000 range. SBIC investments vary in median size from $50,000 at the low end to $280,000 at the high end of the distribution.

SBIC's and independent venture capital firms reported a median of 16 portfolio companies per venture capital firm. The median number of portfolio companies in the typical corporate venture capital firm was 12.

What these data indicate is that venture capital is not necessarily out of the reach of the needs of young, entrepreneurial companies. Of course, not all entrepreneurial companies need venture capital backing. Most firms expand from internally generated funds, but a significant number of firms require an infusion of capital and the managerial assistance to exploit potentially large new market opportunities. Venture capital deals for young firms in the high-growth, high-potential category are highly sought after by the

venture capital community. Entrepreneurial firms that cannot compete for venture capital financing must turn to informal venture capital sources—families, friends, and wealthy individuals—other investment sources, or remain unfunded. To the extent that unworthy investments remain unfunded, the Nation stands to gain from improved capital market efficiency.

Exit-Capital Gap Problem

As discussed previously, the cost of access to public equity and debt markets is a factor that may be creating an exit-capital gap problem for successful, high-growth companies. This problem, if it exists, is particularly important to the venture capital industry because going public and merging-upward are the two primary exit mechanisms for liquidating their portfolio companies. Cashing out is important to the venture capital firms so they can reinvest in new entrepreneurial companies. Also, since the transactions costs of stock offerings per dollar of funds raised is higher for small issues, an exit-capital gap problem would be larger for small companies seeking capital market access.

Table IV.4 presents the results of the JEC survey on the question "In your opinion, are the costs of public stock offerings for issues of $10 million or less an important barrier to capital access?" Approximately one-half of the equity-oriented SBIC's felt that the cost of public stock offerings of $10 million or less is an important barrier to capital market access, but only 26 percent of the independent firms and 25 percent of the corporate firms agree. Also, the small- and medium-sized venture capital firms were much more likely to agree with the statement than the large venture capital firms.

Only those venture capital firms that felt that the cost of public stock offerings for small issues ($10 million or less) creates a barrier to capital market access were asked to rate the importance of various possible contributing factors. Table IV.5.1 lists five factors that the literature identifies as possible barriers confronting small businesses wishing to have public access to funds. Registration costs and reporting requirements ranked well above the other factors for this group of venture capital firm managers. Registration costs were reported as more significant for the SBIC's but reporting requirements were more likely to affect corporate venture capital firms. Also, the large firms were more concerned about the loss of secret information through full public disclosure than were the smaller venture capital firms (see table IV.5.2). The smaller venture capital firms were more concerned with loss of managerial control than were the larger companies.

TABLE IV.4.—OPINION OF THE VENTURE CAPITAL COMMUNITY ON WHETHER OR NOT THE COST OF PUBLIC STOCK OFFERINGS OF $10 MILLION OR LESS IS AN IMPORTANT BARRIER TO CAPITAL ACCESS

[Percent response]

	Yes, important	No, not important	N [1]
Type of fund:			
SBIC	50.4	49.6	133
Independent	26.3	73.8	80
Corporate	25.6	74.4	43
Size of fund:			
Small	46.8	53.2	62
Medium	40.2	59.8	87
Large	21.2	78.8	66

[1] Number of responding firms.

TABLE IV.5.1.—THE IMPORTANCE OF KEY FACTORS IN DETERMINING THE COST OF PUBLIC STOCK OFFERINGS OF $10 MILLION OR LESS BY TYPE OF FUND

[Percent responses]

	Type of fund [1]		
	SBIC	Independent	Corporate
Various cost factors:			
Registration costs	94.7	84.4	66.7
Reporting costs	68.9	56.3	82.4
Loss of secrets	17.8	34.4	41.2
Dilution of ownership	25.3	12.9	11.8
Loss of managerial control	37.3	35.5	29.4
Number of respondents	75	32	18

[1] Only the percent of very significant or significant responses are presented for the purpose of determining the importance of the various cost factors.

TABLE IV.5.2.—THE IMPORTANCE OF KEY FACTORS IN DETERMINING THE COST OF PUBLIC STOCK OFFERINGS OF $10 MILLION OR LESS BY TYPE OF FUND

[Percent responses]

	Size of fund [1]		
	Small	Medium	Large
Various cost factors:			
Registration costs	88.9	90.2	80.0
Reporting costs	71.4	65.0	68.0
Loss of secrets	17.6	27.5	32.0
Dilution of ownership	25.0	30.0	8.0
Loss of managerial control	25.0	50.0	37.5
Number of respondents	36	40	25

[1] Only the percent of very significant or significant responses are presented for the purpose of determining the importance of the various cost factors.

Perhaps the most significant general conclusion that can be drawn from these results is that Security and Exchange Commission [SEC] regulations remain a barrier to capital market access for some firms, but the barrier is not insurmountable for small issues for a majority of the firms. This finding is important since many analysts feel that the exit-capital gap problem is the one that is potentially the most damaging to capital market efficiency.

The SEC has significantly reduced reporting and registration costs through a number of recent actions, including the adoption of form S–18 for small offerings and regulation D.[6] Regulation D was given a positive rating by the venture capital community. Seventy-three percent of the SBIC's 64 percent of the independent firms, and 54 percent of the corporate firms agree that regulation D improved capital market access for small and medium size businesses (see table IV.6).

TABLE IV.6.—PERCENT OF VENTURE CAPITALISTS WHO FEEL THAT THE NEW SEC REGULATIONS, GOVERNING EXEMPTION AND PRIVATE PLACEMENTS HAVE OR HAVE NOT SIGNIFICANTLY IMPROVED CAPITAL MARKET ACCESS FOR SMALL AND MEDIUM SIZED BUSINESSES

	Percent Responses	
	Yes	No
Type of fund:		
SBIC	72.5	27.5
Independent	64.4	35.6
Corporate	53.6	46.4
Size of fund:		
Small	74.5	25.5
Medium	67.2	32.2
Large	59.6	40.4

Although the JEC survey findings should not be interpreted to imply that all barriers to public and private capital markets have been removed, the SEC certainly receives high marks in its recent efforts to reduce regulatory costs and improve public and private capital market access for small- and medium-sized businesses. Of course, barriers remain and additional improvements in registration and reporting requirements, consistent with the SEC's mandate to protect the public interest, could have a significant impact on continuing to improve the nation's overall climate for entrepreneurship and innovation.

SEC Government-Business Forum

The Small Business Incentive Act of 1980 directs the Security and Exchange Commission [SEC] to conduct an annual Government-business forum "to review the current status of problems and programs relating to small business capital formation." The major recommendations of the 1982 SEC Forum, and the reaction of the venture capital community to these recommendations, are discussed in this section. A major conclusion of this section is that only a broad range of policies aimed at improving the Nation's entrepreneurial climate and at removing financial barriers to capital formation will do much to alleviate any small business- or exit-capital gap problems that may exist.

The first SEC Government-Business Forum on Small Business Capital Formation was convened in 1982. The Forum came up with 37 major recommendations to improve capital formation and innovation. Many of these recommendations have been presented in testimony before the Joint Senate-House Small Business Commit-

[6] Peter W. Wallace, "Public Financing For Smaller Companies", *Guide to Venture Capital Sources*, Stanley Pratt and Jane K. Morris, eds., 1984, pp. 117–120.

tees, Joint Economic Committee, and other congressional committees. The first SEC Government-Business Forum was successful in that it called attention to the many barriers to small business development and capital formation.

One difficulty with the 1982 SEC Government-Business Forum recommendations is that they represent a wish list of recommended actions. The Forum did not provide a priority system to indicate which of the preferred actions would have the greatest potential to improve capital formation. Table IV.7 lists 18 of the most frequently discussed SEC Government-Business Forum recommendations. Each respondent to the Joint Economic Committee survey had an opportunity to rate on a scale of 10 (high) to 0 (low) the potential of each action to aid small business formation in the United States.

TABLE IV.7.—VENTURE CAPITALISTS RATINGS OF THE POTENTIAL OF PROPOSED FEDERAL GOVERNMENT ACTIONS TO AID CAPITAL FORMATION AND INNOVATION IN THE UNITED STATES BY TYPE OF FUND

Proposed actions	Relative ratings		
	SBIC	Independent	Corporate
Further reduce capital gains tax rates	8.6	9.2	8.2
Provide a stable non-inflationary economic growth	8.5	8.1	7.8
Reduce corporate tax rates	8.2	7.5	7.6
Liberalize incentive stock options	6.6	8.7	7.2
Further relax ERISA requirements	7.1	8.4	6.5
Improve liquidity of small business securities	7.2	7.0	6.7
Encourage uniform state securities regulations	7.2	6.9	6.8
Further reduce SEC costs	7.2	6.6	6.8
Clarify Section 385 of IRS code	6.6	7.4	6.6
Enact flat tax with capital gains exemptions	6.2	7.9	6.1
Create qualified small business securities	7.3	5.4	5.2
Allow tax deferral of start up costs	6.5	5.9	5.5
Encourage public ownership of venture capital firms	6.7	5.2	5.6
Enact consumption based income tax	5.2	6.8	5.4
Expand regional broker/dealer firms	5.5	5.3	4.4
Restore SBA direct loan program	4.4	3.8	4.4
Enact general job tax credit	4.6	3.8	3.7

Many SEC Government-Business Forum's proposed actions received a score of seven or above in the Joint Economic Committee survey, indicating that the nation's venture capital community feels that there are many necessary actions to improve small business capital formation. Further reductions in the capital gains tax rate received the highest rating (about 8.5). Providing stable noninflationary economic growth was ranked a close second. Stable noninflationary economic growth aids capital formation in two ways. Low inflation removes the distorting effects of inflation on effective tax rates and the incentive to save, invest, and take risks. Stable economic growth encourages capital formation by removing systematic (business cycle) risks from investment portfolios. A reduction in risks, ceteris paribus, encourages capital formation.

A general reduction in corporate tax rates received a rating of 8.0 or above by all types of venture capital firms. The double taxation of corporation dividends is well recognized as a major barrier

to capital formation. A reduction in the corporate tax rate would help to mitigate these adverse effects.

The growth of young entrepreneurial companies is often constrained by a shortage of skilled and professional labor. Companies in their formative years are often confronted with an inadequate cash flow to attract the necessary professional talent for continued expansion. For these companies, being able to offer stock options is an attractive recruiting tool. Quite naturally, the tax treatment of incentive stock options is important to the entrepreneurial process. The venture capitalists in the Joint Economic Committee survey gave "liberalized investment stock options" a high rating as a public policy that would aid capital formation. Further reductions in ERISA regulations also received high marks.

Two SEC Forum recommendations received low ratings from the venture capital community: a proposal to restore the Small Business Administration's direct loan program and a proposal to enact a general jobs tax credit to aid small businesses.

In general, the venture capital community gave considerable support to a broad range of policies recommended by the 1982 SEC Government-Business Forum. The majority of the forum recommendations were aimed at improving many aspects of the overall climate for capital formation, enterprise development, risk taking, and small business development. To the extent that they are successful in improving the number and quality of formal business proposals eminating from the small business community, these policies will also help to alleviate the capital gap problem caused by capital market imperfections.

The most noteworthy characteristic of the SEC proposals favored by the venture capital community is that they are aimed at targeting the process of innovation. They are not aimed at extending the direct influence of government—Federal, State, or local—into capital market activity.

Summary and Conclusions

Evidence was provided that an institutional bias against small business investing exists in the nation's capital markets. This bias is caused by negative attitudes within large financial institutions resulting primarily from a lack of institutional expertise in the financing problems and needs of small businesses. Other problems such as the high cost of managing many small business investments and inadequate information on small business investment opportunities also represent barriers to small business capital formation.

The size of the capital gap problem was found to decline with growth in venture capital availability. An increase in the availability of venture capital resulted in an increase in funding for prestartup, startup, and early expansion investments. A policy to encourage growth in venture capital supply would clearly be an appropriate approach to improving the financial climate for promising new and small business enterprises. Other market perfecting policies aimed at improving the overall efficiency of capital markets, such as continued deregulation of the financial services industry, would also be appropriate.

To the extent that financial deregulation increases competition in the capital markets, small business investing is likely to increase. However, deregulation of financial markets could reduce funds for small business investments if it resulted in an undue concentration of market power in a few large financial institutions. According to the findings of this chapter, large financial institutions are biased against small business investing.

A policy that would appear to be an important complement to general financial market deregulation is one that would establish a secondary market for small business mortgages and securities. Well functioning secondary markets would improve the liquidity of small business investments and vastly improve information flows concerning new investment opportunities in the small business sector. Another complementary policy would be one that encourages large financial institutions to rely on financial intermediaries, such as venture capital firms and investment bankers, to aid them in making and managing a small business investment portfolio.

Finally, the chapter concluded that special tax favors, government subsidies, and direct Government loan programs targeted to the small business sector would be inappropriate and counterproductive.

V. REGIONAL VENTURE CAPITAL GAPS*

As part of their strategy to stimulate innovation and risk taking, many States and regions are attempting to encourage the expansion of venture capital market activity. The reasoning behind this approach is the notion that financial markets are important to the growth and expansion of new entrepreneurial companies. This chapter examines the regional pattern of venture capital availability and it presents evidence of a "regional gap" problem. The State and regional approaches to solving regional gap problems are also discussed and evaluated.

A major conclusion of the analysis is that regional capital gap problems can be overcome by encouraging the development of private venture capital markets in those regions where venture capital activity is sparse. A combination of national policies to encourage risk taking and investment, and State policies to do likewise, would do much to alleviate this problem. Direct Government interventionists policies, such as the creation of Government-owned and operated venture capital firms, are not advocated unless it can be determined that the Government sector can assess business opportunities in risky deals better than the private sector.

Regional Gap Problem

There can be little doubt that venture capital market activities are highly, spatially concentrated. Venture Economics reports that California, New York-New Jersey, and Massachusetts accounted for over 75 percent of the venture capital deals in 1983.[1] Table V.1 presents the data on the regional disparities in the supply of venture capital. According to this data, some regions are rich in venture capital; whereas, other regions such as the Southeast, Great Lakes, Mountain, and Plain States generate very little venture capital activities. Businesses in these venture capital poor regions are forced to be more dependent on institutional and other traditional sources of business finance. The presence of institutional bias against small business investments, as discussed in chapter IV, suggests that many entrepreneurial opportunities in regions lacking venture capital markets may remain at the dream stage.

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*Wendy H. Schacht, specialist in science and technology, Congressional Research Service, the Library of Congress, offered many valuable contributions to this Chapter, including an initial draft. The author is solely responsible for the Chapter's content and any errors that may exist.

[1] "Venture Capital Journal Yearbook 1983." Wellesley Hills, MA, Venture Economics, Inc., 1984, p. 16.

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TABLE V.1.—GEOGRAPHIC DISTRIBUTION OF VENTURE CAPITAL DISBURSEMENTS

	Percent of number of companies financed		Percent of number amount invested	
	1983	1982	1983	1982
California	38	37	47	45
Massachusetts	14	14	11	13
Texas	7	8	5	8
New York	6	7	6	8
4 State total	65	66	69	74
Northeast	28	28	24	26
Southeast	8	7	7	5
Midwest/Plains	11	9	7	8
Southwest/Rockies	12	15	10	13
West coast	41	41	52	48
Total	100	100	100	100

Source: Venture Capital Journal.

The geographic concentration of venture capital firms is important because the States and regions with the greatest concentrations of venture capital sources generally correspond with the States and regions which received the most venture capital funding. As noted by the Office of Technology Assessment,[2] almost 75 percent of venture capital comes from California, Southwest, New York, New Jersey, and New England. The top four recipient States (1983) are California, Massachusetts, Texas, and New York.[3]

Of course, the existence of regional disparities in venture capital market activity is not, per se, evidence of the "regional gap" problem. A regional gap problem would exist if the regional disparities resulted in entrepreneurs in the venture capital poor regions being at a competitive disadvantage in competition with entrepreneurs in venture capital rich regions for venture capital financing, for otherwise comparable deals.

The JEC survey asked each respondent "Do entrepreneurs in some States and regions have more difficulty in attracting venture capital than entrepreneurs with comparable deals in other States and regions?" According to table V.2, 93.7 percent of the independent, 95 percent of the corporate, and 88 percent of the SBIC venture capitalists in the survey responded "yes" to this question. The evidence from the Joint Economic Committee [JEC] survey clearly indicates that the regional gap problem is real.

[2] U.S. Congress. Office of Technology Assessment. "Technology, Innovation, and Regional Economic Development." Washington, DC: Government Printing Office, 1984, pp. 46–47.

[3] "Venture Capital Journal Yearbook," op. cit., p. 17.

TABLE V.2.—DO ENTREPRENEURS IN SOME STATES AND REGIONS HAVE MORE DIFFICULTY IN ATTRACTING VENTURE CAPITAL THAN ENTREPRENEURS WITH COMPARABLE DEALS IN OTHER STATES AND REGIONS?

[Percent responses]

	Yes	No
Type of fund:		
SBIC	88.0	12.0
Independent	93.7	6.3
Corporate	95.0	5.0
Size of fund:		
Small	89.7	10.3
Medium	96.1	5.9
Large	88.1	11.9

The JEC survey attempted to provide empirical evidence on disparities in venture capital access among 10 States and regions in the United States. Each respondent to the Joint Economic Committee Survey was asked to rate each of these States and regions in terms of "entrepreneurial access to venture capital for otherwise comparable deals." The percent of responses rating access excellent or good are combined and listed in table V.3.

TABLE V.3.—THE PERCENT OF VENTURE CAPITALISTS THAT RATED STATE AND REGIONAL ACCESS TO VENTURE CAPITAL AS "EXCELLENT OR GOOD" BY TYPE OF FIRM

[In percent]

States and regions	Type of fund		
	SBIC	Independent	Corporate
California	100.0	100.0	100.0
Massachusetts	89.3	100.0	94.7
New York and New Jersey	92.7	95.9	92.1
Texas	89.4	74.3	89.2
Far West, other than California	43.3	52.1	66.7
New England, other than Massachusetts	36.7	44.3	56.3
Great Lake	32.6	27.5	25.0
Mid Atlantic, Other than New York and New Jersey	31.9	18.6	26.7
Southwest, other than Texas	20.2	11.6	38.7
Southeast	21.4	17.6	18.2
Mountain and Plain	15.9	12.9	29.0

Virtually 100 percent of the venture capital firms listed access to venture capital in California as excellent or good. Venture capital access in Massachusetts was ranked excellent or good by all independent firms, 95 percent of the corporate firms, and 89 percent of the SBIC's. The New York-New Jersey region also received very favorable responses on venture capital availability. Texas was rated fourth among the States and regions in terms of access to venture capital by the corporate and SBIC firms. Independent venture capital firms also rated access to venture capital in Texas above the other regions but well below California, Massachusetts, and the New York-New Jersey region.

The regions represented by the States in the Far West, other than California, and the States in New England, other than Massachusetts, received intermediate ratings in terms of venture capital access. The rest of the Nation—the Great Lakes States; the Mid-

Atlantic States, other than New York and New Jersey; the Southwest, other than Texas; the Southeast; and the Mountain and Plains States were all rated as venture capital poor regions. Roughly, only about 25 percent of the venture capitalists rated each of these regions as having excellent or good access to venture capital.

Determinants of the Regional Gap Problem

The following were found to be the most significant contributors to regional imbalances in venture capital market activity:

(1) Regional differences in the availability of good deals;

(2) The geographical concentration of venture capital firms in a few regions (California, New York-New Jersey, Massachusetts); and

(3) Significant differences in the willingness of regional institutional investors (for example, pension funds and commercial banks) to take risks.

Of lesser importance, but still of some significance, was inadequate access to broker-dealer firms in some regions.

According to table V.4, approximately 90 percent of the respondents to the JEC survey listed the availability of deals and venture capital as significant factors in explaining large regional differences in the venture capital formation rates. A "chicken or egg" problem arises. Which comes first: good deals (that is entrepreneurial activities) or venture capital? As discussed in earlier chapters, both are important. The availability of venture capital was found to be significant determinant of the rate of entrepreneurial activities in the Nation. Entrepreneurs are confronted with technical, business, and financial risks when they launch new enterprises. Access to venture capital evidently reduces financial risks. Obtaining the management and technical expertise of the venture capital investors reduces market and technical risks. A reduction in risks, in turn, opens up many more potentially lucrative entrepreneurial opportunities. For these reasons, entrepreneurial activity was found to increase when venture capital is in ample supply.

TABLE V.4.—PERCENT OF VENTURE CAPITALISTS THAT RATED VARIOUS DETERMINANTS OF STATE AND REGIONAL IMBALANCES IN VENTURE CAPITAL FINANCING AS "VERY SIGNIFICANT OR SIGNIFICANT" BY TYPE OF FUND

Contributing factors	Type of fund		
	SBIC	Independent	Corporate
Regional differences in availability of good deals	86.3	90.3	94.3
Geographic concentration of venture capital firms in a few regions (except New York)	90.8	83.8	89.5
Regional variation in the willingness of institutional investors (including banks) to take risks	61.7	42.9	54.3
Inadequate access to broker dealers	53.4	34.7	29.4
Regional differences in tax structures	36.5	14.1	32.4
Regional differences in securities regulation	25.9	16.9	28.6
Regional variations in savings rates	4.3	1.4	2.9

On the other hand, institutional and other suppliers of funds to venture capital firms were found to be very sensitive to the track

record of the venture capital industry in achieving substantial capital gains. An expansion of quality deals adds significantly to the appeal of venture capital firms as investment outlets for venture capital suppliers. When good deals are available, the risk-reward ratio rises and encourages an increase in the supply of venture capital. The increase in venture capital availability, in turn, by stimulating entrepreneurial activities, leads to growth in a number of good deals.

There is no logical reason why the same principles of interaction between venture capital and enterpreneurship should not apply at the regional level. The simultaneity problem suggests that State and regional strategies to encourage venture capital activity ought to follow a two-pronged approach. One prong of the strategy would emphasize encouraging entrepreneurial activities. The other prong would emphasize encouraging venture capital.

Another source of regional imbalance in the ability of entrepreneurs to obtain funding for otherwise comparable deals can be traced to the investment behavior of large institutions. A significant number of venture capitalists in the JEC survey felt that the willingness of institutional investors to take risks varies among the regions, and these variations in risk preferences contribute to the regional gap problem. In particular, 62 percent of the SBIC's, 54 percent of the corporate firms, and 43 percent of the independent venture capital firms felt that regional variation in the willingness of institutional investors to take risks contributed to State and regional imbalances in venture capital market activity. While ranked considerably below regional difference in deals and venture capital availability, this finding suggests that a policy to encourage institutional investors (for example, pension funds and commercial banks) in the less dynamic regions to adopt investment policies more in line with what is happening in their industry nationally would be helpful. At the national level, the policies discussed in chapter IV to reduce institutional investment bias should also be helpful.

Finally, a number of other factors have allegedly contributed to the regional gap problem. Regional differences in tax rates, States securities regulations, access to regional-broker dealers, and saving rates have been singled out in literature as additional reasons for the differences in the geographical availability of risk capital. The majority of venture capitalists in the JEC survey, regardless of type of firm, felt that these factors had little, if any, significance. Nevertheless, SBIC's were more prone to give these factors a higher significance rating than the other types of venture capital firms. In particular, it is worth noting that 53 percent of the SBIC's felt that an adequate access to regional broker-dealers was a significant factor in explaining lower venture capital formation rates in some regions. Forty-two percent of the independent firms and 33 percent of the corporate firms agreed with this assessment.

State "Blue Sky" Laws

A potential barrier to capital formation at the regional level is poor coordination between Federal and State securities regulations. At the Federal level, the Securities and Exchange Commission has taken a number of steps to lessen the adverse impacts of manda-

tory disclosure, filing and reporting costs on small businesses seeking public access to funds. As discussed, SEC regulations governing private placements, exemptions, and filing and reporting requirements are known as regulation D. A potential conflict arises with security regulations at the State level because SEC regulations do not override State securities laws. In fact, an SEC approved offering must receive blue sky clearance from State securities regulators within each State where the new issue will be marketed. A potential barrier to the growth of regional venture capital markets and capital access exists in those states that have security regulations substantially at variance with regulation D and other SEC regulations.

Table IV.6, of the previous chapter, indicates that venture capitalists give the SEC high marks in its attempt to remove regulatory barriers to small business access to capital. About 64 percent of the independent venture capital firms felt that regulation D "significantly improved capital market access for small- and medium-sized firms." Seventy-three percent of the SBIC's and 54 percent of the corporate firms also responded affirmatively. It is interesting to note that the smaller venture capital firms were more likely than the larger firms to agree that recent steps taken by the SEC to improve small business access to capital were successful.

According to table V.5, many venture capitalists felt that there is good coordination between Federal and State securities regulations in the State where they are located. About 50 percent of the independent firms said that their State's securities laws coordinate well with regulation D. About 49 percent of the corporate firm managers and 70 percent of the SBIC's agree with this assessment. Nevertheless, about 26 percent of the independent firms, 21 percent of the corporate firms, and 12 percent of the SBIC's felt that the coordination is poor. In States where the coordination is poor, the effects are felt mainly in terms of difficulty in interpreting and complying with law (see table V.6). They are also reflected in higher registration, legal, and accounting costs. Finally, poor coordination is resulting in the duplication of Federal and State regulatory efforts suggesting a degree of redundancy in State blue sky laws.

TABLE V.5.—VENTURE CAPITALISTS VIEWS ON HOW WELL STATE AND FEDERAL SECURITIES REGULATIONS COORDINATE

[Percent responses]

	Degree of coordination		
	Very well or well	Minor differences	Poorly or very poor
Type of fund:			
SBIC	69.5	18.6	11.9
Independent	50.0	23.7	26.3
Corporate	48.5	30.3	21.2
Size of fund:			
Small	66.7	22.2	11.1
Medium	57.1	24.7	18.2
Large	52.4	23.8	23.8

TABLE V.6.—THE EFFECTS OF POOR COORDINATION BETWEEN THE STATE AND THE FEDERAL SECURITIES REGULATIONS ON THE CAPITAL FORMATION PROCESS BY TYPE OF FUND

Attributes affected	Type of fund		
	SBIC	Independent	Corporate
Difficulty in interpreting the law:			
Great or some increase	80.0	56.1	60.0
Little impact or decline	20.0	43.9	40.0
Difficulty in complying with the law:			
Great or some increase	78.3	75.6	45.0
Little impact or decline	21.7	24.4	55.0
Expense of registration fees:			
Great or some increase	69.4	51.2	45.0
Little impact or decline	30.6	48.8	55.0
Legal and accounting costs:			
Great or some increase	71.0	63.4	70.0
Little impact or decline	29.0	36.6	30.0
Duplication of Federal and State regulating efforts:			
Great or some increase	78.3	73.2	80.0
Little impact or decline	21.7	26.8	20.0
Protection of investor interest:			
Great or some increase	34.4	34.1	20.0
Little impact or decline	65.6	65.9	80.0
Availability of venture capital deals within the State:			
Great or some increase	36.1	22.0	25.0
Little impact or decline	63.9	88.0	75.0
Willingness of venture capital industry to invest in deals within the State:			
Great or some increase	36.1	24.4	15.0
Little impact or decline	63.9	75.6	85.0

Note.—The responses indicate the percent of the venture capitalists who felt that poor coordination would "increase greatly or increase somewhat" each of the factors associated with public access to funds.

Interestingly, while most venture capitalists approve of Regulation D, and other SEC actions to reduce the cost of access to capital, a majority of the venture capitalists felt that the securities regulators lack an understanding of the financing needs of high-tech entrepreneurial companies. About 61 percent of the independent firm managers responded that the SEC is not attuned to the special financing needs of high-tech companies (table V.7). About 61 percent of the SBIC's and 50 percent of the corporate firm managers agreed. Thus, while securities regulators are given high marks for recent regulatory reform to improve capital market access (for example, regulation D), there would appear to be general agreement that there is still much room for improvement in the regulatory environment in the securities industry.

TABLE V.7.—IS THE SECURITIES AND EXCHANGE COMMISSION ATTUNED TO THE SPECIAL FINANCING NEEDS OF HIGH TECH COMPANIES?

[Percent responses]

	Yes	No
Type of fund:		
SBIC	39.2	60.8
Independent	50.0	50.0
Corporate	38.5	61.5
Size of fund:		
Small	34.5	65.5
Medium	52.0	48.0
Large	54.3	54.7

State Venture Capital Policies

The interdependence between the availability of entrepreneurial deals and venture capital activity, discussed in chapter II, suggests that a State strategy to encourage the development of venture capital markets must also emphasize policies to improve the entrepreneurial climate within the States (regions) economy. An increase in the number and quality of entrepreneurial deals is necessary to increase the attraction of a region to the venture capital industry.

Moreover, the close link between venture and technological innovation, discussed in chapter III, suggests that a State and local government strategy that links regional development to technological innovation will be necessary. In particular, a strategy to accelerate the emergence of high-tech activities throughout the State's industrial structure, and the development of new industries and firms, would be a major factor in the development of regional venture capital markets.

A strong university and research environment is important to the demand side of the venture capital process. Many new ideas for entrepreneurial deals will come from university research, but more importantly the region's university system, broadly defined, provides the skilled labor force that is necessary for the application of new technologies and the commercial development of new products and processes. Venture capitalist, Franklin P. Johnson, of Asset Management Co., emphasized the importance of academe (broadly defined to include technical and vocational schools) to the venture capital process as follows:

> Many technological firms are located near universities because their managers want interaction, and because the entrepreneurs are themselves graduates or faculty. This propinquity aids in the transfer of the scientific knowledge from the level of fundamental discovery in the university to the development of specific products to serve markets in commercial companies. The proper financial relationship between the two and between the academic researchers and the companies is the subject of hot debate now in the USA, but it is generally agreed that the university and its faculty should be able to benefit financially from their discoveries.
>
> Most innovative firms, however, develop products on their own, using new science in only a general way and are primarily dependent on the intelligence, training, and experience of their technological and business leaders, especially marketers.

> The establishment of a system for training para-professional people and technicians is another necessity condition. Technological companies need very few unskilled people, but, for example, need one or more technicians for every professional engineer, and large numbers of drafters, computer programmers, word processor operators, quality control inspectors, and the like.[4]

Other State policies must emphasize the supply side of the venture capital process. The primary question or public policy is what can State and local governments do to encourage growth of venture capital markets? The answer will undoubtedly depend upon political and philosophical considerations, but regardless of these non-economic factors, economic efficiency ought to be considered.

To help sort out the public policy issues, various alternatives were proposed in the JEC survey and respondents were asked to rate them as to their potential for improving venture capital financing. There was little variation in the responses by either size or type of venture capital firm (table V.8). In rating the alternatives, the venture capital community gave top priority to amending the State's capital gains tax to favor long-term investments. As has been shown in an earlier chapter, changes in the Federal Government's capital gains tax have had the most pronounced impact on the availability of venture capital funds.

TABLE V.8.—AVERAGE RATINGS OF THE VENTURE CAPITAL COMMUNITY OF THE POTENTIAL OF ALTERNATIVE STATE GOVERNMENT POLICIES TO ENHANCE VENTURE CAPITAL FINANCING BY TYPE OF FUND

Alternative State policies	Average score [1]		
	SBIC	Independent	Corporate
Amend capital gains tax	8.4	8.7	8.7
Remove unnecessary State regulations	7.7	7.6	7.8
Amend State securities regulations	6.3	6.7	6.6
Encourage pension funds	6.1	6.2	6.2
Improve public awareness	6.2	5.2	5.0
Incentives for venture capital funds	6.5	4.3	5.3
Establish a loan guarantee program	5.6	3.9	4.6
Improve liquidity of firms	4.8	4.1	4.3
Establish a venture capital fund	4.8	2.6	3.7
Establish a State bank for loans	4.2	3.1	3.9

[1] The respondents ranked the potential of each State action to enhance venture capital financing within the State on a scale of 10 (high) to 0 (low).

The removal of unnecessary State and regional regulations that discourage institutional investors from participating in business financing was also deemed important to the survey respondents. On a scale of 10–0 (with 10 indicating highest potential for increasing activity), this option was given a 7.6, 7.8, and 7.7 ranking by the independent, corporate, and SBIC firms, respectively.

Following their two preferred activities, efforts to amend State securities regulations to be consistent with Securities and Exchange Commission regulations and efforts to encourage State pen-

[4] U.S. Congress. Office of Technology Assessment. "Technology, Innovation, and Regional Economic Development." Washington, DC.: Government Printing Office, 1984, pp. 46–47.

sion funds to participate in business development financing were both ranked at approximately 6.2. Other initiatives, which fell into this middle range of effectiveness (5.0), include activities to improve public awareness of investment opportunities in small business securities and the development of State government incentives for the creation of industry-organized venture capital funds.

The remaining options were thought to have less potential for increasing venture capital financing opportunities. Most of these relate to direct State intervention in the venture capital process. State loan guarantees for institutional investors; activities to improve the liquidity of regional broker-dealer firms; the establishment of State-operated venture capital firms; and the creation of a State-operated bank to make direct loans to small businesses were thought to be less effective.

In general, venture capitalists favor State and local policies to remove perceived barriers to private sector venture financing activities. State inducements to encourage the business community to become more involved in venture capital markets were also seen as beneficial, although to a lesser extent. There is universal agreement on the ineffectual nature of direct State action such as the creation of State-run venture capital funds or a State bank to finance small businesses.

These findings are important in light of the 20 or so States which have set up venture financing activities. While the total funding of these programs is only approximately $400 million it appears that States are increasingly eager to participate in the venture capital arena.[5] There are various types of State efforts ranging from State financing of new high-tech companies to privately run, for-profit venture capital firms financed by State tax credits. Other State efforts include alterations in the rules pertaining to the dispensation of State pension funds by allowing investment in venture capital funds.[6]

As a rule, based upon the results of the JEC Venture Capital Market survey, the States should avoid heads-on competition with the private venture capital industry, and they should avoid government owned and operated venture capital funds. An attractive alternative might be for the States to rely on private venture capital firms, and other specialized investors, to manage public funds allocated to venture capital investments.

A thriving regional venture capital market can be a significant factor in regional growth dynamics. First, an expansion of the region's entrepreneurial base improves technological innovation and job creation. Second, it can put entrepreneurs in lagging regions on a more equal footing with entrepreneurs in other regions by overcoming the regional gap problem. As stated, a regional gap problem exists when otherwise comparable entrepreneurial deals do not have the same access to venture capital because of regional imbalances in venture capital availability.

The key to solving the regional gap problem is to give the entrepreneurs equal access to venture capital regardless of where they

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[5] Carol Steinbach, and Robert Guskind, "High-Risk Ventures Strike Gold With State Government Financing," National Journal, September 22, 1984, p. 1767.
[6] National Journal, op. cit., p. 1769.

are located. The regional gap problem is largely one of imperfect information regarding interregional investment opportunities. Entrepreneurs in regions that are venture capital poor are often unaware of the availability of financial opportunities available in the venture capital rich regions, and venture capitalists in the more dynamic regions are often unaware of good entrepreneurial opportunities in the venture capital poor regions. The emergence of an active venture capital market within a less dynamic region, by identifying local entrepreneurs and by arranging coinvestment financings with venture capitalists in the more dynamic regions, can help to solve the regional gap problem. Moreover, coinvesting is important for economic reasons because it promotes a more efficient interregional allocation of venture capital market activity.

Summary and Conclusions

To summarize, the JEC Venture Capital Market Survey provides substantial evidence that a regional gap problem exists in the financing of entrepreneurial activities and technological innovations. The presence of a regional gap problem creates inefficiencies in the interregional allocation of risk capital to the extent that entrepreneurial deals are not given equal access to venture capital financing. Of course, the presence of regional variations in the level and scope of entrepreneurial and venture capital activities is not, per se, evidence of a regional gap problem. Nevertheless, the high concentration of venture capital deals in only a few regions in the United States was listed as the primary cause of the regional gap problem by the venture capitalists that agreed that a problem exists.

The primary problem is one of information flows. Entrepreneurs in venture capital poor regions are not given equal opportunity to have their deals evaluated by venture capital investors. Other less important reasons given for the regional gap problem include differences among the regions in the risk preference of venture capital suppliers (that is, institutional investors) and access to regional broker-dealer firms.

Finally, of minor significance in causing the regional gap problem are such factors as regional variations in tax rates, savings rates, and securities regulations.

The main conclusions from this chapter are as follows:

(1) One practical way to solve the regional gap problem is to encourage the emergence of venture capital markets in the less dynamic regions of the country. The entrepreneurial fortunes of regions will change over time, but giving entrepreneurs an equal opportunity to have their deals compete in the national arena for financial support is a necessary condition for economic efficiency. Moreover, the presence of an active local venture capital market can greatly facilitate the entrepreneurial process within the region.

(2) The previous findings that an increase in the availability of venture capital encourages expansion of entrepreneurial activities, and vice versa, suggests that public policies that encourage economic growth ought to center on "process of innovation." New business starts, technological change, and new products and markets are entrepreneurial activities which are vital to the innova-

tion process. The financing of entrepreneurial innovations is an equally vital component of the innovation process. Thus, a strategy for the Nation and its regions ought to focus, inter alia, on ways to encourage both entrepreneurial and venture capital activities. Policies to amend the State capital gains tax, remove unnecessary regulations that inhibit entrepreneurial activities, and encourage State pension funds and other institutional investors to participate in the venture capital market would be appropriate.

(3) An increase in the competition for deals at the national level, by increasing the supply of venture capital, can also help to solve the regional gap problem. First, an increase in the supply of venture capital leads to growth in the number of venture capital firms, making it easier for venture capital poor regions to develop local venture capital markets. Second, as discussed in chapter IV, an increase in competition for deals results in an improvement in regional access to venture capital financing. From a national public policy perspective, this finding suggests that a policy to encourage entrepreneurship and innovation would do much to spread the benefits of a vigorous entrepreneurial economy to the less dynamic regions of the country. In addition, such a national policy would permit a more effective regional pattern of entrepreneurial activities and innovation.

(4) Removing financial barriers to business development can also play an important role in overcoming the regional gap problem. State laws and regulations governing the investment behavior of institutional investors (pension funds and commercial banks) could be amended, where appropriate, to encourage risktaking and innovation. Changing State securities regulations to make them more compatible with regulation D would also be helpful in encouraging regional capital formation and economic growth.

Most venture capitalists take a dim view of the ability of State-owned and operated venture capital firms to improve the regional climate for risk-taking and innovation. A cynical response would be that the venture capitalists are self-serving in their negative response to the role of government in the venture capital markets, but there is more to it than that. Each venture capitalist has a stake in the quality of the overall venture capital process because they know that projecting a winning image is extremely important to attracting risk capital to the industry. Any poorly managed venture capital firm, public or private, reduces the creditability of the entire industry to the detriment of all of the venture capital firms.

As the National Governor's Association stated in a final draft report from their task force on technological innovation, "* * * direct State involvement in venture capital investment can be problematic owing to often conflicting and completing economic, social, and political goals, on the one hand, and the need for sound, hard business judgment, on the other." [7] Often more than money is needed to make venture financing work—what is also necessary is management expertise and business experience that is not typical of Government employees.

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[7] "Venture Capital Journal Yearbook," September 1983, op. cit., p. 7.

Finally, eliminating the regional gap problem should not be confused with public policies to redistribute national income among the regions—to achieve the decisionmakers notion of interregional equity. The regional gap problem would be eliminated if each entrepreneur had equal access to venture capital irrespective of the region where the entrepreneur seeks venture capital assistance. In a competitive market system, however, venture capital market activity would still remain highly concentrated because the quality of entrepreneurial opportunities will vary among regions. Regions that are experiencing an entrepreneurial explosion will attract a disproportionately larger share of venture capital because they are generating a proportionally larger percent of the good deals. Nevertheless, so long as deals are evaluated on an equal basis regardless of geographical origin, a regional gap problem would not exist.

VI. TAXES, REGULATIONS, AND INDUSTRIAL POLICY ISSUES

This chapter examines in more depth a number of key issues and policies that have the potential to significantly impact the venture capital process. The purpose of the chapter is to provide a clearer view of the complex institutional structures that govern the nation's venture capital process. The taxation of the capital gains, pension fund regulations, changes in investment and commercial banking regulations, and industrial policy approaches are discussed in that order.

Changes in the Capital Gains Tax

The capital gains tax, with its long history of legislative changes, is an excellent example of how public policies affect the venture capital process. This section examines the legislative history of the capital gains tax and a number of reform proposals to make additional changes.

Capital gains are revenues in excess of losses received on the sale of a capital asset. A capital asset is defined as any asset which is neither inventory nor earmarked for personal consumption.[1] Because venture capital firms invest in early stage, high-risk firms, they typically experience extraordinary returns on only a few portfolio companies. Being able to liquidate their stock in successful portfolio companies, in anticipation of capital gains, is necessary to compensate for the risks, investment losses, and inadequate returns on the less successful portfolio companies. As stressed previously, the venture capitalists' track record in creating capital gains for their investors is critical to the venture capital industries ability to attract risk capital. The impact of Government taxes and regulations on the risks and returns on venture capital investments is equally as important to growth and expansion of the venture capital industry.

Legislative history

The legislative history of the capital gains tax is one of complexity and change. From its inception in 1918 until the present, this tax has weathered no fewer than eight major changes and has only recently reversed the entangling trend of complexity. The first income tax law, the Revenue Act of 1913, treated capital gains as regular income.[2] Eight years later, the Revenue Act of 1921 sepa-

[1] Howard M. Zaritsky, "Taxation of Capital Gains Since 1950," Congressional Research Service, October 6, 1980, p. 1.

[2] Jane Gravelle, "Federal Income Tax Treatment of Capital Gains: A Legislative History and Summary of Issues and Proposals, With a Selected Bibliography," Congressional Research Service, March 7, 1973, p. 5.

rated capital gains from regular income by classifying them as gains on the sale of all property which was held for at least 2 years and was originally acquired for profit or investment. Individual taxpayers could choose to either include all net capital gains in gross income or have these gains taxed at an alternative rate of 12.5 percent; while corporations had to treat all capital gains as regular income.[3]

The Revenue Act of 1934 allowed for a weighted percentage of net capital gains to be taxed as ordinary income up to the prevailing rate of 60 percent.[4] The length of the holding period determined how much of the net capital gains was taxed. For capital held up to 2 years, the rate was 80 percent. For capital held 2 to 5 years, the rate fell to 60 percent. For capital held 5 to 10 years, the rate was 40 percent. If capital were held over 10 years, only 30 percent of the capital gains would be taxed as normal income. Reports from the Senate Committee on Finance and the House Committee on Ways and Means reveal that the Revenue Acts of 1921 and 1934 were influenced in Congress by the British practice then in place of zero taxation of capital gains.[5] In 21 years, the tax code had already experienced major changes.

The Revenue Act of 1937 was the first to differentiate between short- and long-term gains.[6] Gains on capital held less than 18 months were considered short term and were taxed as normal income. Two-thirds of gains on long-term capital held 18 to 24 months and one-half of gains on capital held longer than 24 months were either taxed as part of gross income or at a 30-percent alternative rate for individuals. Capital gains for corporations were fully taxed as normal income. In the Revenue Act of 1942, the short-term/long-term differential holding period was shortened to 6 months.[7] The individual could either combine one-half of his long-term gains to all of his short-term capital gains and subtract short- and long-term capital losses and tax this amount as gross income, or include all short-term gains over all losses in gross income and tax one-half of the long-term gains at a flat rate of 25 percent. The corporation could elect an alternative tax of 25 percent on net capital gains.

The Revenue Act of 1951 essentially treated corporate and individual capital gains taxes the same. The taxpayer could either include 50 percent of his net capital gains in gross income, or choose an alternative tax rate of 25 percent on all capital gains.[8] It is instructive to note that during the 1950's and 1960's, the highest income tax bracket was set at 91 percent (this was decreased to 70 percent in 1965) while the maximum tax rate on capital gains remained at 25 percent.[9] The significantly favorable capital gains tax differential resulted in the rapid expansion of venture capital and R&D activity during these years.[10]

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[3] Howard M. Zaritsky, "Legislative History of the Taxation of Long-Term Capital Gains," Congressional Research Service, August 5, 1976, p. 2.
[4] Gravelle, pp. 5–6.
[5] Zaritsky, "Legislative," pp. 2–5.
[6] Gravelle, p. 6.
[7] Gravelle, p. 7.
[8] Zaritsky, "Legislative," pp. 7–8.
[9] Michael Bell, testimony before the Subcommittee on Savings, Pensions, and Investment Policy, January 19, 1983, pp. 7–8.
[10] Bell, pp. 7–8.

The favored tax treatment of capital gains ended 18 years later with the Revenue Act of 1969. Through various stages, and with the Revenue Act of 1976, the 25-percent alternative tax on capital gains was severely limited, and the maximum effective capital gains tax rate was almost doubled to 49.125 percent.[11] Associated with the abrupt rise in the taxation of capital gains was a sharp decline in venture capital market activity which continued until 1978.

The Steiger amendment of 1978, recognizing the need to stimulate entrepreneurship and innovation, established the first cut in the capital gains tax rate in 40 years.[12] Only 40 percent of net capital gains was taxed up to the 70 percent maximum rate, thus, lowering the maximum rate to 28 percent for individuals. The corporate capital gains tax rate was also lowered to 28 percent.[13] When the Economic Recovery Tax Act of 1981 lowered the highest income tax bracket from 70 to 50 percent, the maximum capital gains tax rate fell to 20 percent for individuals. The 28-percent rate for corporations, however, is still in effect.

After 1978, venture capital market activity increased at a pace substantially above growth in total capital market resources. The rapid pace at which funds were flowing into the venture capital industry attests to the powerful impact Federal Government tax policies have on the allocation of the Nation's total capital market resources between entrepreneurial investments and less risky investments in established companies, real estate, and financial assets. In fact, growth in total saving was very low, suggesting that a change in relative price in favor of risky investments—due to the capital gains tax differential—was the primary factor behind growth in the availability of risk capital.

Reform proposals

The venture capital community is in agreement that preferential treatment of capital gains is essential to the long-term success of their industry. They also agree that maintaining the capital gains tax rate differential—the 1978 and 1981 tax rate reductions created a 30-percent differential between the top marginal tax rate on income (50 percent) and the current capital gains tax rate (20 percent)—is necessary for the continued expansion of the venture capital industry in the years ahead. There is less agreement, however, on whether or not additional reforms are needed in the tax treatment of capital gains.

Quite naturally, venture capitalists are in agreement that additional reductions in the capital gains tax are justified in that major U.S. competitors such as Japan, West Germany, and others have no capital gains tax at all (see table VI.1). Short of eliminating the capital gains tax, however, many reform proposals have surfaced in recent years. This section examines how the venture capital community rates the relative importance of each of these reform proposals.

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[11] Zaritsky, "Taxation," pp. 6-7.

[12] Jeffrey M. Schaefer, "Removing Tax Disincentives Does Work," "Securities Industry Trend," December 17, 1979, p. 2.

[13] Zaritsky, "Taxation," p. 7.

TABLE VI.1.—COMPARISON OF INDIVIDUAL TAXATION OF CAPITAL GAINS ON PORTFOLIO STOCK INVESTMENTS IN ELEVEN COUNTRIES

Country	Maximum short-term capital gain tax rate[1]	Maximum long-term capital gain tax rate[2]	Minimum holding period to qualify for long-term gain treatment	Maximum annual net worth tax rate
United States	50 percent	20 percent	6 months	None.
Australia	60 percent	Exempt	1 year	Do.
Belgium	Exempt	..do	None	Do.
Canada	17 percent	17 percent	..do	Do.
France[3]	15 percent	15 percent	..do	Do.
Germany	56 percent	Exempt	6 months	0.5 percent.
Italy	Exempt	..do	None	None.
Japan	..do	..do	..do	Do.
Netherlands	..do	..do	..do	0.8 percent.
Sweden	54 percent	22 percent	2 years	0.3 percent.
United Kingdom[4]	30 percent	30 percent	None	None.

[1] State, Provincial and local taxes not included.
[2] Provincial taxes in Canada approximate a 48% add-on to Federal tax.
[3] Gains from proceeds of up to $20,445 (FF 150,000) are exempt from taxation in a given taxable year.
[4] The first $7,725 (5,000) of gain is exempt annually.
Source: "Comparison of Individual Taxation of Long- and Short-Term Capital Gains on Portfolio Stock Investments and Dividend and Interest Income in Eleven Countries" prepared for SIA by Arthur Anderson and Co., June 1983.

One proposal would permit investors to defer capital gains taxes by allowing them to rollover their capital gains into other qualified investments. In general, this proposal would extend the rollover provisions found in residential real estate transactions to other types of investments. Another proposal would graduate the capital gains rate schedule to allow for a lower capital gains tax on investments held for longer periods of time. Both the rollover and graduated rate proposals would provide an incentive for investors to lengthen their investment horizons.

Small business advocates have recommended giving preferential capital gains tax treatment to investors in initial (or unseasoned) stock offerings. Another proposal would allow for a lower capital gains tax on investments in small businesses. Proponents of these two proposals argue that small firms have inadequate access to long-term venture capital.

Also, a reduction in the current corporate capital gains tax rate from 28 to 20 percent is advocated by others. Finally, other proposals for tax reform advocate a shortening of the period for calculating long-term capital gains (losses). At the time of the Joint Economic Committee [JEC] survey, an asset had to be held for 12 or more months before it qualified as a long-term capital gains (loss), but the period has subsequently been reduced to 6 months.

Table VI.2 lists each of the reform proposals and the relative rating of the importance of each of these proposals to the venture capital community. On a scale of 10 (high) to 0 (low), each respondent to the JEC survey indicated the "priority they would like Congress to give to these proposals".

TABLE VI.2.—VIEWS OF THE VENTURE CAPITAL COMMUNITY ON THE PRIORITY THEY WOULD LIKE CONGRESS TO GIVE TO ALTERNATIVE PROPOSALS TO REFORM THE CAPITAL GAINS TAX BY TYPE OF FUND

Alternative proposals	Type of fund		
	SBIC	Independent	Corporate
Allow the rollover of capital gains	9.1	8.7	8.0
Lower capital gains tax on investments held for longer periods of time	7.7	8.4	7.6
Lower capital gains tax rates for investments in unseasoned (initial) securities	7.5	8.1	7.1
Adopt a graduated rate schedule with lower rates for small businesses	7.3	6.3	5.4
Provide equal tax treatment for corporate and individual capital gains	7.0	6.2	6.8
Shorten period of long-term capital gains	6.2	5.9	6.2

Note.—The level of priority could range between 10 (high) and 0 (low).

The rollover proposal that would allow investors to defer capital gains taxes received the greatest support from the venture capital community. The proposals for a graduated rate schedule and for differential capital gains tax treatment for initial stock offerings also received strong support, particularly from independent venture capital firms. In most cases, these proposals received a priority rating of eight or above.

Other proposals such as preferential treatment of small businesses, the elimination of the corporate capital gains tax differential, and shortening the period for long-term capital gains were assigned intermediate ratings. Interestingly, the proposal to shorten the time period for long-term capital gains, which was recently enacted into law, received the lowest priority rating of all of the reform proposals. Other things equal, a shorter holding period reduces the lock-in effect, but it also increases the attractiveness of investing in blue chip securities. The former effect draws funds to venture capital pools but the latter effect diverts funds to more secure investments.

Modified Flat Rate Tax Proposals

A number of plans to simplify and reform the U.S. tax system are now being considered by the Congress and the Reagan administration.[14] Essentially, these plans would substantially broaden the tax base (that is, close loopholes), simplify the tax rate structure, and lower marginal tax rates on individuals and corporations.

Of interest in this study is how the tax reform proposals would alter taxation of capital gains. The Treasury Department's plan would treat capital gains as ordinary income, indexed for inflation. One result would be an increase in the marginal tax rate on capital gains from 20 to 35 percent for individuals and from 28 to 33 percent for corporations. Another result would be the elimination of the current tax differential between marginal tax rates and ordinary income and capital gains.

The Bradley-Gephardt plan would likewise treat capital gains as ordinary income and eliminate the current tax differential. Under this plan capital gains would be taxed at 30 percent without adjust-

[14] See "Tax Reform for Fairness, Simplicity andn Economic Growth," the Treasury Department Report to the President, Vol. 1, Overview, Office of the Secretary, Department of the Treasury, November 1984, pp. 169–184.

ments for inflation. At inflation of about 5 percent, the effective capital gains tax rates under the Bradley-Gephardt plan would be about the same as under the Treasury Department's indexed plan.

The Kemp-Kasten plan would maintain indexing and, like the other plans, eliminate the differential by taxing capital gains as ordinary income. The Kemp-Kasten plan would raise the capital gains tax from 20 to 25 percent. Kemp-Kasten gives investors two options for the treatment of capital gains. Investors can index the basis of the capital asset so they are only taxed on a real gain and then include the gain in ordinary income. Or, investors can exclude 40 percent of the gain (for a top effective rate of 17 percent) from taxable income, instead of indexing.

Table VI.3 shows comparative capital gains tax treatment under three modified flat rate tax proposals.

TABLE VI.3.—TREATMENT OF CAPITAL GAINS UNDER MODIFIED FLAT RATE TAX PROPOSALS

[In percent]

Features	Treasury plan	Bradley-Gephardt	Kemp-Kasten [1]
Tax rate	35	30	25
Indexation	Yes	No	Yes
Rollover provisions	No	No	No

[1] Kemp-Kasten has been modified to allow investors the option of excluding 40 percent of capital gains (for a top 17 percent effective rate), with no indexing, and subject to the six-month holding period.

The net effect of the Treasury Department and Bradley-Gephardt plans, would likely be a sharp reduction in venture capital availability, and a corresponding decline in entrepreneurial activities. According to the preceding chapters, the U.S. venture capital industry flourished after 1978 for two interrelated reasons: (1) Preferential tax treatment of capital gains, and (2) capital market inefficiencies resulting from the excessive risk-adverse behavior of institutional investors. The private sector's answer to the capital gap problem was an expansion of the venture capital industry, and other suppliers of risk capital, to meet the needs of young, entrepreneurial companies.

While other features of the tax simplification and reform plans, such as indexing, partial exemption of dividends paid out, larger IRA exemptions, and lower marginal tax rates on individual and corporate income will encourage capital formation and innovation, the negative effects of raising the capital gains tax and eliminating the tax differential will likely dominate. If this occurred, the net result will be a reduction in entrepreneurial activities, risk taking, and innovation.

An alternative strategy would be one that would maintain, within the tax simplification and reform proposals, preferential tax treatment of capital gains for productive activities, such as seed capital, startup, early stage companies, leveraged buyouts and the adoption of new technologies. The case for industry neutral tax incentives for risk taking can be justified on the basis of capital market imperfections. If this was to be done, and rollover provisions were incorporated into the capital gains tax, the much needed overhaul of the U.S. tax system could be accomplished

while preserving, and strengthening, incentives for capital formation, entrepreneurial activities, and industrial innovation.

Pension Fund Regulations

The regulatory environment governing pension fund investments is another example of how Federal Government policies affect the Nation's financial climate for risk taking and innovation. Since 1978 pension funds have been an increasingly important source of venture capital. As discussed in chapter II, approximately 32 percent of the capital committed to large independent venture capital firms comes from pension funds.

The expansion of pension investment in venture capital has far outpaced the growth of pension assets in recent years. Since 1981, pension assets have increased annually by about 9 percent.[15] During that same time period, pension investment in venture capital has doubled each year.[16] Thus, because pension funds devote only a small fraction of pension assets (less that 0.2 percent) to venture capital, and because they are an important supplier of risk capital, regulations that have only a minor impact on pension fund decisions can have a large impact on the venture capital industry.

Although pension fund venture capital investments have increased continuously since 1978, pension fund managers have not always been so willing to place their funds in venture capital deals. The stock market, the track record of venture capital firms, and tax policies that influence the reward–risk ratio from venture capital deals all have an influence on fund asset management behavior and risk performance. However, as important as these factors are, they do not account for much of the severe fluctuations in pension fund venture capital participation. Unanticipated changes in Federal regulations regarding pension fund investment decisions during the 1970's was the major culprit.

Prior to 1974, pension funds were regulated by certain provisions under the Internal Revenue Code of 1954, by the Welfare and Pension Plan Disclosure Act of 1958, and by State trust laws. The Internal Revenue Code granted tax-exempt status to certain trusts operated for the exclusive benefit of employee-participants or their beneficiaries. The code, however, did little to regulate the conduct of trust managers, and the only sanction provided for was the removal of tax-exempt status.[17] The Welfare and Pension Plan Disclosure Act attempted to limit potential abuses of trust funds by requiring complete disclosure of a pension plan's financial activities. In 1962, criminal provisions were added to the act which made theft, embezzlement, bribery, and kickbacks associated with pension plans Federal crimes. Nevertheless, the act was not a successful form of protection for plan participants because it did not provide guidelines for conduct of plan managers or trustees and did not enforce fiduciary obligations.[18] State trust laws, including

[15] U.S. Department of Labor, "Briefing Material," table I.
[16] "Capital Transfusion 1983," p. 10.
[17] Scott B. Osborne, "The Employment Retirement Income Security Act and Fiduciary Responsibility," Willamette Law Journal, XII (Spring, 1976), pp. 299–300.
[18] Ibid., p. 301.

State prudence standards for fiduciaries, also served as a protection for employees covered by pensions, but these standards varied among States and were difficult to enforce.[19]

Because of prior abuses, Congress in 1974 enacted the Employee Retirement Income Security Act [ERISA] in order to establish guidelines for pension managers to help ensure that employees receive the benefits they were promised. ERISA's assurances are based on four basic concepts:

> That workers must become eligible for benefits after a reasonable length of service, that adequate funds be set aside to provide promised benefits, that those managing the plan and its funds meet certain standards of conduct, and that sufficient information be made available to determine if the law's requirements are being met.[20]

ERISA amended the Internal Revenue Code and replaced much of the Welfare and Pension Plan Disclosure Act. Furthermore, ERISA supercedes all State laws relating to private employee benefit plans.

ERISA has unique importance because it establishes a Federal standard of fiduciary conduct. A fiduciary is defined under the act as any person "who exercises or possesses any discretionary authority to manage the plan or the disposition of its assets or to give investment advise to the plan or direct or indirect compensation."[21] Four specific fiduciary duties are expounded in the act. Fiduciaries must discharge their duties for the exclusive purpose of providing benefits and defraying reasonable administrative expenses, and they must act in accordance with the documents and instruments governing the plan. In addition, they must diversify plan investment so as to minimize the risk of large losses, unless it is clearly prudent not to do so. The fourth fiduciary requirement is the ERISA prudent man rule which states that fiduciaries must act:

> With the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of like character and with like aims.[22]

Congress did not anticipate that the "prudent man rule" would create significant controversy regarding its impact on the investment practices of pension plan fiduciaries. In framing the ERISA prudent man rule, it was the intent of Congress to create a flexible definition of prudence.[23] Consequently, unlike many State trust laws, ERISA does not provide a list of investments prejudged to be prudent. Many experts have argued that the lack of a definition of prudence regarding specific investments has caused fiduciaries to concentrate investments in securities traditionally regarded as

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[19] Ibid., pp. 302-303.
[20] U.S. Department of Labor, "The Prudence Rule and Pension Plan Investment Under ERISA," (Washington, DC: Government Printing Office, 1980), p. 7.
[21] Osborne, p. 307.
[22] Employee Retirement Income Security Act, U.S. Code, Vol. XXIX, sec. 1104(a)(1) (1976).
[23] Nancy F. Bern, "Fiduciary Responsibility: Prudent Investments Under ERISA," Suffolk University Law Review, XIV (Summer, 1980), p. 1076.

safe.[24] Another difference between State and ERISA prudent man rules may have also contributed to a shift toward greater risk aversion. State trust law prudent man rules generally require a trustee to exercise the prudence he would use in conduct of his own affairs; however, the ERISA standard requires fiduciary conduct to be measured against the prudence of a man who is familiar with similar matters in investment. Thus, some critics argue that the ERISA standard requires a prudent expert rather than a prudent man, and, consequently, they believe that it is a tougher standard than its State predecessors.[25]

Furthermore, increased legal exposure under the 1974 ERISA prudence rule may have also limited pension investment risk. Under prior State prudent man rules a fund manager was liable primarily to the trustee of the fund,[26] but under ERISA the fund manager is subject to suit from any plan participant or beneficiary.[27] The greater probability of legal action is another factor that may have caused fiduciaries to be more cautious in their investment decisions.

Moreover, the novelty of the Federal prudence rule and the uncertainty regarding what would be considered prudent conduct may have contributed to the problem. Immediately after ERISA was enacted, it was unclear whether courts would judge prudence on the basis of individual investments or whether they would look at an entire portfolio to determine investment soundness.[28]

In 1978, the Department of Labor, responding to the rising tide of criticism over what were apparently unintended effects of the ERISA pension fund regulations, proposed a new regulation that would eliminate some of the ambiguities of the prudence rule and provide guidance to investment managers. This regulation is essentially a safe harbor provision which provides guidelines that if followed will satisfy the requirements of the prudence rule. The regulation, which became effective on July 23, 1979, states that a fiduciary has complied with the prudent man rule if he:

> (A) has given appropriate consideration to those facts and circumstances that, given the scope of such fiduciary's investment duties, the fiduciary knows or should know are relevant to the particular investment or investment course of action involved, including the role the investment or investment course of action plays in that portion of the plan's investment portfolio with respect to which the fiduciary has investment duties; and (B) has acted accordingly.[29]

In promulgating this regulation, it was the intention of the Department of Labor to make it easier for pension fund managers to

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[24] Ibid., p. 1077.
[25] Ibid., p. 1075.
[26] U.S. Congress, Senate, Committee on Financial and Select Committee on Small Business, "Pension Simplification and Investment Rules," joint hearings before a subcommittee of the Committee on Finance and the Select Committee on Small Business, United States Senate, on S. 285 and S. 901, 95th Cong., 1st sess., 1977, p. 114.
[27] Ibid.
[28] Bern, p. 1077.
[29] U.S. Department of Labor, Final Regulation, "Rules and Regulations for Fiduciary Responsibility; Investment of Plan Assets Under the 'Prudence' Rule," Federal Register, XXXXIV, No. 124, June 26, 1979, 37225.

invest in riskier securities. In the preamble to the regulation, the Department noted that "the relative riskiness of a specific investment or investment course of action does not render such investment or investment course of action per se prudent or per se Imprudent". Moreover, it is noted that "the prudence of an investment decision should not be judged without regard to the role that the proposed investment or investment course of action plays within the overall plan portfolio." [30]

The JEC Venture Capital Market Survey provided the evidence that the new Department of Labor regulations resulted in charges in the investment behavior of pension funds. As discussed in chapter II, the venture capital community listed "revisions in ERISA regulations" as a major factor behind the surge in venture capital availability after 1978. Also, the JEC survey found that, consistent with their fiduciary responsibilities, pension fund managers are placing these funds with the larger, established venture capital firms.

The increasing reliance of pension funds and other institutional investors on specialized financial intermediaries, such as venture capital firms, has important public policy implications. As noted in chapter II, greater reliance on financial intermediaries is an important mechanism to overcome capital market inefficiencies (that is, the capital gap problem) resulting from institutional bias against small business investments. Also, because of their elaborate system of coinvestment arrangements, an increase in funds flowing into the venture capital industry was found to help overcome regional disparities in venture capital availability.

Financial Market Deregulation

The recent trend toward greater financial market deregulation brought on by the Depository Institutions Deregulation and Monetary Control Act of 1980 (or the Banking Act of 1980), by creating a new set of institutional and market forces, may have a major impact on the venture capital market process in the years ahead. In particular, the breakdown in the distinction between commercial and investment banking is of particular importance to the venture capital industry.

Commercial banking is defined as the process of accepting demand deposits and making commercial loans [31] while investment banking is the business of underwriting, distributing, and selling stocks and securities.[32] Investment bankers may actively participate in the venture capital market, but commercial bankers are severely restricted in their actions. Commercial banks, however, can participate in venture capital activities by investing a portion of managed trust assests, owning part of an SBIC, investing part of the bank's capital surplus, or by acting as a finder.[33]

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[30] Ibid., 37222.

[31] U.S. Congress, House, Committee on Banking, Finance and Urban Affairs, "A Reference Guide to Banking and Finance," prepared by the Congressional Research Service, (Washington, DC: Government Printing Office, 1983), p. 10.

[32] Ibid., p. 32.

[33] U.S. Library of Congress, Congressional Research Service, "Venture Capital and Commercial Banking," by Kevin F. Whinch, 1982, p. 4.

Nevertheless, removing the restrictions on commercial banks that prevent them from holding or underwriting equity securities could greatly enhance their ability to participate in venture capital market activities. The purpose of this section, which begins by presenting a brief legislative history of commercial and investment banking, is to discuss the implications of financial deregulation for the venture capital industry.

Legislative history

The activities of commercial and investment banks are separated by the National Banking Act of 1933, popularly known as the Glass-Steagall Act. Prior to the act there were no barriers prohibiting "any financial institution from participation in any form of commercial or investment banking activity."[34] In fact, activities of commercial banks in the securities business were endorsed in the National Banking Act of 1927 (the McFadden Act).[35] Because of alleged conflict of interest, commercial and investment banking were legally separated in the text of the Glass-Steagall Act.

The Glass-Steagall Act has four sections which mandate the separation of commercial and investment banking. Secton 16 prohibits Federal Reserve member banks from "purchasing securities for their own accounts or underwriting any issue of securities or stock." Section 20 "prohibits all banks that are members of the Federal Reserve System from being affiliated with any firm engaged principally in securities activities." Section 21 makes it illegal for firms engaging in securities activities to "engage at the same time, to any extent whatsoever, in the business of receiving deposits," and section 32 "prohibits interlocking directorates and other relationships between banks that are members of the Federal Reserve System and firms primarily engaged in securities activities."[36]

Despite its restrictions, the Glass-Steagall Act is no longer an effective barrier between commercial and investment banking. Because of certain loopholes in the act, commercial banks have been able to expand into securities transactions, and investment firms have found ways to acquire depository institutions. Although section 16 of the act prohibits the purchase of securities for a bank's own account, it does not prohibit a bank from acting as an agent for its customers.[37] Consequently, banks have been permitted to acquire discount brokerage firms. Security Pacific Bank and Bank of America have already taken advantage of this opportunity, and the Supreme Court recently ruled that Bank of America's acquisition was legal.[38] Furthermore, the provisions of the act, except for section 21, apply only to banks that are members of the Federal Reserve System. Thus, it is possible for insured nonmember banks to engage in investment banking through a securities affiliate.

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[34] Arnold W. Sametz, et al., "Securities Activities of Commercial Banks: An Evaluation of Current Developments and Regulatory Issues," Journal of Comparative Corporate Law and Securities Regulation, II (1979), p. 158.

[35] Ibid.

[36] Raymond Natter, the Glass-Steagall Act, CRS Review, September, 1983, p. 7.

[37] U.S. Congress, "Formation and Power," p. 4-36.

[38] "High Court Puts Limits On Banks," New York Times, June 29, 1984.

In 1982, the FDIC issued a policy statement that would permit this overlap of commercial and investment banking.[39] In addition to commercial banks entering the securities business, investment firms have recently attempted to enter the banking business. Sections 20 and 32 of the act apply only to firms that engage "principally" in securities activities. Therefore, an investment firm that can prove that it is not engaged primarily in investment banking can acquire a depository institution. The Dreyfus Corporation has attempted to establish a nationally chartered member bank based on this argument.[40] Hence, because of the loopholes in the Glass-Steagall Act, the once distinct spheres of investment and commercial banking are now blurred.[41]

Venture Capital Impacts

The ultimate effect of eliminating the distinction between commercial and investment banking is likely to be greater capital market efficiency and increased concentration of financial institutions. Combining commercial and investment banking is likely to lead to greater portfolio diversification, risk pooling, and improved information flows.[42] However, the involvement of commercial banks in the securities market could enable them to dominate the investment banking industry because of their substantial asset base.[43] If this occurred, the result could be the emergence of a few large financial conglomerates.

The likely effect of financial deregulation on entrepreneurial activities and the venture capital industry is difficult to ascertain. Other things equal, improved capital market efficiency would probably result in greater investment in venture capital activities, but increased financial concentration may make it more difficult for small businesses and young, entrepreneurial companies to gain access to capital markets. For example, the Joint Economic Committee Venture Capital Market survey provided substantial evidence that large institutional investors are biased against risky, small business investments. Furthermore, the loss of local broker-dealer firms, if that occurred as a result of merging commercial and investment banking, could exacerbate the regional gap problem by preventing or inhibiting small businesses from gaining access to the public market. In any case, the venture capital market is likely to be sensitive to future public policies that affect trends in financial market organization.

U.S. Industrial Policy

The threat of potential Federal Government interventions in the economy at some future time is another important factor that af-

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[39] U.S. Federal Deposit Insurance Corporation, Proposed Rule, "Unsafe and Unsound Banking Practices," *Federal Register*, XXXXVIII, No. 96, May 17, 1983, 22155.

[40] U.S., Congress, "Formation and Powers," p. 4-53.

[41] U.S. Congress, House, Committee on Small Business, "Deregulation of Financial Institutions and Its Impact on Small Business Financing," Hearings before the subcommittee of the Committee on Small Business, U.S. House of Representatives, 98th Cong., 1st sess., 1983, pp. 297-354.

[42] Sametz, p. 156.

[43] U.S. Congress, House, Committee on Small Business, "Bank Deregulation and Its Impact on Small Business Lending," hearings before a subcommittee of the Committee on Small Business, U.S. House of Representatives, 97th Cong., 2nd sess., 1982, p. 260.

fects capital market resource allocation decisions. For this reason, the political mood of the Nation, as reflected in the economic policy strategies of major political parties and leaders, is of concern to the venture capital industry. An example is the recent rash of industrial policy plans that inundated Congress in 1982 and 1983.[44] Many of these plans reflected an attempt on the part of the liberal establishment to chart a new economic policy course for America.

Most venture capitalists in the JEC survey were not enamored with the prospects of a national industrial policy (See table VI.3.1). Industrial policy advocates claim that the major economic problem confronting the nation is one of resource immobility. In particular, they contend that American capital markets fail to maximize the Nation's economic growth potential because resources cannot easily flow from declining to expanding industries. The implication of their analysis is that the nation is locked into an inefficient industrial structure, a lower level of national output, and fewer jobs than would occur in a more dynamic economy.

TABLE VI.3.1.—PERCENT OF VENTURE CAPITALISTS IN FAVOR OF NATIONAL INDUSTRIAL POLICIES FOR THE UNITED STATES

[In percent]

	National Industrial Policy	
	In favor	Opposed
Type of fund:		
SBIC	12.7	87.3
Independent	2.4	97.6
Corporate	14.0	86.0
Size of fund:		
Small	10.6	89.4
Medium	6.8	93.2
Large	5.8	94.2

In the industrial policy literature, the solution to the perceived dilemma of resource immobility is to establish a new government agency to redirect the flow of capital market resources. The objective of the new agency would be to shift capital market resources away from sunset industries toward the sunrise industries.

While the venture capital community might be expected to benefit from an industrial policy—because, in theory, industrial policy favors those industries that the venture capital community supports—the Joint Economic Committee survey revealed a strong, negative reaction from the venture capital community. About 91 percent of the respondents indicated that they are opposed to a Government targeted approach to industrial innovation. Even under special circumstances such as the adoption of industrial policies by other nations, the respondents did not favor a U.S. industrial policy response. However, a minority opinion favored direct Federal Government intervention to counter the industrial policy prac-

[44] U.S. Congress, Joint Economic Committee, "Economic Assumptions of Industial Policy", "Industrial Policy Movement in the United States: Is It the Answer?," a chapter in a Staff study prepared by Robert Premus and Charles Bradford, Washington, DC: Government Printing Office, June 8, 1984, pp. 14-24.

tices of other nations. Still, the majority, 72 percent, indicated that a targeted U.S. industrial policy was not an appropriate response to these special circumstances. Thus, whatever the reason, the majority opinion in the venture capital community remains unaltered in its direct opposition of Government intervention in U.S. capital markets.

The minority opinion of the venture capital community only gave lukewarm support to the industrial policy movement in the United States. Many of these industrial policy plans, such as Congressman LaFalce's bill, would provide aid to the basic goods industries such as steel and autos.[45] Of the 35 venture capital firms that support industrial policy under special circumstances, only 78 percent favored direct Federal Government credit allocation policies to counter the unfair trade practices of other nations (table VI.3.2). About 80 percent of the firms in the minority opinions favored direct Federal Government credit allocations to counter unfair trade barriers that put American companies at a disadvantage (table VI.3.3). Policies to encourage the expansion of high technology products were favored by 58 percent of the firms in the minority opinions, as were policies to directly counter the industrial policy practices of other nations.

TABLE VI.3.2.—PERCENT OF VENTURE CAPITALISTS IN FAVOR OF SPECIFIC INDUSTRIAL POLICY ACTIONS UNDER SPECIAL CIRCUMSTANCES

[In percent]

	Specific Industrial Policy	
	In favor	Opposed
Type of fund:		
SBIC	30.7	69.3
Independent	23.5	76.5
Corporate	31.0	69.0
Size of fund:		
Small	31.3	68.8
Medium	26.1	73.9
Large	30.9	69.1

TABLE VI.3.3.—TYPES OF SPECIFIC INDUSTRIAL POLICY INTERVENTIONS PREFERRED BY VENTURE CAPITALISTS WHO FAVOR INDUSTRIAL POLICY UNDER SPECIAL CIRCUMSTANCES

[In percent]

Type of industrial policy interventions	Type of fund		
	SBIC	Independent	Corporate
Overcome trade barriers against U.S. practices	76.2	81.8	91.7
Counter unfair trade practices of other nations	77.8	66.7	100.0
Expansion of high-technology exports	61.9	47.8	61.5
Counter industrial policy practices of other nations	58.1	50.0	69.2
Aid to basic goods industries	31.0	9.1	35.7
Number of respondents	45	24	14

[45] Ibid. pp. 18–20.

The interesting part of the JEC survey findings is that those firms that favor some form of direct Federal Government subsidy do so only in those cases when other nations are giving subsidies, erecting trade barriers against U.S products, or engaging in other unfair trade practices. This view has been called mirror image reciprocity and should not be interpreted as support for an increase in the Federal Government's role in domestic capital market decisions.

CONCLUSIONS

The complex tax and regulatory environment is a major factor that governs incentives for entrepreneurial and venture capital activities. Often policymakers and regulators structure government policies and programs to achieve economic and social objectives without being fully cognizant of the ramifications of their policy actions on the Nation's overall climate for entrepreneurship. The discussions on the capital gains tax, pension fund regulations, trends in commercial and investment banking, and the recent industrial policy movement in the United States suggests that this occurs all too frequently.

VII. SUMMARY AND CONCLUSIONS

The Nation's venture capital industry was studied in this report. The study began by looking at those factors responsible for the post-1978 surge in venture capital availability. It then proceeded to discuss the major investment patterns within the venture capital industry. Investments by stages in business development, geographical zones, and technological orientation were discussed. The capital gap and regional gap issues were also discussed. Finally, the complexity of the Nation's institutional environment governing the venture capital process was emphasized in discussions of capital gains taxes, pension fund regulations, commercial and investment banking, and industrial policy strategies.

The study is based upon a comprehensive survey—the first of its kind—of the Nation's venture capital markets. Over 47 percent, or 277, of the Nation's leading venture capitalists participated in the survey.

Venture capital firms were found to be highly specialized investors who participate, with other venture capital firms and investors, largely in seed, startup, and early expansion investments. The majority of investments receiving venture capital backing are in companies that use technology to expand the Nation's economy into new products and processes that raise productivity and improve the quality of life. Venture capitalists are hands-on investors who try to minimize risk by diversifying their firm's investment portfolio across companies by stages in business development, by regions, and by coinvestments with other venture capital firms.

This study of the Nation's venture capital process has significance not only for the insights it provides into the dynamics of the venture capital process, and the public policies that influence that process, but because it has implications for a much broader range of entrepreneurial activities within the economy. Venture capital is only a small part of the Nation's total entrepreneurial community, but the process of company formation, early expansion, and mature development experienced by venture capital companies is indicative of what other entrepreneurial companies must experience.

A major conclusion of the study is that policies to aid venture capital formation and innovation must follow a two-pronged path. A two-pronged policy path is necessary because of the interdependence of venture capital and the availability of entrepreneurial deals.

Another finding was that the capital gains tax differential was, and continues to be, a major factor behind the post-1978 surge in venture capital availability. Other important contributing factors include improved pension fund regulations; lower SEC registration, reporting, and filing costs for small firms seeking private and public access to equity funds; and an improved market for initial public stock offerings. The combined effect of these contributing

factors resulted in a shift in the proportion of capital market resources (saving) directed to risky investments. As a result, venture capital supply has been increasing at a faster pace than growth in the Nation's supply of total saving.

Without an active venture capital market, a serious misallocation of resources would exist in the Nation's capital markets: An inadequate supply of risk capital for entrepreneurial investments would emerge. Substantial empirical evidence was provided which shows that large institutional investors (for example, life insurance companies, pension funds, and commercial banks) are biased in their portfolio choices regarding risky, small business and other entrepreneurial investments. A lack of institutional expertise in small business investing and high information costs were found to be the primary reasons for the existence of a capital gap problem.

An active venture capital market, spurred on by preferential capital gains tax treatment, improved pension fund regulations, lower SEC regulatory costs, and an improved market for initial public offerings, has emerged to fill much of the void caused by the increasing role of large institutional investors in the Nation's capital markets. Without a thriving venture capital market, many economically profitable entrepreneurial investments would go unfunded. Productivity growth and job creation would suffer from capital market inefficiencies and a lower rate of technological innovation. For this reason, the JEC study found venture capital availability to be a major factor in the health of the Nation's overall climate for entrepreneurship and innovation.

While venture capital has grown substantially in recent years, it is still in short supply. An examination of the portfolio performance of venture capital firms reveals that they anticipate a minimum rate of return, 30 percent per annum, on individual investments. Most formal business proposals submitted to the venture capital community cannot meet this standard and go unfunded. Of the deals they do make, venture capitalists calculate that about 50 percent will be winners and about 15 percent will be losers. Over 60 percent of the portfolio companies are expected to be liquidated by going public or merging upward.

Unquestionably, only the cream of the crop of entrepreneurial investments receive funding from the venture capital community. Implied in the analysis, and corroborated by other studies, is that venture capital investments offer a risk adjusted rate of return substantially in excess of risk adjusted rates of return on other types of investments. This finding suggests that the capital gap problem is real. Economic efficiency requires that capital market funds be allocated until risk adjusted rates of return on alternative investments are equated at the margin. Only when this condition is satisfied will the capital gap problem be eliminated.

The JEC study found that the best way to close the capital gap is to encourage growth in the overall supply of risk capital. Policies to increase the Nation's saving rate—the elimination of double taxation of savings and a reduction in the deductibility of interest expenses on consumer durables—would be appropriate. Other policies to increase the proportion of capital market resources flowing into entrepreneurial investments will also be necessary. Continued preferential tax treatment of capital gains; improved pension fund reg-

ulations; lower SEC filing, registration, and reporting costs of small businesses; and an expanded market for initial public stock offerings would be helpful. Also, regulatory barriers could be removed to enable large institutional investors to rely more on specialized financial intermediaries, such as venture capital firms and investment bankers, to select and manage their small business investment portfolios.

Monetary and fiscal policies to provide for stable noninflationary economic growth, gradual deficit reductions to lower real interest rates, and continued improvements in the nation's tax and regulatory environment are other policies that would be helpful in encouraging continued growth in venture capital markets and related activities.

The number and quality of entrepreneurial deals have increased sharply in response to growth in venture capital availability. Continued expansion of the venture capital industry must be accompanied by an improved climate for entrepreneurship in the United States. Public policies to improve the entrepreneurial climate might include liberalized incentive stock options so entrepreneurial companies can attract the needed talents, strong basic research at American universities, improved technology transfer from Government laboratories, R&D tax credits to encourage commercial research, antitrust regulations to encourage formation of R&D joint ventures among American firms, the provision of a highly educated labor force, and competition in domestic and international markets. Competitive markets are necessary to increase entrepreneurial adjustments within the economy as it responds to worldwide technological and market trends.

The State and local government role is important because of the regional gap in the availability of venture capital. California, Massachusetts, New York-New Jersey, and Texas have the most active venture capital markets. Venture capital markets are thinly spread throughout the other States and regions. An important finding of the JEC study was that, because of these regional gaps, entrepreneurs in the venture capital poor regions are at a competitive disadvantage in getting otherwise comparable deals funded by the venture capital industry. The primary significance of this finding is that there are inefficiencies in the inter-regional allocation of venture capital market resources in the United States.

The Federal Government can mitigate the adverse effects of the "regional gap" problem by pursuing policies to expand venture capital supply at the national level. At the State and local level, policies to encourage the development of private venture capital markets are necessary. A small, but thriving, regional venture capital market can help entrepreneurs gain access to venture capital markets in other regions by arranging coinvestment opportunities with venture capital firms in other regions. Other State policies to encourage risk taking (e.g., lower capital gains taxes), reduced risk aversion of institutional investors, and coordinated Federal and State securities regulations would be helpful.

Finally, governments are often tempted to stimulate economic growth through direct interventionists methods. This study recommends, as an alternative to industrial policy approaches, that Federal, State. and local governments use their tax, regulatory, and expenditure authority to "target the process of innovation". Government owned and operated venture capital firms are not condoned in this study.

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APPENDIX

Congress of the United States

JOINT ECONOMIC COMMITTEE

(CREATED PURSUANT TO SEC. 5(a) OF PUBLIC LAW 304, 79TH CONGRESS)

Washington, D.C. 20510

July 15, 1983

SURVEY OF VENTURE CAPITAL COMPANIES IN THE UNITED STATES

The Joint Economic Committee has selected your venture capital fund for voluntary participation in a questionnaire survey on matters of importance to public policy and the business community. The enclosed questionnaire is designed to provide information on factors that influence venture capital activity. Summary information from the survey will be used by the Joint Economic Committee to evaluate Federal, State and local policies that influence business development financing and capital formation.

Knowing how venture capital funds operate and make investment decisions will enable Congress to design policies which encourage business expansion rather than thwart it. Improved public policies could mean less uncertainty and more investment for business.

Your participation in this study is vital to its success. Please assign the task of completing this questionnaire to the person(s) in your organization most knowledgeable of your venture fund's operations. We are keenly aware of the value of your time and have tried to construct the questionnaire in such a way as to minimize your time and effort.

Thank you for your assistance, and be assured that all information on your response will be held strictly confidential. Only the aggregate results will be made available.

Sincerely,

Roger W. Jepsen, Chairman

42-926 O - 85 - 7

JOINT ECONOMIC COMMITTEE
Survey of Venture Capital Companies in the United States

Confidential

Title of Person Completing Survey _____

Level of involvement with portfolio decisions within the company:

_____ Very closely involved
_____ Considerable involvement
_____ Casual involvement
_____ Only slightly involved, if at all

PART I. VENTURE FUND IDENTITY AND CHARACTERISTICS

1. Name of Company commonly used _____

2. Type of Organization (check one or more):

_____ SBIC corporation
_____ SBIC partnership
_____ MESBIC corporation
_____ Individual
_____ MESBIC partnership
_____ Limited partnership
_____ Corporation
_____ Other, please specify _____

3. Year first venture fund was formed _____

4. Number of separate funds formed _____

4a. Please give total capital invested in your fund(s):

Start-up (date_____)	$_____
December 1982	$_____
December 1984 (est.)	$_____

4b. Please estimate portfolio value

December 1982	$_____
December 1984 (est.)	$_____

5. Current sources, by percent:

Individuals and family partnerships	_____%
Operation corporation	_____%
University endowment funds	_____%
Pension funds	_____%
Foundations	_____%
Foreign sources	_____%
Other	_____%

PART II. INVESTMENT PORTFOLIO

6. How many companies are in your firm's current portfolio? _____

What is the average size investment (in dollars)?	$_____
What is the smallest investment (in dollars)?	$_____
What is the largest investment (in dollars)?	$_____

7. How many portfolio companies are co-investment arrangements with other venture capital companies? _____

8. Based upon past experience, approximately what percent of your firm's portfolio companies do you expect will ultimately:

_____ % Go public
_____ % Merge upward
_____ % Remain viable businesses but unable to attract outside investors
_____ % Fail
_____ % Other, please specify _____

9. *In the first column,* please indicate the percent distribution of your firm's investment portfolio (at cost) for each type of investment by stages of business development. (Please see the back of the questionnaire for a definition of each stage of business development financing). *In the second column,* indicate the minimum expected compound annual rate of return on *new* investments at each of the stages of business development.

Types of Investments, by Stages	(1) Portfolio Distribution (at cost)	(2) Minimum Expected Compound Annual Rate of Return
Pre-start-up or early R&D stage	_____%	_____%
Start-up, or first stage	_____%	_____%
Early expansion, or 2nd stage	_____%	_____%
Rapid expansion, or 3rd stage	_____%	_____%
Bridge financing	_____%	_____%
Management/leveraged buyouts	_____%	_____%
Other, please specify _____	_____%	_____%
TOTAL	100%	

10. Approximately what percent of your investment portfolio (at cost) is in companies that are engaged primarily in technological innovations to improve productivity (_____%)? In technological innovations to lengthen life or improve the quality of life (_____%)?

11. Roughly, indicate the percent of your U.S. portfolio companies within the following geographical zones from your main office:

50-mile radius	_____%
50-200 mile radius	_____%
200-500 mile radius	_____%
Beyond 500 miles	_____%

12. To what extent do you syndicate investments with other venture lenders in the more distant regions of the country? (Please check):

_____ Regularly _____ Somewhat frequently _____ Occasionally
_____ Rarely _____ Never

13. Approximately, how many formal business proposals does your company review annually?

_____

14. How does the current *volume* of new formal business proposals compare with the 1978-80 period?:

_____ Up substantially _____ Down slightly
_____ Up slightly _____ Down substantially
_____ About the same _____ Other, please specify _____

15. How does the *quality* of the current volume of formal business proposals compare with the 1978-80 period?:

_____ Up substantially _____ Down slightly
_____ Up slightly _____ Down substantially
_____ About the same _____ Other, please specify _____

16. Approximately what percent of the formal business proposals that your company reviews will actually be funded?

_____%

17. On average, for the successful deals, how many days after the business plan was submitted did it take before the funding decision was made?

_____

18. Approximately, what percent of your deals over the past five years originated from within your company

_____%

19. On a scale of 10 (high) to 0 (low), please rate the importance of each of the following factors in your firm's evaluation of business proposals:

Scale:	High				Medium					Low
	10	9	8	7	6	5	4	3	2	1	0

Management team	( )	Price of equity participation	( )
Technical assessment of product	( )	Percent of equity ownership	( )
Market niche with high growth potential	( )	Type of market (e.g., technology or services)	( )
Timing of presumable positive cash flow	( )	Patent & legal considerations	( )
		Other, please specify _____	( )

20. Please indicate your firm's preferred level of involvement with the management team of portfolio companies in which you are the lead investor:

_____ Close involvement
_____ Frequent involvement
_____ Occasional involvement
_____ Very little, if any, involvement

20a. If your firm prefers close, frequent or occasional involvement on key issues, what type of involvement is preferred? (More than one response may be appropriate):

_____ Planning development
_____ Personnel issues
_____ Marketing
_____ Supplier relationships
_____ Future financing arrangements
_____ Day-to-day operations
_____ Other, please specify _____

21. Since your firm has been in existence, approximately what percent of your portfolio companies were losers? _____ % Winners _____ %

Losers are defined as _____

_____

Winners are defined as _____

_____

PART III. SUPPLY OF FUNDS AND PUBLIC POLICY

22. Studies have shown that the supply of funds for venture capital investments has increased sharply in recent years. Please rate the importance of each of the following as contributing factors (1 = extremely important, 2 = very important, 3 = some importance, 4 = little importance, if any, 5 = don't know):

The reduction in inflation and interest rates	1 2 3 4 5
Revision of ERISA regulations for pension fund investments	1 2 3 4 5
Capital gains tax reductions in 1978 and 1981	1 2 3 4 5
Revision of SEC regulations to give small issuers greater access to public funds	1 2 3 4 5
Revival of new issues market	1 2 3 4 5
Economic Recovery Tax Act of 1981 (other than capital gains tax reduction)	1 2 3 4 5
Other, please specify _____	
_____	1 2 3 4 5

22a. What impact has the recent increase in the supply of venture capital funds had on each of the following (1 = large increase; 2 = moderate increase; 3 = little impact, if any; 4 = moderate reduction; 5 = large reduction):

The price of high quality deals	1	2	3	4	5
Quality of investment decision-making	1	2	3	4	5
Length of time to consummate deals	1	2	3	4	5
Availability of deals	1	2	3	4	5
Competition for deals	1	2	3	4	5
Growth in the number of venture capital firms	1	2	3	4	5
Financing for start-ups	1	2	3	4	5
Financing for leveraged buy-outs	1	2	3	4	5
Other, please specify _____	1	2	3	4	5

23. When a company decides on a public stock offering, costs are necessarily incurred. In your opinion, are the costs of public stock offerings for issues of $10 million or less an important barrier to capital access? _____ Yes _____ No

24. If yes, please rate the *relative* importance of each of the following factors that contribute to the costs (1 = very significant; 2 = significant; 3 = somewhat significant; 4 = little significance, if any):

Registration costs, including fees for accounts and attorneys	1	2	3	4
Federally-mandated reporting requirements such as 10-Q and 10-K financial statements	1	2	3	4
The loss of sensitive information to potential competitors	1	2	3	4
Dilution of managerial ownership	1	2	3	4
Loss of managerial flexibility	1	2	3	4
Other, please specify _____				
_____	1	2	3	4

25. In your opinion, do institutional investors (including banks) have a bias against investing in small businesses?

_____ Yes _____ No

25a. If yes, please rate in terms of their significance the following reasons why you think institutional discrimination may exist. (1 = very significant; 2 = significant; 3 = somewhat significant; 4 = little significance, if any):

Uncertainty over Department of Labor interpretation of the "prudent man" rule, and other ERISA requirements	1	2	3	4
Inadequate secondary market for small business securities	1	2	3	4
The cost of acquiring information on small business securities	1	2	3	4
High transaction costs of a large number of small investments for a given portfolio size	1	2	3	4
Inadequate risk-adjusted return on small business investments	1	2	3	4
Excessive risk-adverse behavior of institutional investors	1	2	3	4
The impact of government regulations on the asset and liability decisions of institutional investors	1	2	3	4
Lack of institutional expertise in small business investing	1	2	3	4

25b. In your opinion, have the new SEC regulations governing exemptions and private placements (Regulation D) significantly improved capital market access for small and medium-sized businesses?_____Yes_____No. Please explain:

_____

_____

_____

26. In your opinion, do entrepreneurs in some states and regions have more difficulty in attracting venture capital than entrepreneurs with comparable deals in other states and regions?

_____ Yes _____ No

26a. If yes, how would you rate the following states and regions in terms of entrepreneurial access to venture capital for otherwise comparable deals (1 = excellent access; 2 = good access; 3 = fair access; 4 = poor access; 5 = don't know)?

Texas	1	2	3	4	5
California	1	2	3	4	5
New York and New Jersey	1	2	3	4	5
Massachusetts	1	2	3	4	5
Great Lakes	1	2	3	4	5
Southwest, other than Texas	1	2	3	4	5
Southeast	1	2	3	4	5
Mountain and Plain	1	2	3	4	5
Middle Atlantic, other than New York and New Jersey	1	2	3	4	5
New England, other than Massachusetts	1	2	3	4	5
Far West, other than California	1	2	3	4	5

26b. If yes, to what extent do the following factors contribute to the state and regional imbalances in access to venture capital financing (1 = very significant; 2 = significant; 3 = somewhat significant; 4 = little significance, if any)?

State and regional differences in tax structures	1	2	3	4
State and regional differences in availability of good deals	1	2	3	4
State and regional differences in securities regulations	1	2	3	4
Inadequate access to broker-dealers in capital poor states	1	2	3	4
Heavy geographic concentration of venture capital firms in a few regions (e.g., California, Massachusetts and New York)	1	2	3	4
State and regional variations in savings rates	1	2	3	4
State and regional variations in the willingness of institutional investors (including banks) to take risks	1	2	3	4
Other, please specify _____				
_____	1	2	3	4

27. How well do the securities regulations in your state (name of state_____) coordinate with Federal securities regulations?

_____ very well; _____ well; _____ minor differences; _____ poorly; _____ very poorly

27a. In your opinion, in those states with poor coordination, what effect does the conflict have on each of the following (1 = increases greatly; 2 = increases somewhat; 3 = little or no effect; 4 = decreases somewhat; 5 = decreases greatly)?

Difficulty in interpreting the law	1	2	3	4	5
Difficulty in complying with the law	1	2	3	4	5
Expense of registration fees	1	2	3	4	5
Legal and accounting costs	1	2	3	4	5
Duplication of Federal/State regulatory efforts	1	2	3	4	5
Protection of investor interest	1	2	3	4	5
Availability of venture capital deals within the state	1	2	3	4	5
Willingness of venture capital industry to invest in deals within the state	1	2	3	4	5

28. Many states (and communities) are considering policies to enhance venture capital financing opportunities for promising entrepreneurs within their respective jurisdictions. On a scale of 10 (high) to 0 (low), how would you rate the potential of each of the following specific state actions to improve venture capital financing?

Scale:	High					Medium					Low
	10	9	8	7	6	5	4	3	2	1	0

Amend state capital gains tax to favor long-term investments ( )
Remove or eliminate unnecessary state regulations and regulatory procedures that discourage institutional investors from participating to a greater extent in business development financing ( )
Improve public awareness of investment opportunities in small business securities ( )
Improve liquidity of regional broker-dealer firms ( )
Establish a state-operated venture capital fund for the purpose of investing with professionally managed venture capital firms ( )
Establish a state-operated finance bank for the purpose of making direct loans to small businesses ( )
Provide state government incentives for the establishment of industry-organized venture capital funds ( )
Encourage state pension funds to participate in business development financing to a greater extent ( )
Amend state securities regulations to be consistent with SEC regulations on public and private placement offerings ( )
Establish a state-operated loan guarantee program to reduce the risk to institutional investors (including banks) from greater participation in business development financing ( )

PART IV. OTHER ISSUES

29. Many industrial policy advocates argue for a Federal policy that would direct capital market resources to government "targeted" companies and industries. In general, do you favor the government targeting approach to stimulating industrial innovation?

_____ Yes _____ No

30. Are there specific circumstances in which you would favor direct Federal Government involvement in the allocation of capital market resources?

_____ Yes _____ No

30a. If yes, would you favor direct credit allocation in any of the following cases:

To aid the beleaguered basic goods industries such as steel and autos _____ Yes _____ No
To encourage the exports of high technology products _____ Yes _____ No
To counter the industrial policies of other nations _____ Yes _____ No
To counter unfair trade practices of other nations _____ Yes _____ No
To penetrate foreign markets when trade barriers put U.S. companies at an unfair advantage _____ Yes _____ No
Other cases, please specify _____

_____ _____ Yes _____ No

31. The following are a few of the many Federal proposals that have been advanced to aid capital formation and innovation in the United States. On a scale of 10 (high) to 0 (low), please assess the relative potential of each proposal in terms of its ability to stimulate capital formation and innovation:

Scale:	High					Medium					Low
	10	9	8	7	6	5	4	3	2	1	0

Further reduce the cost of SEC regulations and red tape associated with registering or exempting securities for public offerings and private placements	( )
Develop uniform State securities regulations consistent with SEC regulations for public offerings and private placements	( )
Reduce the corporate income tax rate and expand the tax brackets applicable to small business, or enact graduated income tax for corporations that top out at much higher levels (e.g., $5-10 million profit before tax)	( )
Enact a flat income tax with exemptions for capital gains	( )
Enact an income tax based on consumption, not investment income	( )
Reduce capital gains tax further (or enact "rollover" exemption)	( )
Remove regulatory restrictions that discourage public ownership of venture capital companies	( )
Provide special tax advantages for qualified small business securities with hybrid debt/equity features	( )
Restore the SBA direct loan program	( )
Restore general jobs tax credit	( )
Restore qualified stock options or improve provisions of incentive stock options law; in particular, repeal recent change enacted by TEFRA which makes ISO gains subject to minimum tax	( )
Clarify Treasury debt/equity definitions, or provide a "safe harbor" for small business from Sec. 385 of the Internal Revenue Code	( )
Maintain a stable national economy with non-inflationary growth at a near capacity output	( )
Allow deferral of start-up costs for tax purposes	( )
Relax ERISA restrictions to encourage investment in small businesses and venture capital pools	( )
Improve the liquidity of small business securities	( )
Encourage the expansion of the secondary market for regional broker/dealer firms by establishing a market-maker reserve	( )

32. To what extent does your firm participate in venture financing outside the United States?

_____ Frequently _____ Occasionally _____ Infrequently _____ Never

33. Do you believe that there is danger that the venture capital industry is growing too rapidly?

_____ Yes _____ No

34. In your opinion, should Federal Government equity participation in professionally managed private venture capital deals be encouraged?

_____ Yes _____ No

35. The following are several suggestions for reforming the capital gains tax. On a scale of 10 (high) to 0 (low), please indicate the level of priority that you would like Congress to give to these proposals:

Scale:	High					Medium					Low
	10	9	8	7	6	5	4	3	2	1	0

Adopt a graduated rate schedule with lower rates for small businesses	( )
Provide equal tax treatment for corporate and individual capital gains	( )
Allow the rollover of capital gains into new qualified investments	( )
Shorten the period for long-term capital gains	( )
Lower the capital gains tax on investments held for longer periods of time	( )
Lower capital gains tax rates for investments in unseasoned (or initial) securities	( )

36. The following are a series of potential problems confronting the venture capital industry. On a scale of 10 (high) to 0 (low), please indicate how you feel about the seriousness of each of these problems as a barrier to expansion of the Nation's venture capital industry:

Scale:	High					Medium					Low
	10	9	8	7	6	5	4	3	2	1	0

Instability in the new issues market	( )
State securities regulations and practices	( )
Inadequate training for venture capital managers and investment personnel	( )
Escalating price of good deals	( )
Overall tax burden	( )
Decline in U.S. R&D competitiveness	( )
Not enough quality deals	( )
Federal securities regulations and practices	( )
High real interest rates	( )
Shortage of entrepreneurs with technical knowledge and business savvy	( )

37. Which of the following best describes your outlook for industrial innovation in the United States over the next decade or so (more than one answer may be appropriate)?

_____ A sharp acceleration in the pace of industrial innovation
_____ Some acceleration in the pace of industrial innovation
_____ The rate of industrial innovation will remain about the same or increase moderately
_____ A continued deterioration of industrial innovation in the U.S.
_____ U.S. will lose its edge in technological superiority
_____ U.S. will maintain or increase its edge in technological superiority
_____ Other, please specify _____

38. Do you feel that the SEC is attuned to the special financing problems of fast growth/high tech companies?

_____ Yes _____ No

39. In your opinion, should the Glass-Steagall Act of 1933 be amended to allow commercial banks to own shares in non-banking businesses? _____Yes _____No

39a. If yes, do you feel that commercial bank equity participation would result in a greater non-bank management emphasis on long-run corporate goals? _____Yes _____No

39b. Should the Glass-Steagall Act also be amended to allow commercial banks to engage in underwriting activities? _____Yes _____No

40. *For corporate venture fund managers only:* Please rate the relative importance of the following objectives in terms of the mission of the corporate venture fund that you manage (1 = extremely important, 2 = very important, 3 = somewhat important, 4 = little importance, if any):

To incubate future acquisitions that can become new divisions	1 2 3 4
To gain windows into new technologies and new markets that coincide with the strategic plans of the parent corporation	1 2 3 4
To obtain licenses to manufacture and sell new products	1 2 3 4
To provide work for plants that have unused capacity	1 2 3 4
To teach entrepreneural thinking to middle managers	1 2 3 4
To find an outlet for excess cash flow	1 2 3 4
To create capital gains	1 2 3 4

In your opinion, which three of the aforementioned objectives does your corporate venture subsidiary come closest to actually achieving?

1. _____

2. _____

3. _____

DEFINITIONS OF STAGES OF BUSINESS DEVELOPMENT FINANCING

PRE START-UP OR EARLY R&D STAGE: The company is at the idea stage only. Financing is needed for research and product development. The company may be in the process of being organized but a formal business plan has not been established and key management personnel have not been selected. Marketing feasibility studies may or may not be underway.

START-UP OR FIRST STAGE FINANCING: The company is organized, key personnel are selected and a formal business plan is available. Additional R&D funding may be necessary. A successful prototype has been developed and tested. Marketing studies have been completed. Financing is needed to initiate commercial manufacturing and sales.

EARLY EXPANSION OR SECOND STAGE FINANCING: Capital for the initial expansion of a company which is producing and shipping and has growing accounts recievable and inventories. Although the company has clearly made progress it may not yet be showing a profit.

RAPID EXPANSION OR THIRD STAGE FINANCING: Funds provided for the major growth expansion of a company whose sales volume is increasing and which is breaking even or is profitable. These funds are utilized for further plant expansion, marketing, working capital or development of an improved product.

BRIDGE FINANCING: Financing for a company expecting to go public within six months to a year.

MANAGEMENT/LEVERAGED BUY-OUT: Funds provided to enable operating management and investors to acquire a product line or business.

SOURCE: Adapted from definitions provided by *Venture Economics.*

Please return in the enclosed
postage free envelope to:

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