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VENTURE CAPITAL PROCESS

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VENTURE CAPITAL FINANCING

EXECUTIVE SUMMARY

Venture capital (VC) financing of business growth has grown in popularity in the U.S. in the last ten years. This increase is due to several factors, primarily the reduction of the capital gains tax, legislation allowing pension funds in the VC market, and the rapid growth of the high technology sector. This paper describes the development of the VC industry in this country and considers its applicability as method of financing in other countries, particularly LDCs.

Venture capital is a form of financing which provides risk capital for long-term investment for companies in early stages of development. The major distinction between VC and more conventional forms of financing is that the venture capitalist usually maintains control over his investment by actively participating in the management of the company.

Although venture capital financing has grown in the U.S. in recent years, it still plays a minor role as a source of capital for investment. Its applicability in LDCs is limited. Cultural and structural factors work against the establishment of VC financing in LDCs. The major deterrents are the lack of strong, diverse financial markets to allow venture capitalists to liquidate holdings, the reluctance of investors to finance medium and long term investments and the unwillingness of company owners to dilute their control through the issue of equity.

The following description of the venture capital industry and the nature of venture capital financing was prepared by Arthur Young & Company. Much of the information presented in the paper was included in a seminar presented to AID personnel in Washington by Advent International and Venture Economics. The statistics contained in the appendix were part of a seminar by Mr. Don Christensen of Greater Washington Investors, Inc. and Mr. Leroy Ellison of Aztech Associates presented in several cities in India for USAID. Arthur Young & Company would like to express its appreciation to Advent International, Greater Washington Investors, Inc. and Aztech Associates for granting permission to use the charts and tables included in the paper.

I. INTRODUCTION

1. Background

Venture capital financing generally involves a long-term investment to further the development of a company with high growth potential. While the emphasis in venture capital financing is on enterprises in the early stages of development, it can also include financing the expansion or revitalization of more mature businesses, and the financing of management buy-outs of corporate divisions or businesses.

Although the origins of venture capital probably date to the establishment of the earliest businesses, its emergence as an industry began in the early 1960's. Prior to that time, venture capital financing was conducted in a less formal way and was generally provided by wealthy individuals rather than, as is the current trend, through companies established to manage a capital pool provided by groups of investors or a corporation. Venture capital has come to be regarded as an investment medium that provides significantly higher returns than traditional investments, although with an attendant risk that is considerably higher as well. The increase in investor interest in venture capital resulted in the industry growing from a base of $2.5 billion in 1977 to $19.6 billion in 1985. This growth was largely the result of three factors:

- o Reduction of the tax on capital gains;
- o Legislation that permitted pension funds to enter the market; and,
- o Rapid growth of high technology sector.

While the industry has grown at a rapid rate, venture capital still accounts for a very small percentage of the investment capital in the U.S. For instance, traditional institutional investors such as pension funds and insurance companies invest only 1 to 1.5% of their assets in venture capital funds. The evolution of the venture capital industry in the United States has been possible because of the strong and sophisticated financial markets that exist in this country. It remains to be seen, however, whether the industry will develop into a major force in savings mobilization.

2. Venture Capital Firms

Venture capital firms, in general, fall into one of four types of organizations:

- o Private venture capital firms

o Public venture capital funds

o Small business investment companies (SBICs)

o Venture capital subsidiaries of large corporations

Private venture capital firms generate the bulk of investment activity. These firms have been set up as partnerships although currently some larger firms have converted to public corporations in order to generate more capital for investment in the public equity market. The operation of the private capital firms and the public venture capital funds is generally the same except that the public firms must disclose more information in accordance the regulations of the Securities and Exchange Commission. Funding sources for both of these venture capital firms include insurance companies, pension funds, bank trust departments, corporations, individuals and foreign investors.

The Small Business Investment Company Act of 1958 resulted in the formation of the fourth form of venture capital firm. Small Business Investment Companies (SBICs) provide long-term equity capital and management assistance to small and medium-sized businesses, and have been major contributors to the growth of the venture capital industry. A related group of organizations, Minority Enterprise Small Business Investment Companies (MESBICs), also resulted from legislation. MESBICs were established to support and provide the same services as SBICs to minority-owned enterprises.

Some corporations have established venture capital subsidiaries which represent another source of venture capital assistance. These corporations are in both the financial and the manufacturing industries. Corporations are attracted to venture capital opportunities because of the access they provide to new commercial opportunities, in addition to the potential for a high return on investment.

The venture capital (VC) firm may invest through debt or equity (or some combination such as convertible debt) in young companies. The companies in which the VC firm has invested are generally referred to as portfolio companies. As a partner in the portfolio company, the VC firm plays an active role in monitoring the company's progress, and in guiding the management and financial planning process. This active involvement is a major characteristic of venture capital financing, differing from more traditional forms of financing. As an example, a venture capital firm might provide a retired senior executive, perhaps one of its investors, to assist the company resolve a difficult management or marketing problem. In a very real sense, the venture capitalist provides "value-added" assistance to the portfolio company.

Venture capital firms have invested in a diverse range of businesses and technologies spanning Mrs. Field's Cookies to Apple Computers. However, the more typical industries on which venture capital companies focus are data processing, software design and development, peripherals, communications, manufacturing and biotech/health industries. The average return on investment (ROI) by these industries varies from 2.6 times the net return for data processing ventures to 10.3 times the net return for peripherals. Industries of strategic importance for future investment include process control, data communication, ceramics, toxic waste management, health care services and defense controls.

3. Risk Capital

Venture capital firms are one source of risk capital available to an entrepreneur. In general, VC firms will provide about $500,000 in post start-up financing. For that investment, VC firms expect that the company will generate $20 million or more in revenues over the next five to ten year period, at the end of which time the company is expected go public in an initial public offering (IPO), or to sell out to another firm. A survey of the largest and most active venture capital firms in 1985 indicated that investments ranged from $300,000 to $4 million. The average investment was $813,000.

The expected loss for risk capital typically exceeds 50%. Therefore, the venture capital firm's expected reward for successful investments must, of necessity, be sufficiently high to cover large losses. As a rule-of-thumb, VC investors expect median five-year gains of 10 times the initial investment for start-up companies, 6 times the investment for firms under 1 year old, five times the investment for firms under 5 years old, and three times the investment for established firms. Venture capital is a profitable business with average annual returns of approximately 27%. Venture capital firms have been most active in the United States. In other parts of the world the activities of individual enterprise and venture capital firms have evolved far more slowly due to cultural and/or logistic barriers. Problems which have discouraged the development of venture capital in countries outside the U.S. will be discussed in section VI of this paper.

4. Types of Financing Instruments

The VC firm provides funds through a combination of equity and debt capital. Various financial instruments are often employed in combination. These include common stock, preferred stocks, convertible debentures and subordinate debentures with warrants. The percentage of equity that the VC firm will own is based on the maturity of the company, its general financial condition, the cash flow analysis, the amount of capital required and the risk-reward profile.

II. VENTURE CAPITAL GOALS AND PERSPECTIVES

The major goal of VC firms is to generate substantial long-term capital gains through investment in small and medium sized businesses. It should be clear that the emphasis in this goal is on private capital gain, and not necessarily the creation of jobs or other social benefits.

Generally, venture capitalists are not seeking control of a company. However, most investment agreements between the VC firms and the portfolio companies provide a mechanism for the venture capitalists to step in and protect their investment when there are signs of trouble. When portfolio companies develop as predicted the VC firm participates in the selection of the management team and the strategy of the business. The VC firm then supports and supplements management with dollars, financial and planning skills, experience and guidance.

Trust between the VC firm and its portfolio company is essential. A successful venture requires sharing both good and bad news. The relationship between the VC firm and the entrepreneur goes beyond honesty. The chemistry must be such that both parties feel at ease in brainstorming ideas, problem solving and developing strategies together. Without agreement on the business management and strategy between management and the VC associates, the entrepreneur-venture capital relationship will deteriorate.

The three characteristics that a VC firm principally looks for in considering a potential investment are:

1) Strong management resources. The VC firm looks for a management team composed of bright people with solid experience, balanced life styles, and strong spousal support who are totally committed to succeeding.

2) Unique investment opportunity with a potential edge with respect to competition. The VC firm seeks a young company with a unique niche in the market which could be transformed into a profitable market segment.

3) Potential for substantial capital appreciation. The return on investment expected by the VC firm is determined by the company's stage of development as assessed by the venture capital firm. The minimum return is an average 35% per year (averaging the years with negative and positive cash flow).

III. THE ENTREPRENEUR/VENTURE CAPITALIST RELATIONSHIP

1. The Entrepreneur

Venture capitalists would all agree that the individual(s) behind a young company, the entrepreneur with the idea or prototype, is the key to the success of a venture. Thus, VC firms must be adept at recognizing first-rate entrepreneurs and supportive management staff. There are a few basic qualities which the VC firms look for in their selection of successful entrepreneurs. These are:

1) Motivation - The entrepreneur must keep motivated through the different stages of development while maintaining staff motivation as well.

2) Self-confidence.

3) Long-term foresight - considering the usual time horizon of five to ten years a long-term perspective is essential.

4) Adaptability - The final product can be quite different from the initial idea. VC firms want individuals who will keep pressing and adapting until a good product is developed.

5) High energy level - working long hours for sustained periods of time is always part of the process.

6) Persistent problem-solving ability - creativity is a basic element to a successful venture.

7) Initiative - the entrepreneur must be able to accept personal responsibility for his actions, and he must also make good use of his resources.

8) Goal setting ability.

9) Moderate risk taker classification - an entrepreneur must rely on past failures and successes in reaching final decisions and taking chances.

The underlying questions that are posed when evaluating an entrepreneur are:

1) Can the entrepreneur bring together an effective management team?

2) Can he coordinate the team's efforts towards the agreed-upon objectives?

3) How badly does he/she want it?

2. The VC Firm/Entrepreneur Relationship

The relationship of venture capital firms to entrepreneurs can be viewed schematically as follows:

ENTREPRENEUR
"CONCEPT"

RISK CAPITAL   INVESTMENT MANAGEMENT

INDIVIDUAL ENTERPRISE

This relationship evolves in stages. In the first stage the entrepreneur has begun to realize his idea using his own financial resources. Family and friends are often a valuable source of capital to the entrepreneur at this stage while he/she develops the prototype and forms the new company.

Venture capital firms most commonly enter at the second stage of development. At this point, the prototype product has been refined and the company is in production, but the entrepreneur has been unable to tap more conventional sources of capital to continue expanding his company. The decision to accept a venture capital firm's offer can be very difficult since the entrepreneur gives up part of the control in his company's management. In fact, entrepreneurs often view venture capital as a last resort for financing. The venture capital firm not only provides technical know-how on managing a growing business, it has a voice in all the major business decisions the companies make. Although such management assistance often improves companies'performance entrepreneurs find it difficult to accept that they may lose control of their companies.

The venture capital firm collects its capital and the return on its investment either when the company goes public and it sells its holdings, or when the portfolio company merges with another more established firm. Depending on the amount of capital the portfolio company has needed as it developed, as well as the schedule the venture capitalist had set for collecting his profits, it is possible that the entrepreneur may end up with as little as five percent of the stock when the company goes public.

IV. VENTURE CAPITAL PROCESS

The venture capital process can be divided into three separate stages: the investment stage, the management/value-added stage and the liquidation stage (figure 1). The following is a description of the process.

1. Investment Stage (Deal Flow):

Venture capital firms are continually searching for and finding good private companies. The investment stage consists of five separate steps:

a) gain access to investment opportunity
b) evaluation
c) due diligence
d) negotiate valuation and structure of investment
e) closing

a) Gain access to investment opportunity

Venture capital firms have different approaches to identifying and gaining new investment opportunities. The methods of gaining access can be divided into two basic types: reactive approach and proactive approach.

Reactive methods have been generally less successful than proactive methods. Reactive methods include direct mail contact by entrepreneurs seeking investors, friends and client contacts, and co-investment syndication opportunities. There is a high demand for venture capital in this country, and venture capitalists typically receive an incredible number of investment opportunities. Advent International estimates that it reviews 10,000 business plans annually. Co-investment syndication refers to a venture in which a group of venture capitalists engage jointly. Syndication typically occurs either because a venture is considered too risky for any single venture capital firm to be the sole investor or because it requires more capital than any single venture capital firm can provide.

The proactive approach entails gaining expertise in a specific industry. Such expertise is gained through various methods including: following industry-specific publications, attending trade shows, maintaining contacts with industry experts, meeting with managers from portfolio companies, making initial contacts with newly discovered companies, reviewing Dun & Bradstreet Reports, and maintaining an up-to-date databank on target companies and key personnel. As with many other businesses, venture capital business has reached such a level of sophistication that the generalist approach is no longer sufficient to be successful.

VENTURE CAPITAL PROCESS

INVESTMENT

- o GAIN ACCESS TO INVESTMENT OPPORTUNITY
- o EVALUATION PROCESS: BUSINESS PLAN
- o DUE DILIGENCE
- o NEGOTIATE VALUATION AND STRUCTURE OF INVESTMENT
- o CLOSING

MANAGEMENT/ VALUE-ADDED

- o MONITOR PERFORMANCE AS BOARD MEMBER/ SHAREHOLDER
- o ADD ADDITIONAL VALUE VIA:
  - ADDITIONAL FINANCING, EQUITY, DEBT AND R&D PARTNERSHIPS
  - RECRUITING ADDITIONAL STAFF
  - BROAD RANGE OF MANAGEMENT ASSISTANCE
  - SALES, MARKETING, TECHNOLOGY CONTACTS
  - INTERNATIONAL DISTRIBUTION AND MANUFACTURING

LIQUIDATION

- o PUBLIC OFFERING WHEN POSSIBLE
- o IDENTIFY AND NEGOTIATE MERGER OPPORTUNITIES/ RESTRUCTURING WHERE NECESSARY

JW

b) Evaluation

In order to locate potential investment ventures, venture capital firms must evaluate many companies. The evaluation process begins with the evaluation of the business plan prepared by the candidate company. This business plan is a detailed description of the company and its activities. The general format for such a plan includes the following sections:

1. executive summary
2. company history
3. technology
4. economics
5. marketing plan (with a competition section)
6. design and development plan (including an R&D section)
7. manufacturing and operations
8. management team*
9. overall schedule
10. critical risks*
11. financial plan
12. proposed company offering*
13. appendix (containing product literature)

Each of these sections is evaluated to determine the attractiveness of the venture. The sections of the business plan the venture capitalist evaluates most closely, however, are the starred sections: the management team, the critical risks, and the proposed company offering. For instance, a venture capital firm expects an experienced management team. Obviously, each member must show technical experience and commitment. Just as important, the venture capitalist must be convinced that the management team can work effectively together and that he can work well with the team before an investment can be considered.

Critical risks pertain to potential stumbling blocks to the venture's success. Potential risks considered are: price cutting by competitors, future unfavorable regulation, design and manufacturing cost overruns and excessive sales lead time.

The proposed company offering refers to the percentage of control the company is willing to give up in exchange for the risk capital and technical assistance the venture capital firm will provide. This offering is the starting point for the future negotiations between the management team and the VC firm.

The evaluation process for the venture capital firm includes several levels of review. First, a firm officer skims the business plan concentrating on the executive summary, the proposed management team and the technical chapter. If the business plan appears interesting the associate discusses the plan with the VC company partners and other associates. He also contacts industry experts.

The officer then returns to the business plan for a more thorough evaluation including a detailed analysis of the financial plan. In analyzing the financial plan, he reviews projections, including expenses as a percent of sales and estimated pre-tax earnings, and evaluates the potential percentage of VC ownership.

c) Due diligence

The third step in the VC process is referred to as due diligence. Due diligence entails the collection, review, and analysis of all information available on the proposed venture. The information evaluated includes the history, the business plan, the detailed resumes of the management team members, the industry research, the financial history, and the upside potential and downside risk. The VC firm thoroughly evaluates the targeted markets, the industry, the financial analysis and the management checks. The market analysis performed by the venture capitalist covers: the quality of service/product it provides; its place in the market; and how it is perceived by industry experts, customers and the competition. Due diligence involves visiting and observing the company in question, speaking to customers, the competition, trade associations and other venture capitalists, and visiting trade shows.

d) Negotiate valuation and structure of investment

Once the venture capitalist has decided that a start-up or expanding business is a good risk, he will negotiate with the entrepreneur to determine the terms of the venture. These negotiations would cover the type of agreement between the entrepreneur and the VC firm, the percent of equity the VC firm would control, other forms of financing the VC firm will make available, the timetable until an initial public offer or a merge, the division of profit at the liquidation stage, and other contingencies and agreements.

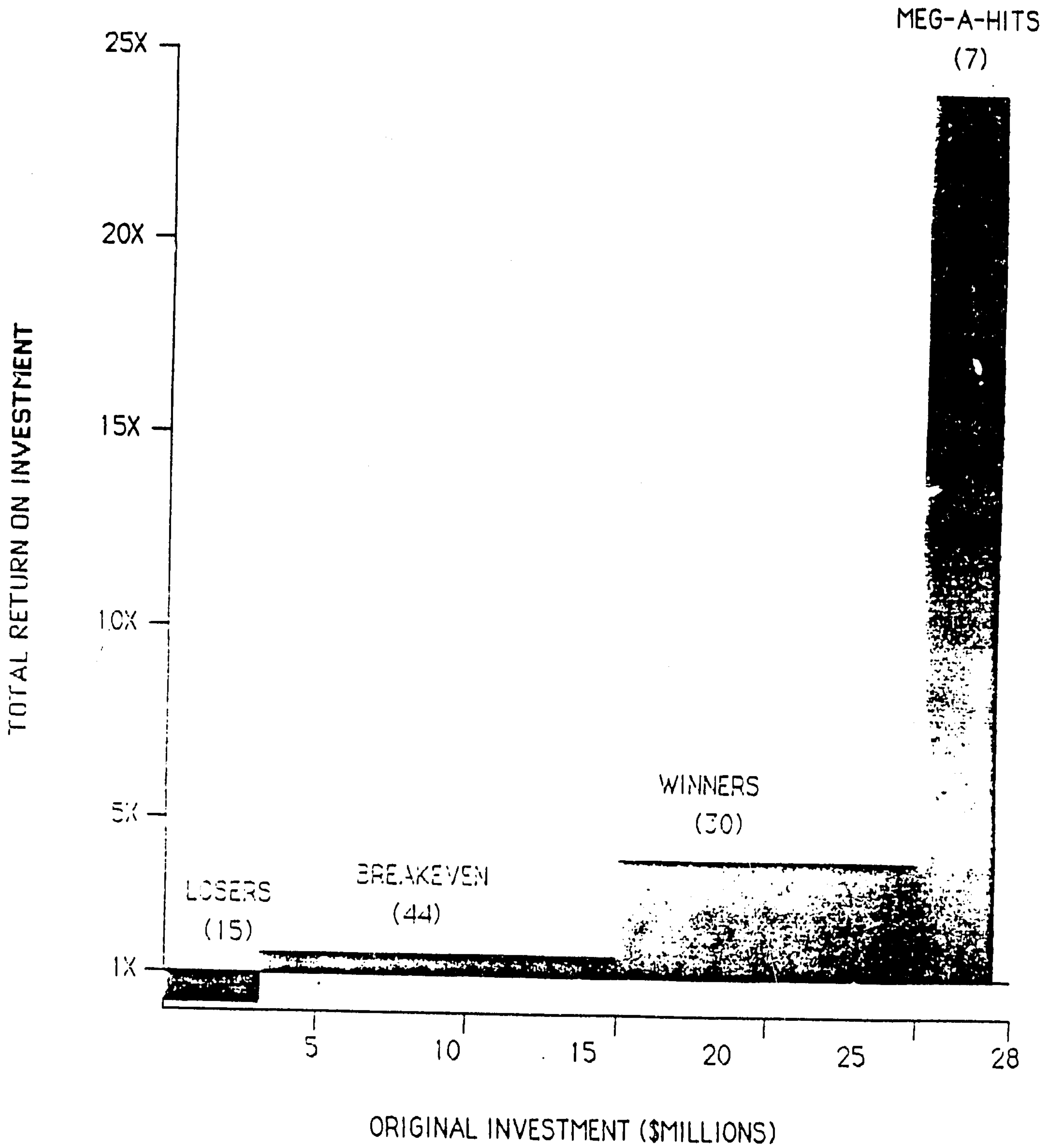
e) Closing

The final stage of the venture capital investment selection process is the closing. At that point the venture capitalist and entrepreneur have settled on the terms and the deal is closed.

2. Management/Value-Added Stage

Once the deal is made, the venture capitalist's role in the company is not over. The venture capitalist continues to be involved in the company as a shareholder, and usually as a Board member. The venture capitalist brings to the company his expertise and knowledge of the industry, as well as extensive experience in managing start-up companies. He can also offer additional financing arrangements, if needed; sales, marketing

PERFORMANCE OF INVESTMENTS
ADVENTS I, II, III
1968 - 1982



and technology contacts; and international distribution and manufacturing opportunities. The venture capitalist assists the entrepreneur further when the company goes public. It has often happened that the value of the stock of a portfolio company is increased because of the confidence investors have in the judgement of a successful venture capital firm. It must be kept in mind, however, that although the entrepreneur gains much from the venture capitalist in addition to the capital needed to expand his business, he also gives up some control of his/her business as well as a portion of the profits from the sale of the company.

3. Liquidation Stage

It is in the final stage that the VC firm recovers its initial investment as well as the capital gains. The process of liquidation depends on which option for liquidation provides the greater return. One possibility is an initial public offering (IPO). As previously mentioned, the association of a company with a successful venture capital firm can increase the price of a company's share. More commonly, the venture company will identify and negotiate merger opportunities with other (usually more established) firms.

Long-term risk is intrinsic to venture capital investment. The typical venture capital investment holding period is over seven years before any profit is seen. During that period, the venture capitalist experiences a negative cash flow for the first year or two, and no real returns until year five or so. The venture capitalist's cash flow depends on the type of agreement with the entrepreneur. With a limited partnership agreement, the venture capitalist makes a large front-end investment, while the general partner invests over a period of time. (The type of agreement that is decided upon does not dictate the type of legal entity the portfolio company has assumed.)

Approximately 10-15% of the companies in a typical venture capital firm investment portfolio fail. (Figure 2 depicts the distribution of successes and failures for Advent International funds.) The majority, 77%, make a modest or average return on investment. Thus, the venture capitalist depends on a few extremely successful investments, or megahits. However, since the venture capitalist's investment is long term, and it takes years for the venture to fail or become profitable, a critical skill for the venture capitalist is the ability to determine when a dying company could be viable with further help, and when the company is dead and it is time to get out.

V. TECHNOLOGY TRANSFER - VENTURE CAPITAL'S ROLE

In discussing venture capital as a tool for technology transfer it is necessary to place the venture capital process in context of the overall innovation process and product life cycle. The four basic stages of the cycle are:

- initial concept or idea;
- establishment of technical and commercial feasibility;
- product development; and
- business development.

Because venture-backed entrepreneurs tend to be market-driven, they occupy a unique sector in the product life-cycle sequence between the product or market development and the early part of the sales-growth periods. Entrepreneurs are a basic link in the technical innovation process. It is the technical innovation process that translates technical knowledge and invention into salable products. These entrepreneurs find market niches (applications for technology) which may develop into profitable markets. When the technologies begin to develop successfully, established corporations can enter and, using their resources, maximize the opportunities. Large corporations can obtain new technology applications from entrepreneurial enterprises in several ways. They can create their own venture capital divisions, as some have done, and invest directly in young companies or participate in cooperative programs and joint ventures. Corporations can also develop contacts in established VC firms. This alternative can provide early warning of market changes or even access to new technology applications. It may also provide the corporation with the long-term opportunity to acquire the young company when the liquidation stage is reached.

The venture capitalist dealing with radically new technology must follow a policy of searching and trying new technology applications with an open mind. Early market research findings should always be kept in perspective since it is doubtful that any individual or group can envision all the potential applications that a society could eventually discover for a radical innovation.

VI. PROSPECTS FOR INTERNATIONAL VENTURE CAPITAL ACTIVITY

Venture capital activities are, to date, primarily a U.S. phenomenon. Outside of the United States venture capital financing is most established in Canada and the United Kingdom. Venture capital activities are developing in Sweden, Germany, France, Holland, Australia, Japan and Israel, and to a lesser extent in other parts of Europe, southeast Asia and Brazil.

Problems Facing Venture Capital

A major stumbling block in the development of venture capital in other countries has been the very nature of the industry. The active position taken by a venture capitalist in the operation of a company, and the full partner relationship that must exist between the venture capitalist and the entrepreneur is very different from the business practices of entrepreneurs outside the U.S. Businesses in LDCs, such as Guatemala and Morocco, tend to be family owned and very closely held. This resistance to losing control is such that entrepreneurs are even reluctant to make public offerings. Overcoming this attitude toward control of the business will be a major hurdle to the establishment of venture capital as source of financing in LDCs. As previously mentioned, for the same reasons American entrepreneurs often use venture capital as last-resort financing.

Another problem that venture capital will face outside the U.S., especially in lesser developed countries, is locating willing investors. Medium and long term financing has often been quite difficult to obtain in LDCs. Governments have traditionally been the main source of long term financing for the private sector. Investors in these countries prefer shorter term investments because of the lower risk. Various LDC governments have attempted to increase interest in longer term investment in the form of equity and debt by providing guarantees and preferred tax treatment. However, the level of such investment remains at a much lower level relative to short term investment. Thus, the likelihood that local investors will welcome the opportunity to invest through venture capital with its long term, high risk perpective seems slim at best.

The third major barrier to the development of venture capital financing in other countries, particularly LDCs, is the lack of strong financial markets. The VC firm realizes its capital gains from an investment when the portfolio company is bought out or goes public in an initial public offering. Without the support of strong, sophisticated financial markets it is unlikely that local venture capital firms will arise.

Given the obstacles on both the entrepreneur's and the venture capitalist's sides, it is difficult to predict whether venture capital can become viable component in the financial systems of other countries, particularly LDCs. The experience of large, U.S. based venture capital firms,such as Advent International, has been restricted mostly to other industrialized nations mentioned earlier. Based on this limited exposure, Advent International has identified three basic factors common in starting venture capital activities abroad:

a) investment team
b) international support
c) pattern of development

a) Investment team

Venture capital start-up abroad typically involves a major venture capital firm operating through an autonomous local venture capital group. This local VC group or investment team must be highly trained in the operations of venture capital financing and keenly aware of the business needs and cultural considerations specific to that country. For that reason, it is important that the investment team be staffed locally, with impeccable local connections. It must have support from government, financial institutions and the media. A major hurdle to venture capital development in other countries is often that the activity is not viewed in a positive light. In Germany, for instance, it is more prestigious to work for a large established company than to be an entrepreneur. In this situation, the local VC group must be aware of prevailing attitudes toward entrepreneurship/venture capital activity and apply that sensitivity in developing an investment.

The local investment team must be familiar with the principals of small business management and technology relevant to the development of the particular country. The investment team must also be highly trained in investment and financial issues. The parent VC firm can offer training in these areas if needed.

b) International support

In addition to a strong local investment team, a successful venture capital operation abroad depends on the resources of a strong international network. This international network can offer support to the local VC group in the areas of expertise and information, technology transfer into and out of the country, deal flow, and capital.

c) Pattern of development

The pattern of venture capital development will differ from country to country. Initially, when the concept of venture capital is introduced to a country there will be some experimentation in developing general guidelines for establishing deal-flows. Once there have been some successful venture relationships (VC firm/entrepreneur) the venture capital process becomes more established. The local VC firms' track record will facilitate and streamline the deal flow. As previously mentioned the concept of the independent entrepreneur is unattractive in some countries. In these cases the local VC firms must be more persuasive in marketing their business, stressing the opportunities for success and reward.

It is important to emphasize that each of these factors will vary considerably from country to country. A cookbook approach to starting venture capital activities outside the U.S. is doomed to failure unless it can account for differences in culture, technological development, and the local business environment.

Technology transfer

Establishing venture capital activity could benefit the host country in terms of technology transfer. This aspect of venture capital is particularly important for lesser developed countries (LDC's). The overall objective of venture capital financing in terms of technology transfer is to establish economically self-sustaining enterprises. This requires strong organizations at both ends of the technology transfer bridge.

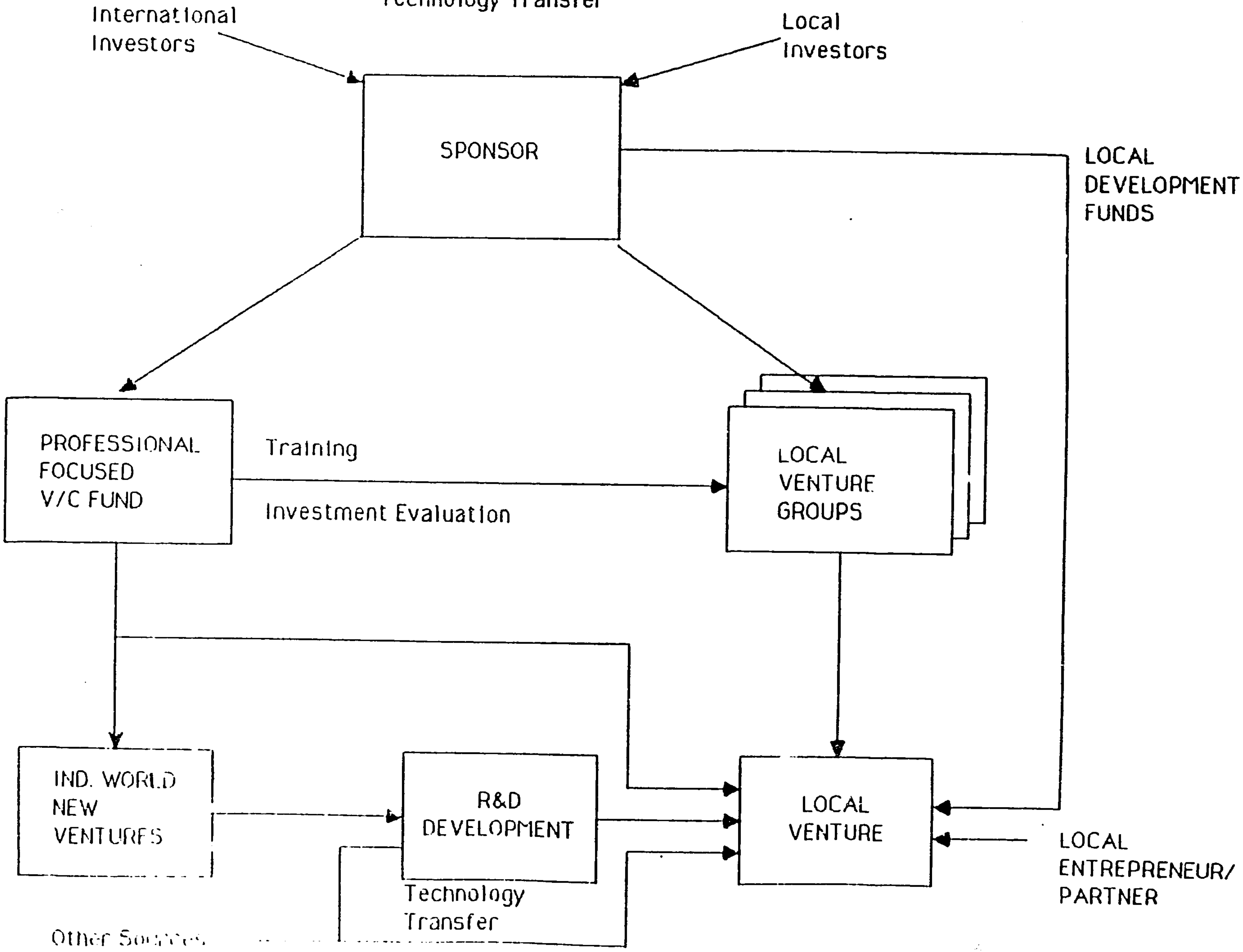
Figure 3 is a model proposed by Advent International of how the venture capital process can facilitate technology transfer between countries. As can be seen from the schematic representation there are five major components to the transfer: the sponsor, the professional focused VC fund, sources of new technology applications, the local venture capital groups and the specific local ventures.

The sponsor represents potential investors including investors seeking profit-making activities and donor organizations. Funds supplied for profit can either be directed through the professional focused VC fund or directly through the local venture group. Donor groups can provide low- or no-cost capital and training as well as overseeing the ongoing process. Donor organizations can work with the professional focused VC fund managers, in conjunction with the local VC firms or directly with local entrepreneurs.

Capital at the source of the technology transfer is important because it helps to build the "partnership" relationship which is often necessary to complete the process, and because it pays for the overall sourcing program. Leverage, the proportion of debt relative to equity, plays a key role at the receiving end both in getting the in-country development group started, and in improving the odds for specific in-country investments.

The established international venture capital firm, as manager of the focused VC fund, is involved in the following activities:

Role of Venture Capital in LDC
Technology Transfer



* investing in promising new ventures;

* assessing relevant technology for specific LDCs;

* coordinating efforts with donor funds;

* making selected technology transfer leveraged investments; and,

* providing support to local venture capital groups in training and investment evaluation (resources and funds permitting).

The local venture capital company plays the most important role in technology transfer. The local VC company:

* identifies and evaluates investment opportunities for the local market;

* identifies, trains, oversees, rebuilds, and sometimes even replaces the local management teams; and

* represents the new venture before the local business, government and regulatory agencies.

The practicality and potential success of this model has yet to be tested. Prior to implementing such a plan in an LDC the potential barriers facing venture capital should be closely studied.

VII. CONCLUSION

Because it can facilitate technology transfer and strengthen private sector development, venture capital financing could be a potential mechanism for improving the economies of developing countries. It should be emphasized, however, that the objective of venture capital financing is capital gain; the concurrent achievement of development objectives is tangential. Also, before venture capital can be considered a viable option for financing LDC business growth the barriers described above must be addressed: the attitudes of LDC entrepreneurs and investors and the level financial market development in LDCs. Attempts to establish venture capital firms in LDCs without considering these problems will most likely fail.

STATISTICS ON VENTURE CAPITAL INDUSTRY RESOURCE

APPENDIX

Originally presented by Mr. Don A. Christensen and Mr. A. Leroy Ellison

STATISTICS ON VENTURE CAPITAL INDUSTRY RESOURCES

Venture Capital Industry Pool of Capital (Millions)

	1985	Percent of Total	1984	Percent of Total
Independent private funds	$ 14,219	73%	$ 11,800	72%
Corporate (financial and industrial subsidiaries)	3,420	17	2,870 -	18
SBICs (exclusive of non-venture captial related SBICs)*	1,934	10	1,638	10
Total Pool	$ 19,573	100%	$ 16,308	100%

* The private capital and government leverage of independent private and corporate SBICs is included in the SBIC category.

Total Resources by Type of Firm

	Capital (millions) 1985	1984	Percent Change	Firms 1985	1984	Percent Change	Professionals 1985	1984	Percent Change
Independent Private*	$ 14,777	$ 12,777	21%	286	271	6%	1,207	1,073	12%
Corporate Financial*	2,454	1,981	24	50	51	(2)	238	232	3
Corporate Industrial*	1,658	1,423	17	60	44	36	176	134	31
Other Venture Capital SBICs	684	727	(6)	136	143	(5)	278	321	(13)
Total Industry	$ 19,573	$ 16,308	20%	532	509	5%	1,899	1,760	8%

* Includes the private capital and government leverage of affiliated SBICs.

Growth of Capital Resources by Firms and Professionals

(Millions of $)

	Average Capital/Firm 1985	Average Capital/Firm 1984	Percent Change	Median Size of Firm 1985	Median Size of Firm 1984	Average Capital/Professional 1985	Average Capital/Professional 1984	Percent Change
Independent Private	$ 51.7	$ 44.9	15%	25.0	20.7	12.2	11.3	8%
Corporate Financial	49.1	38.8	27	20.5	20.0	10.3	8.5	21
Corporate Industrial	27.6	32.3	(15)	15.0	14.0	9.4	10.6	(11)
Other Venture Capital SBICs	5.0	5.1	(2)	2.5	2.4	2.5	2.3	9
Total Industry	$ 36.8	$ 32.0	15%	15.0	10.7	10.3	9.3	11%

STATISTICS ON VENTURE CAPITAL INDUSTRY INVESTMENT ACTIVITY

NEW* AND FOLLOW-ON FINANCINGS
1980-85

	Estimated Disbursements (Billions)	Percent of Number of Financings		Percent of Amount Invested	
		New	Follow-on	New	Follow-on
1980	$ 1.1	59%	41%	58%	42%
1981	$ 1.4	60	40	55	45
1982	$ 1.8	46	54	39	61
1983	$ 2.8	45	55	34	66
1984	$ 3.0	38	62	31	69
1985	$ 2.6	31	69	23	77

* New financing is defined as a company's first round of venture capital, which can occur at any stage of the company's development.

DISBURSEMENTS BY FINANCING STAGE

	Percent of Number of Companies Financed 1985	1984	Percent of Dollars Amount Invested 1985	1984
Seed	6%	7%	2%	3%
Startup	13	15	11	12
Other Early Stage	17	21	12	18
Total Early Stage	36%	43%	25%	33%
Second Stage	30	28	33	31
Later Stage	24	19	30	23
Total Expansion	54%	47%	63%	54%
LBO/Acquisition	5	5	8	9
Other	5	5	4	4
Total Other	10%	10%	12%	13%
Total	100%	100%	100%	100%

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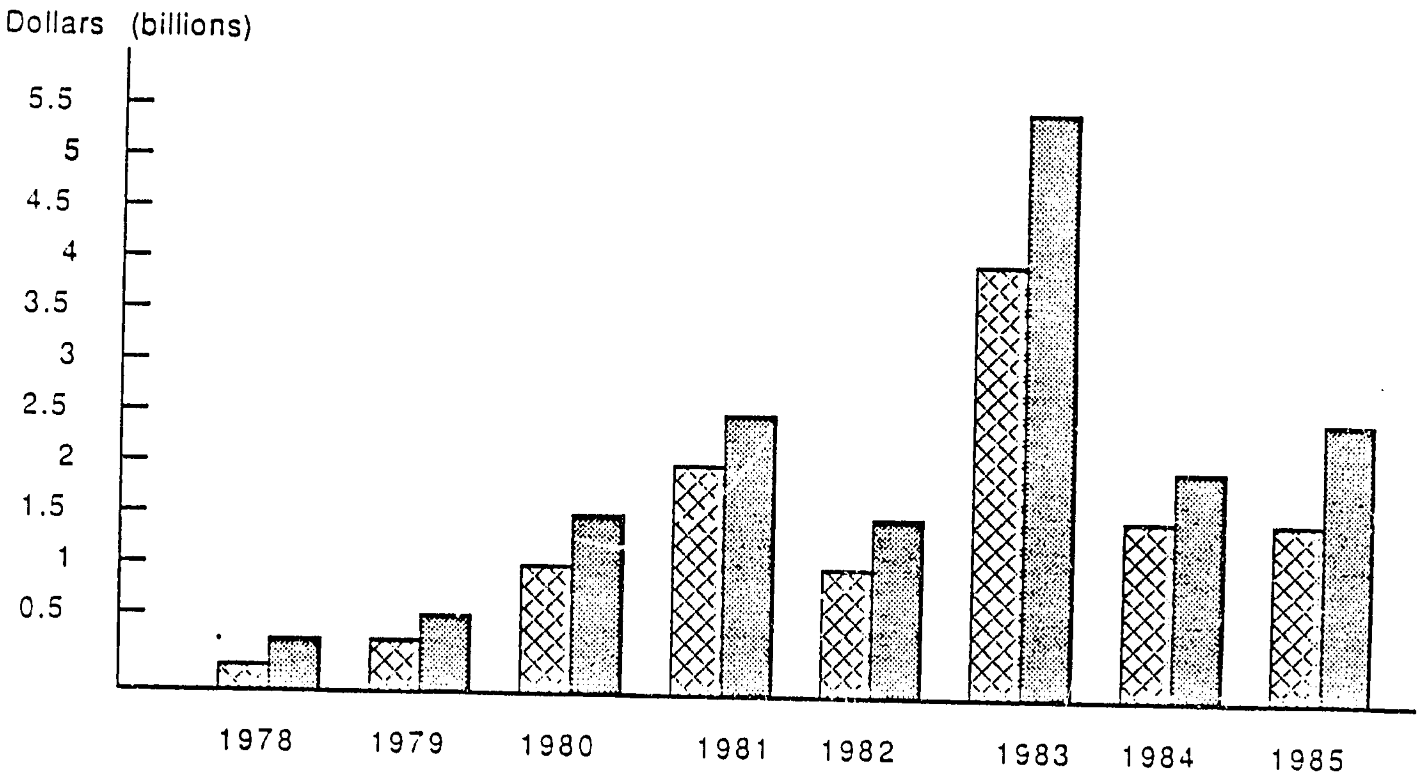
DISBURSEMENTS BY INDUSTRY CATEGORY

	Percent of Number of Companies Financed		Percent of Dollars Amount Invested	
	1985	1984	1985	1984
Commercial Communications	4%	3%	4%	4%
Telephone and Data Communications	10	10	12	11
Computer and Hardware amd Systems	20	22	25	29
Software and Services	15	14	10	11
Other Electronics	13	13	14	13
Genetic Engineering	3	3	5	2
Medical/Health Care Related	11	11	10	8
Energy Related	2	2	1	2
Industrial Automation	4	3	4	3
Industrial Products and Machinery	4	4	2	3
Consumer Related	8	7	7	7
Other Products and Services	6	8	6	7
	100%	100%	100%	100%

STATISTICS ON INITIAL PUBLIC OFFERINGS (IPO) OF SMALL FIRMS

Small Company Public Underwritings 1978-1985



Venture-Backed IPOs 1978-1985

Year of IPO	No. of Companies	Total Amount Offered (000)	Average Offering Size (000)	Median Offering Size (000)	Total Offering Valuation (000)	Average Offering Valuation (000)
1978	10	$ 91,038	$ 9,104	$ 6,385	$ 324,252	$ 32,425
1979	12	104,482	8,707	7,450	409,713	34,140
1980	27	420,490	15,574	10,500	2,625,691	97,248
1981	68	770,342	11,329	10,050	3,610,273	53,092
1982	27	548,748	20,324	12,969	2,374,000	87,926
1983	121	3,031,308	25,052	16,150	14,034,664	115,989
1984	53	743,064	14,020	11,209	3,494,332	65,940
1985	46	838,209	18,222	15,594	3,258,465	70,836

HYPOTHETICAL 8 YEAR OLD PORTFOLIO

with overall 25% compound ROI

	Number of Companies	Funds Invested	Eventual Value
10% Big Successes	4	$ 3 M	$ 130 M
20% Fair Successes	8	6 M	40 M
30% Living Dead	12	9 M	10 M
40% Failures	16	12 M	0
Total	40	$ 30 M	$ 180 M

Required appreciation of top 10% of ventures :

for 25% ROI (above)	Over 40 X
for 15% ROI	Over 20 X
for 10% ROI	Over 12 X

VENTURE LIFE CYCLE

Stage	Typical Need	Investors
"Seed"	$ 10 K to $ 100 K	Selves, Friends, Relatives, etc.
Start-up or first round	$400 K to $ 2 M	Venture Capitalists
Second round	$ 1 M to $ 10 M	Venture Capitalists, Banks
Third round	$ 2 M to $ 20 M	VC's and Others, Public

Sources of Start-Up Financing

(1980 Survey of 1600 Members of National Federation of Independent Businesses)

Source	Percentage
Personal Savings	48%
Commercial Banks (Personal Credit)	29%
Friends/Relatives	13%
Individual Investors	4%
Venture Capital Institutions	Less than 1%
Government Programs	Less than 1%

SELECTED BIBLIOGRAPHY

1. Pence, Christine Cope; How Venture Capitalists Make Investment Decisions; UMI Research Press, Ann Arbor, MI; 1982.

2. Commission of the European Commissions; Improving Venture Capital Opportunities in Europe; Proceedings of the Symposium held in Luxembourg, 3-5 October, 1984; Kogan Page Ltd., London, England; 1985.

3. Hisrich, Robert D. (editor); Entrepreneurship, Intrapreneurship, Venture Capital: The Foundation of Economic Renaissance; Lexington Books, Lexington, MA; 1986

4. Premus, Robert; Venture Capital and Innovation: a Study; U.S. G.P.O. (prepared for the Joint Economic Committee, U.S. Congress); 1985.

5. Silver, A. David; Up Front Financing: The Entrepreneur's Guide; (A Wiley Series on Small Business Management) Ronald Press Publications, Wiley, NY; 1982.

6. Venture Capital in Information Technology: Paris Organization for Economic Cooperation and Development; OG CD Publication and Information Center, Washington, DC; 1985.