

Penn Institute for Economic Research
Department of Economics
University of Pennsylvania
3718 Locust Walk
Philadelphia, PA 19104-6297
pier@econ.upenn.edu
http://www.econ.upenn.edu/pier

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"What One Can Learn From the Initial Pubic Offering of Google? A Twenty-Year Excursion to the Venture Capital Industry"

by

Emanuel Shachmurove and Yochanan Shachmurove

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# What One Can Learn From the Initial Public Offering of Google? A Twenty-Year Excursion to the Venture Capital Industry

#### **Emanuel Shachmurove**

The University of Michigan Law School

And

Dr. Yochanan Shachmurove

Departments of Economics

The City College of The City University of New York, and

The University of Pennsylvania

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The paper is dedicated to the memory of the late Edwin Mansfield, who first introduced us to the economics of science and technology and of industrial research and technological innovation, and who taught us about the importance of research and innovation in the modern corporation.

Please address all correspondence to: Professor Yochanan Shachmurove, Department of Economics, University of Pennsylvania, 3718 Locust Walk, Philadelphia, PA 19104-6297. Email address: <a href="mailto:yochanan@econ.sas.upenn.edu">yochanan@econ.sas.upenn.edu</a>

# What One Can Learn From the Initial Public Offering of Google? A Twenty-Year Excursion to the Venture Capital Industry

#### Abstract

Over the past two decades the venture capital industry became a major focus for the financial media. With potential for high rates of return, this industry attracts entrepreneurs looking for opportunities to invest. While some investments are successful and highly publicized, many are not. This paper gives insight about the role financing in different stages plays in determining the success of an investment. It compares data on the rates of return of 2,678 venture-backed public companies during multiple stages of financing. Additionally, this paper evaluates how the rates of return of these companies have changed between the 1980s and 1990s.

**JEL Classification**: C12, D81, D92, E22, G12, G24, G3, M13, M21, O16, O3

**Key Words**: Annualized returns, Venture Capital, Venture-Backed Public Companies, Stage of Financing, Initial Public Offering, Early-Stage Financing, Seed Financing, Research and Development Financing, Start-up Financing, First-Stage Financing, Expansion Financing, Second-Stage Financing, Third-Stage and Mezzanine Financing, Bridge Financing, Acquisition/Buyout Financing, Acquisition Financing, Management/Leveraged Buyout.

# What One Can Learn From the Initial Public Offering of Google? A Twenty-Year Excursion to the Venture Capital Industry

#### Introduction

There is no doubt that the media is fascinated by the release of any good news concerned with venture capital. For example, many people are familiar with the recent venture-backed Initial Public Offering (IPO) of Google, which brought in \$1.7 billion on its opening day in August 2004. The shares of Google have risen by almost 50 percent since then (Wall Street Journal, October 1, 2004, Page C15). One hears much less about companies such as Nanosys Inc. or PlanOut Inc., which postponed their IPOs, citing uncertain market conditions.

Nowadays, one often hears about the biotechnology sector that draws big bucks as financial analysts refer to this sector. Recent examples include Avera Pharmaceuticals Inc., a developer and licensor of treatments for neurological and psychiatric disorders who raised \$48 million in a third round of financing, or Sophrion Therapeutics inc., a maker of oncology, asthma and allergy drugs who raised \$47 million in a second round. Achievements in the telecommunication sector are also widely publicized, recent examples of which include ABS Capital leading a \$23 million round of investment in ControlPoint Solutions Inc., a company whose products target telecommunications cost-management problems, and BridgePort Networks Inc., a manufacturer of products that link mobile and internet telephone calls who raised \$25 million in a second round.

Another example often cited is the success of eBay Inc., an online auction house that went public in September 1998 at \$18 per share and was trading at \$241.25 only two months

later, a 1,240 percent increase from its offering price. While a situation like that of eBay Inc. would make venture capital investment attractive, such success is not always the case.

This paper investigates the actual performance of 2,895 Initial Public Offerings (IPOs) of companies that were backed by venture capital from 1969 to 2002. The main purpose is to compare the annual returns of the venture capital industry during the 1980s and 1990s. Comparisons between the decades provide us with the key or at least the clue why the media and financial practitioners are becoming increasingly interested in the venture capital industry.

The remainder of the paper is organized into the following sections. Section II presents a brief review of the literature. Section III.1 presents the empirical findings for cumulative rates of return for all firms and for currently active and inactive traded firms. Section III.2 presents the findings by stages of financing for all, currently active, and inactive traded firms. Section IV concludes and offers topics for future research.

#### II. Review of the Literature

By analyzing the venture capital industry in the 1980s and 1990s, this paper aims to disprove the conception that due to the high rate of risk of investing in seed stage projects, venture capitalists expect to have high rates of annualized return. Previous literature such as Rich and Gumpert (1992) supports this notion with the reasoning that "Because risk and reward are closely related, investors believe companies... with incomplete products and management teams are expected to bring in 60 percent annual compounded returns." In addition, Roberts and Stevenson (1992) write about target returns of 50 percent or 60 percent annually and claim that such returns are not uncommon.

However, Timmons (1994, 1999) performed a more comprehensive study of rates of return, breaking data down by stage of investment before it was analyzed. The misconception that the returns are high are a result of asking venture capital investors (VCs) to report the rates they apply when discounting the projected cash flows of proposed new ventures. Hellman (2002) states that the projected success of a new venture is highly dependent on the support of the investor and that this "Level of support is endogenously determined by the investor's incentives." Investing in seed stages can offer great incentives of profit sharing while investing in third stages can offer the incentive of low risk returns. Both situations are favorable depending on the individual VC.

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The venture capital literature is by now vast. Early studies include Mansfield (1969), and Martin and Petty (1983). Tax policies issues related to venture capital financing were studied by, among others, Mansfield. (1986), and Summers (1989). More recent literature includes, among others, Gompers and Lerner (1999), Lerner (1995), Mason and Harrison (1999), Murray (1999), Reynolds and White (1997), Rich and Gumpert (1992), and Smith and Smith (2000).

These ambitious target returns appear to be more normative than empirical. Historical data from Ibbotson and Brinson (1987) find an average return of 16 percent for the stock price performance of public venture capital firms over the period 1959-1985. A further study pursued by Hoban (1976) considers over 100 investments by VCs between 1960 and 1968. His results find that, before deducting management fees, the average return through 1975 was 23 percent. The inclusion of management fees reduces the return to an estimated 18-19 percent.

At the same time, Poindexter (1976) conducted a study of 92 venture capital firms and finds the average return during the 1960s and early 1970s to be about 14 percent. In contrast to Poindexter, a study done by Martin and Petty (1983) finds a much higher average rate of return of 27 percent. Their study, however, utilizes data from only 11 venture capital firms over a short period of five years, from 1974 through 1979.

More recent literature references a study of returns undergone by Bygrave and Timmons (1992), based on valuations by the fund managers. The study only analyzed data from funds that were in existence for at least five years and it examined a 16-year period from 1974 through 1989. They find that the maximum return on a capitalized-weighted basis was 32 percent, while the minimum was a negative return of 3 percent. The compound annual return over the period was approximately 13.5 percent.

Furthemore, Kanniainen and Keuschnigg (2003) suggest other factors contributing to the success or failure of venture capital investments, namely the VC's level of experience, managerial resources, and portfolio size that can result in high profit. They show that the impact of venture capitalism on innovation is some 15 percent lower during boom periods compared to

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normal industry periods. An economic boom can instigate venture capitalists to over expand their portfolios, a move that results in less focus and interaction with the firms they have invested in. In consequence, returns may suffer. This understanding can help to predict the future of the industry as it correlates with the general state of an economy. They maintain that VCs should consolidate their portfolios and invest in only a few new projects in their early stages when the economy is in a boom.

Wang and Zhou (2004) explain the many incentives for VCs to use staged financing. "Investing in stages is an effective mechanism for venture capitalists to reduce agency costs and to control risks." However the negative aspect to staged financing is that "VCs may underinvest in a project in the early stages when the project does not look very promising, which may cause a viable project to fail and result in a loss of social welfare." Despite this downfall, staged financing makes it optimal to invest in the seed stage rather than wait until the less risky latter stages.

Perhaps one of the most relevant measures of venture capital investment is the internal rate of return (IRR). Measurements done by Venture Economics (1997, page 272), an oftencited research firm, indicate that during the period between 1986 and 1996 the IRR of venture capital funds has roughly paralleled the performance of the stock market. By considering the IRR one can compare venture capital funds to other investment options as well as the economy as a whole. Statistically, the 10-year holding period IRR ending in 1996 was 20.7 percent, with most of it having been generated in the last five years, over which the median was 23.7 percent.

#### **III.** Empirical Results

The data consist of 2,678 ventured backed public companies, stratified into different stages of financing.<sup>2</sup> These stages are: Unknown stages; Acquisition for expansion; Acquisition; Bridge Financing; Early-stage financing; Expansion; First stage; LBO; Open market purchase; Other early; R&D; Second stage; Seed; Special situation; Startup; Third stage; and Turnaround. These stages of financing total 17 mutually exclusive categories. In addition, the data are stratified into two decades, the 1980s and the 1990s. Table 1 describes the keys for the different statistics of the following tables. Note that "max-5" denotes the cumulative returns of the fifth company from the top, "max-4" details the corresponding value of the fourth firm from the top, etc. In all the tables to follow, the column headings describe the specific stages of financing and the rows give the specific statistics. The data consist of 905 firms that start their operations in the 1980s and 1,773 firms that start their operation in the 1990s, for a total of 2,678 ventured backed public companies.

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The data are from Securities Data Company Platinum 2.1, Venture Financing 1968-1998, Thomson Financial Securities Data, and from Venture Economics Information Services, Venture Financing 1968 -2004. The primary source for the data is the Securities and Exchange Commission (SEC), including EDGAR, the SEC's electronic database of corporate reports.

### III.1 Empirical Results for All, Currently Active and Inactive Traded Companies in the 1980s

The data consist of 905 firms who began their operations in the 1980s. Table 2 details the results for all firms, both active and inactive companies, for entities who start their operations in the 1980s. The rows of the table detail the different statistics. The most revealing statistics are presented by the data.

For all stages of financing, both the means and the modes are negative. Aside from the two stages of financing, Acquisition and Turnaround, the null hypothesis of zero means can be statistically rejected. Moreover, for all stages of financing, the returns are negative even at the third quartile, indicating that all 75 percent of the companies show negative returns, regardless of the stage of financing.

Even if one restricts himself to the top 10 percent of the firms in each stage of financing, one finds negative returns for acquisition (both general acquisition and in acquisition for expansion), in bridge financing and in research and development financing. Furthermore, the annual returns for all other stages of financing in this top ten percent category seem very reasonable: about 6 percent for First Stage financing, and other early financing; around 8 percent for Leveraged Buy-Out, about 9 percent for early stage, expansion, and open market purchase; about 12 percent for Seed, Startup and Turnaround. Third-stage financing at the top 10 percent of the returns merely yield 3 percent annual returns; Second stage and special situation financing yield close to zero annual returns, again at the top 10 percent of the distribution.

Thus, one can see that the data reveal different rates of returns, as one stratifies the data based on stages of financing, but again these returns are much lower than one anticipate from the general media and many of the previous studies mentioned in the literature review. If one focuses for a moment on the maximum returns, one notes that the highest one in the 1980s sample is 43.5 for First Stage Financing.

### III.2 Empirical Results for All, Currently Active and Inactive Traded Companies in the 1990s

Turning to the 1990's, Table 3 details the statistics for 1,773 firms who began operating in the 1990s. Except for the Expansion (annual returns mean of 5.13) and Second Stage (8.96 percent) financing, the means for all other stages are negative. Moreover, even for the above two stages with positive mean returns, the null hypotheses of zero means cannot be rejected by the data. These data refute the findings of many mentioned in the literature surveyed above. The median is negative for all stages of financing except Acquisition for Expansion and Acquisition. The main difference to the 1980s is revealed once one concentrates on the top 25 percent of the firms. In this category, some mean returns are high, for example, Acquisition (34.5 percent), Special Situation (about 26 percent), and Acquisition for Expansion and Open-Market Purchase (about 22 percent each).

This increase in returns, in comparison to the 1980s, is further revealed once the focus turns to the maximum returns. Some of these maximum returns are really eye bungling; 718 percent for Unknown Stage; approximately 564 percent for Early Stage, 304 percent for Acquisition for Expansion; about 298 percent for First Stage, and an astonishing 3,396 percent (yes, three thousand, three hundred and ninety-six percent) for the *maximum* returns, for

Expansion financing. A similar picture, although not as dramatic, is revealed upon examining the returns of the highest five companies in each category of financing, in the 1990s.

### III.3 Empirical Results for Currently Inactive Traded Companies in the 1980s and in the 1990s

Table 4 presents the results for currently inactive publicly traded companies in the 1980s. For this category of inactive firms, the mean returns are all negative and statistically different from zero, except for Acquisition, where the mean return is negative but not statistically significantly different from zero. The negative returns for all stages of financing are also true for all firms at the top ten percent of the firm population. In other words, even if one is wise or lucky enough to choose the venture-capital-backed firms at the top ten percent of the distribution, the returns are negative. Even at the top five percent of the firms, positive returns are rare and in any case very moderate, as the example of the 2.7 percent in seed financing goes to show.

Table 5 presents the results for inactive firms in the 1990s. Similar to the 1980s all means returns are negative, aside from the Acquisition and Special Situation in which the null hypotheses of zero returns are rejected by the data. All returns at the bottom 75 percent are negative except Acquisition for Expansion. From the ninetieth percentile and up the situation is better for a few categories of financing compared with the 1980s: In Unknown Stage, Acquisition for Expansion, LBO, Other Entry, Second Stage, Seed, Special Situation, Startup and Third Stage financing, returns are all positive. Again if one is restricted to the top 10 percent of the population of firms who are currently inactive, one can infer from the data that relative to the 1980s firms are doing better in this category. This pattern in the data is also true for the 95 and 99 percentiles and to the top 5 firms in each category ranked by annual returns.

# III.4 Empirical Results for Currently Active Traded Companies in the 1980s and in the 1990s

Turning attention to the results for active firms only, which presumes that one was somehow lucky enough to guess which company will survive; Table 6 presents the results for the 1980s. Even if one restricts himself to this category of only active firms, one is surprised to see very moderate mean returns. The highest mean returns are for Open Market Purchase; 9.85 percent annual returns, First Stage with 9.62 percent (significantly different from zero with 93 percent probability), and 6.51 for LBO. Still, the means for many categories are negative. At the 75 percentile, returns are still moderate and some are even negative at this percentile. The highest return is about 13.8 for Expansion and for Startup followed by about 12 percent annual returns for Early Stage, First Stage, and Seed financing. As one expects, at the ninetieth percentile returns are better with the highest return in the Startup financing (24.86 percent annual returns). The highest maximum return is 69.5 percent in Open Market Purchase.

Table 7 presents the results for the 1990s for active firms. In some categories of financing, the difference between the 1980s and 1990s is revealed to its fullest. For example, the mean returns for Second Stage is now 70.82 percent (compared with a mere 0.57 in the 1980s), the mean return for Expansion is now 54.78 (compared with a mere 2.89 percent in the 1980s), Bridge financing mean returns is now 43.91 percent compared with negative 3.26 percent in the 1980s, Acquisition for expansion is now 43.55 percent compared with negative 1.6 percent. However, there still are negative means for a few stages of financing.

This phenomenon of negative values for annual returns prevails to a larger extent in the median figures as well. Once one is fortunate to belong to the "lucky set" of the 75th percentile,

most categories of financing returns are good with the exception of the Unknown stage of financing where all firms in this category at this percentile lose all of their investment in these firms. The maximum return for a firm in the data set is 3,296 percent annual returns in Expansion financing (recall, the comparison to the 1980s of 69.5 percent in Open Market Purchase).

#### IV. Conclusion

In the recent years, the venture capital industry has produced some tremendous wealth resulting in extensive exposure in the press. While there are certain extraordinary success stories, the truth is that most venture capital-backed IPOs perform fairly poorly resulting in minimum profits. As shown in this paper, the mean rates of return are found in practice to be very moderate, and many times negative.

Capital Investment has different levels of risk depending on which stage of financing a firm has reached. The earlier stages involve higher risk and although there is a possibility for large cumulative rates of return, they are not always achieved. This paper finds that there are different cumulative rates of return when data is stratified by stages of financing. However, it disputes many of the findings in current literature because the rates of return are much lower than the literature and the media quote.

This paper ascertains that the rate of returns in the 1990s far exceeds the returns during the nineteen eighties. In this respect, this paper provides some rationale to the increased financial media coverage of the industries. It is still a puzzle, however, why in general modest mean and median returns, in most cases once one takes into account the failing and the inactive firms, even negative returns, are somehow transformed to emphasize in the financial media on

the few and far between companies with the higher returns. It is almost like concentrating on the few who win in a casino and disregarding the big picture of all of those who invest and lose. As for further research, an interesting extension of the paper, which is currently underway, is to stratify the data by industry classifications from which it can be more specifically analyzed. Other future research may be directed at the geographical locations of the new venture capital enterprises.

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**Table 1: Key for Tables 2-7** 

| Label on Output | Description of Statistic                                      |
|-----------------|---|
| N               | Number of observation   |
| MEAN            | Arithmetic mean   |
| STD DEV         | Standard deviation  |
| SKEWNESS        | Pearson coefficient of skewness                               |
| USS             | Uncorrected sum of squares                                    |
| CV              | Coefficient of variation                                      |
| T: $MEAN = 0$   | t-statistic testing the mean equal to zero                    |
| SGN RANK        | Centered signed rank statistic testing the mean equal to zero |
| NUM -=0         | Number of non zero observations                               |
| SUM WGTS        | Sum of the weights for the observations on this variable      |
| SUM             | Sum of the data value for the variable                        |
| VARIANCE        | Variance (squared value of the standard deviation)            |
| Kurtosis        | Measure of kurtosis   |
| CSS             | Corrected sum of squares                                      |
| STD MEAN        | Standard error of the mean                                    |
| PROB >¦ T¦      | p value of the t-statistic                                    |
| 100% MAX        | Maximum data value  |
| 75% Q3          | Third quartile point  |
| 50% MED         | Median  |
| 25% Q1          | First quartile point  |
| 0% MIN          | Minimum data value  |
| RANGE           | Range   |
| Q3-Q1           | Quartile range  |
| MODE            | Mode  |
| 0.99            | Ninety-ninth percentile point                                 |
| 0.95            | Ninety-fifth percentile point                                 |
| 0.90            | Ninetieth percentile point                                    |

Table 2: Annualized Returns, All Firms, 1980s

|              |                    | ble 2: Ann |         |         |           | s, 1980s |         | ı                 |
|--------------|--------------------|------------|---------|---------|-----------|----------|---------|-------------------|
|              | -                  | Acquisitio |         |         | Expansio  | E: 4     | T DO    | 0                 |
| 64 - 41 - 41 | n                  | n          | Bridge  | _       | n         | First    | LBO     | Open              |
| Statistics   | For                |            |         | Stage   |           | Stage    |         | Market            |
| N            | Expansion<br>10.00 | 4.00       | 34.00   | 104.00  | 152.00    | 49.00    | 53.00   | Purchase<br>90.00 |
| IN           | 10.00              | 4.00       | 34.00   | 104.00  | 132.00    | 49.00    | 33.00   | 90.00             |
| Sum          | -704.80            | -135.70    | 2444.40 | 7529.00 | -10211.30 | -3724.50 | 3938.20 | -6114.80          |
| Mean         | -70.48             | -33.93     |         |         |           |          |         | -67.94            |
| Mode         | -100.00            | NA         | -100.00 | -100.00 | -100.00   | -100.00  | -100.00 | -100.00           |
| Std Dev      | 47.89              | 45.65      | 44.42   | 46.40   | 49.09     | 45.53    | 45.63   | 50.33             |
| Variance     | 2293.51            | 2083.89    | 1973.53 | 2152.55 | 2409.54   | 2073.05  | 2082.16 | 2533.51           |
| CV           | -0.68              | -1.35      | -0.62   | -0.64   | -0.73     | -0.60    | -0.61   | -0.74             |
| Skewness     | 1.10               | -1.60      | 0.98    | 1.14    | 0.88      | 1.45     | 1.24    | 1.06              |
| Kurtosis     | -0.93              | 2.67       | -1.05   | -0.60   | -1.13     | 0.28     | -0.46   | -0.55             |
| 0% Min       | -100.00            | -100.00    | -100.00 | -100.00 | -100.00   | -100.00  | -100.00 | -100.00           |
| 25% Q1       | -100.00            | -45.25     | -100.00 | -100.00 | -100.00   | -100.00  | -100.00 | -100.00           |
| 50% Median   | -100.00            | -19.00     | -100.00 | -100.00 | -100.00   | -100.00  | -100.00 | -100.00           |
| 75%Q3        | -32.20             | -7.68      | -14.08  | -30.38  | -8.38     | -100.00  | -100.00 | -7.60             |
| 100% Max     | 12.70              | 2.30       | 10.10   | 29.40   | 38.60     | 43.50    | 16.10   | 69.50             |
| Range        | 112.70             | 102.30     | 110.10  | 129.40  | 138.60    | 143.50   | 116.10  | 169.50            |
| Q3-Q1        | 67.80              | 37.58      | 85.93   | 69.63   | 91.63     | 0.00     | 0.00    | 92.40             |
| 0.90         | -5.84              | -1.69      | -1.96   | 9.24    | 9.56      | 6.34     | 7.86    | 8.78              |
| 0.95         | 3.43               | 0.30       | 1.77    | 13.24   | 16.35     | 10.04    | 9.42    | 10.33             |
| 0.99         | 10.85              | 1.90       | 8.32    | 19.99   | 28.44     | 28.86    | 13.34   | 60.16             |
| Max-1        | -7.90              | -11.00     | 4.70    | 20.00   | 29.10     | 13.00    | 10.80   | 59.00             |
| Max-2        | -9.60              | -27.00     | 0.20    | 19.50   | 27.80     | 11.60    | 9.60    | 24.60             |
| Max-3        | -100.00            | -100.00    | -1.00   | 16.30   | 26.20     | 7.70     | 9.30    | 11.90             |
| Max-4        | -100.00            | NA         | -4.20   | 14.90   | 19.40     | 7.30     | 8.60    | 10.60             |
| T:Mean=0     | -4.65              | -1.49      | -9.44   | -15.91  | -16.87    | -11.69   | -11.86  | -12.81            |
| Prob> T      | 0.00               | 0.23       | 0.00    | 0.00    | 0.00      | 0.00     | 0.00    | 0.00              |
| Sum Weights  | 10.00              | 4.00       | 34.00   | 104.00  | 152.00    | 49.00    | 53.00   | 90.00             |
| Standard     |                    |            |         |         |           |          |         |                   |
| Mean         | 15.14              | 22.82      | 7.62    | 4.55    | 3.98      | 6.50     | 6.27    | 5.31              |
|              |                    |            |         |         |           |          |         | Turnaroun         |
|              | Other              | R&D        | Second  | Seed    | Special   | Startup  | Third   | d                 |
| Statistics   | Early              | 4.00       | Stage   | 42.00   | Situation |          | Stage   | 4.00              |
| N            | 110.00             | 4.00       | 47.00   | 42.00   | 11.00     | 159.00   | 32.00   | 4.00              |
| Sum          | -7869.00           | -305 90    | 3/97 10 | 2150.10 | -600 90   | 10192.40 | 2112.00 | -188.10           |
| Mean         | -71.54             |            |         |         |           |          |         |                   |
| Mode         | -100.00            |            |         | -100.00 |           |          | -100.00 |                   |
| Std Dev      | 45.92              | 47.05      |         |         |           |          |         |                   |
| Variance     | 2108.27            |            |         | 2576.13 |           |          | 2381.63 |                   |
| CV           | -0.64              | -0.62      | -0.60   |         |           |          |         |                   |
| Skewness     | 1.02               |            |         |         |           |          |         |                   |
| Kurtosis     | -0.92              |            |         |         |           |          |         |                   |
| 0% Min       | -100.00            |            |         | -100.00 |           |          | -100.00 |                   |
| 25% Q1       | -100.00            |            |         | -100.00 |           |          | -100.00 |                   |
| 50% Median   | -100.00            | -100.00    |         |         |           |          | -100.00 |                   |
| 75% O3       | -9.60              |            |         |         |           |          |         |                   |
| 100% Max     | 18.70              |            |         |         |           |          |         |                   |
| Range        | 118.70             |            |         |         |           |          |         |                   |
| Q3-Q1        | 90.40              |            |         |         |           |          |         |                   |
| 0.90         | 6.34               |            |         |         |           |          |         |                   |
| 0.95         | 8.42               | -34.13     | 7.74    |         |           |          |         |                   |
| 0.73         | 0.42               | -20.02     | 1.14    | 13.04   | 0.10      | 10.42    | 0.00    | 10.03             |

| 0.99        | 12.07  | -8.72   | 13.59  | 22.43 | 13.94 | 28.57  | 33.30 | 20.29   |
|-------------|--------|---------|--------|-------|-------|--------|-------|---------|
| Max-1       | 12.10  | -100.00 | 10.40  | 18.30 | 0.80  | 29.90  | 13.50 | -9.30   |
| Max-2       | 11.80  | -100.00 | 9.00   | 15.70 | -3.60 | 27.60  | 3.50  | -100.00 |
| Max-3       | 11.10  | -100.00 | 4.80   | 14.50 | -5.00 | 27.00  | 3.30  | -100.00 |
| Max-4       | 8.80   | NA      | 1.40   | 12.80 | -8.50 | 25.80  | -0.20 | NA      |
| T:Mean=0    | -16.34 | -3.25   | -11.50 | -6.54 | -3.45 | -16.11 | -7.65 | -1.51   |
| Prob> T     | 0.00   | 0.05    | 0.00   | 0.00  | 0.01  | 0.00   | 0.00  | 0.23    |
| Sum Weights | 110.00 | 4.00    | 47.00  | 42.00 | 11.00 | 159.00 | 32.00 | 4.00    |
| Standard    |        |         |        |       |       |        |       |         |
| Mean        | 4.38   | 23.53   | 6.47   | 7.83  | 15.82 | 3.98   | 8.63  | 31.21   |

Table 3: Annualized Returns, All Firms, 1990s

|               |           |                 | 3: Annualiz     |          | riis, Ali F   | 171118, 19908 | )<br>    | I          | 1            |
|---------------|-----------|-----------------|-----------------|----------|---------------|---------------|----------|------------|--------------|
|               | Unknown   | Acquisitio<br>n | Acquisitio<br>n | Bridge   | Early         | Expansion     | First    | LBO        | Open         |
| Statistics    | Stage     | For             |                 |          | Stage         |               | Stage    |            | Market       |
|               |           | Expansion       |                 |          |               |               |          |            | Purchas<br>e |
| N             | 330.00    | 26.00           | 9.00            | 22.00    | 142.00        | 201.00        | 108.00   | 89.00      | 34.00        |
| Sum           | -27443.80 | -384.30         | -100.60         | -744.50  | -2644.20      | 1031.20       | -3375.80 | -2447.40   | -648.60      |
| Mean          | -83.16    | -14.78          | -11.18          | -33.84   | -18.62        | 5.13          | -31.26   | -27.50     | -19.08       |
| Mode          | -100.00   | -100.00         | -100.00         | -100.00  | -100.00       | -100.00       | -100.00  | -100.00    | -100.00      |
| Std Dev       | 59.97     | 89.46           | 69.22           | 78.52    | 83.90         | 256.10        | 61.65    | 57.58      | 66.76        |
| Variance      | 3596.42   | 8002.43         | 4791.88         | 6165.07  | 7038.85       | 65588.49      | 3801.18  | 3315.40    | 4456.63      |
| CV            | -0.72     | -6.05           | -6.19           | -2.32    | -4.51         | 49.92         | -1.97    | -2.09      | -3.50        |
| Skewness      | 8.20      | 1.67            | -0.57           | 0.74     | 3.37          | 10.95         | 1.82     | -0.01      | 0.32         |
| Kurtosis      | 98.14     | 5.29            | -1.66           | -0.82    | 19.55         | 138.07        | 7.47     | -1.07      | -0.15        |
| 0% Min        | -100.00   | -100.00         | -100.00         | -100.00  | -100.00       | -100.00       | -100.00  | -100.00    | -100.00      |
| 25% Q1        | -100.00   | -100.00         | -100.00         | -100.00  | -68.98        | -100.00       | -91.30   | -100.00    | -100.00      |
| 50% Median    | -100.00   | 4.45            | 13.30           | -79.35   | -20.90        | -18.20        | -30.45   | -13.30     | -2.45        |
| 75%Q3         | -100.00   | 22.58           | 34.50           | 18.68    | 8.68          | 17.20         | 0.90     | 14.50      | 22.23        |
| 100% Max      | 718.10    | 303.90          | 67.70           | 135.40   | 563.50        | 3296.10       | 297.70   | 104.20     | 147.80       |
| Range         | 818.10    |                 |                 | 235.40   | 663.50        | 3396.10       |          |            | 247.80       |
| Q3-Q1         | 0.00      | 122.58          | 134.50          | 118.68   | 77.65         | 117.20        | 92.20    | 114.50     | 122.23       |
| 0.90          | -28.22    | 46.75           | 56.18           | 65.24    | 58.20         | 51.60         | 23.89    | 34.12      | 41.24        |
| 0.95          | 16.97     | 64.60           | 61.94           | 97.07    | 84.05         | 89.10         | 42.69    | 55.36      | 73.81        |
| 0.99          | 97.94     | 244.38          | 66.55           | 127.69   | 303.88        | 614.10        | 172.11   | 98.66      | 139.39       |
| Max-1         | 136.40    | 65.80           | 53.30           | 98.70    | 404.00        | 742.20        | 173.80   | 97.90      | 122.30       |
| Max-2         | 132.60    | 61.00           | 34.50           | 66.00    | 159.80        | 614.10        | 149.70   | 74.10      | 47.70        |
| Max-3         | 102.20    | 32.50           | 25.30           | 58.40    | 142.00        | 445.50        | 48.20    | 72.70      | 44.00        |
| Max-4         | 87.50     | 24.30           | 13.30           | 57.30    | 126.40        | 403.10        | 47.90    | 58.40      | 34.80        |
| T:Mean=0      | -25.19    | -0.84           | -0.48           | -2.02    | -2.64         | 0.28          | -5.27    | -4.51      | -1.67        |
| Prob> T       | 0.00      | 0.41            | 0.64            | 0.06     | 0.01          | 0.78          | 0.00     | 0.00       | 0.11         |
| Sum Weights   | 330.00    | 26.00           | 9.00            | 22.00    | 142.00        | 201.00        | 108.00   | 89.00      | 34.00        |
| Standard Mean | 3.30      | 17.54           | 23.07           | 16.74    | 7.04          | 18.06         | 5.93     | 6.10       | 11.45        |
|               | Other     | R&D             | Second          | Seed     | Special       | Startup       | Third    | Turnaround |              |
| Statistics    | Early     |                 | Stage           |          | Situatio<br>n | _             | Stage    |            |              |
| N             | 228.00    | 2.00            | 94.00           | 191.00   | 5.00          | 209.00        | 79.00    | 4.00       |              |
| Sum           | -6849.00  | -100.90         | 842.00          | -5148.70 | -151.70       | -3948.50      | -1991.80 | -113.20    |              |
| Mean          | -30.04    | -50.45          | 8.96            | -26.96   | -30.34        | -18.89        | -25.21   | -28.30     |              |
| Mode          | -100.00   | NA              | -100.00         | -100.00  | -100.00       | -100.00       | -100.00  | NA         |              |
| Std Dev       | 54.68     | 70.07           | 216.88          | 60.34    | 66.11         | 75.95         | 58.59    | 59.41      |              |
| Variance      | 2989.87   | 4910.41         | 47035.01        | 3640.80  | 4370.18       | 5768.71       | 3433.29  | 3529.73    |              |
| CV            | -1.82     | -1.39           | 24.21           | -2.24    | -2.18         | -4.02         | -2.32    | -2.10      |              |
| Skewness      | 0.28      | 0.00            | 6.57            | 2.07     | -0.30         | 2.70          | 0.43     | -0.25      |              |
| Kurtosis      | -0.06     | 0.00            | 52.40           | 11.83    | -3.04         | 15.59         | 0.14     | -1.39      |              |
| 0% Min        | -100.00   | -100.00         | -100.00         |          | -100.00       | -100.00       | -100.00  | -100.00    |              |

| 25% Q1        | -100.00 | -75.23  | -100.00 | -67.60 | -100.00 | -72.00 | -100.00 | -61.98  |
|---------------|---------|---------|---------|--------|---------|--------|---------|---------|
| 50% Median    | -25.00  | -50.45  | -15.70  | -23.00 | -12.90  | -21.60 | -19.10  | -25.05  |
| 75%Q3         | 7.83    | -25.68  | 11.33   | 8.00   | 25.90   | 10.10  | 11.55   | 8.63    |
| 100% Max      | 185.70  | -0.90   | 1813.30 | 373.20 | 35.30   | 550.00 | 157.90  | 36.90   |
| Range         | 285.70  | 99.10   | 1913.30 | 473.20 | 135.30  | 650.00 | 257.90  | 136.90  |
| Q3-Q1         | 107.83  | 49.55   | 111.33  | 75.60  | 125.90  | 82.10  | 111.55  | 70.60   |
| 0.90          | 35.86   | -10.81  | 56.54   | 28.00  | 31.54   | 36.98  | 42.76   | 25.59   |
| 0.95          | 48.43   | -5.86   | 318.80  | 40.50  | 33.42   | 96.92  | 56.59   | 31.25   |
| 0.99          | 96.77   | -1.89   | 558.45  | 115.97 | 34.92   | 217.27 | 132.47  | 35.77   |
| Max-1         | 117.80  | -100.00 | 464.00  | 275.90 | 25.90   | 267.30 | 125.30  | -0.80   |
| Max-2         | 99.90   | NA      | 401.50  | 98.20  | -12.90  | 219.30 | 81.40   | -49.30  |
| Max-3         | 88.30   | NA      | 359.80  | 85.20  | -100.00 | 193.90 | 75.40   | -100.00 |
| Max-4         | 82.00   | NA      | 330.50  | 68.50  | -100.00 | 190.60 | 54.50   | NA      |
| T:Mean=0      | -8.30   | -1.02   | 0.40    | -6.17  | -1.03   | -3.60  | -3.82   | -0.95   |
| Prob> T       | 0.00    | 0.49    | 0.69    | 0.00   | 0.36    | 0.00   | 0.00    | 0.41    |
| Sum Weights   | 228.00  | 2.00    | 94.00   | 191.00 | 5.00    | 209.00 | 79.00   | 4.00    |
| Standard Mean | 3.62    | 49.55   | 22.37   | 4.37   | 29.56   | 5.25   | 6.59    | 29.71   |

Table 4: Annualized Returns, Inactive Firms, 1980s

|               | Acquisition | Acquisition | Bridge   | Early    | Expansion | First     | LBO      | Open       |
|---------------|-------------|-------------|----------|----------|-----------|-----------|----------|------------|
| Statistics    | For         |             |          | Stage    |           | Stage     |          | Market     |
|               | Expansion   |             |          |          |           |           |          | Purchase   |
| N             | 7.00        | 2.00        |          |          | 115.00    | 40.00     |          |            |
| Sum           | -700.00     | -111.00     | -2421.60 | -7575.00 | -10318.10 | -3811.10  | -4010.90 | -6341.30   |
| Mean          | -100.00     | -55.50      | -89.69   | -92.38   | -89.72    | -95.28    | -95.50   | -94.65     |
| Mode          | -100.00     | NA          | -100.00  | -100.00  | -100.00   | -100.00   | -100.00  | -100.00    |
| Std Dev       | 0.00        | 62.93       | 30.03    | 27.37    | 30.64     | 20.93     | 20.39    | 21.54      |
| Variance      | 0.00        | 3960.50     | 901.50   | 749.13   | 938.88    | 438.18    | 415.80   | 464.16     |
| CV            | 0.00        | -1.13       | -0.33    | -0.30    | -0.34     | -0.22     | -0.21    | -0.23      |
| Skewness      | NA          | NA          | 2.73     | 3.37     | 2.74      | 4.35      | 4.42     | 3.88       |
| Kurtosis      | NA          | NA          | 6.14     | 9.70     | 5.85      | 18.00     | 18.40    | 13.73      |
| 0% Min        | -100.00     | -100.00     | -100.00  | -100.00  | -100.00   | -100.00   | -100.00  | -100.00    |
| 25% Q1        | -100.00     | -77.75      | -100.00  | -100.00  | -100.00   | -100.00   | -100.00  | -100.00    |
| 50% Median    | -100.00     | -55.50      | -100.00  | -100.00  | -100.00   | -100.00   | -100.00  | -100.00    |
| 75%Q3         | -100.00     | -33.25      | -100.00  | -100.00  | -100.00   | -100.00   | -100.00  | -100.00    |
| 100% Max      | -100.00     | -11.00      | 10.10    | 14.90    | 19.40     | 2.80      | -2.30    | 3.50       |
| Range         | 0.00        | 89.00       | 110.10   | 114.90   | 119.40    | 102.80    | 97.70    | 103.50     |
| Q3-Q1         | 0.00        | 44.50       | 0.00     | 0.00     | 0.00      | 0.00      | 0.00     | 0.00       |
| 0.90          | -100.00     | -19.90      | -67.76   | -100.00  | -58.72    | -100.00   | -100.00  | -100.00    |
| 0.95          | -100.00     | -15.45      | -14.43   | -3.41    | 0.71      | -95.70    | -100.00  | -46.38     |
| 0.99          | -100.00     | -11.89      | 4.28     | 12.79    | 14.60     | -3.71     | -4.88    | -3.50      |
| Max-1         | -100.00     | -100.00     | -12.30   | 12.30    | 15.40     | -13.90    | -8.60    | -7.10      |
| Max-2         | -100.00     | NA          | -19.40   | 5.20     | 9.70      | -100.00   | -100.00  | -14.30     |
| Max-3         | -100.00     | NA          | -100.00  | 1.40     | 9.60      | -100.00   | -100.00  | -23.40     |
| Max-4         | -100.00     | NA          | -100.00  | -3.30    | 9.20      | -100.00   | -100.00  | -100.00    |
| T:Mean=0      | NA          | -1.25       | -15.52   | -30.56   | -31.40    | -28.79    | -30.35   | -35.96     |
| Prob> T       | NA          | 0.43        | 0.00     | 0.00     | 0.00      | 0.00      | 0.00     | 0.00       |
| Sum Weights   | 7.00        | 2.00        | 27.00    | 82.00    | 115.00    | 40.00     | 42.00    | 67.00      |
| Standard Mean | 0.00        | 44.50       | 5.78     | 3.02     | 2.86      | 3.31      | 3.15     | 2.63       |
|               | Other       | R&D         | Second   | Seed     | Special   | Startup   | Third    | Turnaround |
| Statistics    | Early       |             | Stage    |          | Situation | _         | Stage    |            |
| N             | 87.00       | 3.00        | 36.00    | 24.00    | 6.00      | 116.00    |          |            |
| Sum           | -7919.10    | -300.00     | -3503.40 | -2099.50 | -600.00   | -10410.70 | -2139.40 | -200.00    |
| Mean          | -91.02      | -100.00     | -97.32   | -87.48   | -100.00   | -89.75    | -89.14   | -100.00    |

| Mode          | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 |
|---------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Std Dev       | 28.53   | 0.00    | 16.10   | 34.20   | 0.00    | 30.57   | 29.61   | 0.00    |
| Variance      | 813.74  | 0.00    | 259.21  | 1169.44 | 0.00    | 934.77  | 876.88  | 0.00    |
| CV            | -0.31   | 0.00    | -0.17   | -0.39   | 0.00    | -0.34   | -0.33   | 0.00    |
| Skewness      | 2.93    | NA      | 6.00    | 2.52    | NA      | 2.72    | 2.51    | NA      |
| Kurtosis      | 6.85    | NA      | 36.00   | 4.90    | NA      | 5.67    | 4.85    | NA      |
| 0% Min        | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 |
| 25% Q1        | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 |
| 50% Median    | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 |
| 75%Q3         | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 | -100.00 |
| 100% Max      | 8.80    | -100.00 | -3.40   | 12.80   | -100.00 | 16.30   | -0.20   | -100.00 |
| Range         | 108.80  | 0.00    | 96.60   | 112.80  | 0.00    | 116.30  | 99.80   | 0.00    |
| Q3-Q1         | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| 0.90          | -100.00 | -100.00 | -100.00 | -43.16  | -100.00 | -61.15  | -48.90  | -100.00 |
| 0.95          | -2.89   | -100.00 | -100.00 | 2.70    | -100.00 | 0.55    | -14.42  | -100.00 |
| 0.99          | 8.63    | -100.00 | -37.21  | 11.35   | -100.00 | 15.13   | -2.96   | -100.00 |
| Max-1         | 8.60    | -100.00 | -100.00 | 6.50    | -100.00 | 15.70   | -12.20  | -100.00 |
| Max-2         | 2.30    | -100.00 | -100.00 | -18.80  | -100.00 | 11.90   | -27.00  | NA      |
| Max-3         | 1.80    | NA      | -100.00 | -100.00 | -100.00 | 7.30    | -100.00 | NA      |
| Max-4         | -1.60   | NA      | -100.00 | -100.00 | -100.00 | 4.20    | -100.00 | NA      |
| T:Mean=0      | -29.76  | NA      | -36.27  | -12.53  | NA      | -31.62  | -14.75  | NA      |
| Prob> T       | 0.00    | NA      | 0.00    | 0.00    | NA      | 0.00    | 0.00    | NA      |
| Prob> S       | 2.93    | NA      | 1.00    | 1.79    | NA      | 3.61    | 1.80    | NA      |
| Sum Weights   | 87.00   | 3.00    | 36.00   | 24.00   | 6.00    | 116.00  | 24.00   | 2.00    |
| Standard Mean | 3.06    | 0.00    | 2.68    | 6.98    | 0.00    | 2.84    | 6.04    | 0.00    |

Table 5: Annualized Returns, Inactive Firms, 1990s

|             | Unknown | Acquisition | Acquisition |          |          |          |          | LBO      | Open     |
|-------------|---------|-------------|-------------|----------|----------|----------|----------|----------|----------|
| Statistics  | Stage   | for         |             |          | Stage    |          | Stage    |          | Market   |
|             |         | expansion   |             |          |          |          |          |          | Purchase |
| N           | 10.00   | 16.00       | 4.00        | 13.00    | 54.00    | 82.00    | 50.00    | 47.00    | 17.00    |
| Sum         | -437.50 | -819.80     | -274.70     | -1139.70 | -3892.60 | -5487.20 | -3384.00 | -2958.90 | -1143.80 |
| Mean        | -43.75  | -51.24      | -68.68      | -87.67   | -72.09   | -66.92   | -67.68   | -62.96   | -67.28   |
| Mode        | -100.00 | -100.00     | -100.00     | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  |
| Std Dev     | 73.68   | 67.67       | 62.65       | 34.02    | 43.04    | 52.94    | 41.99    | 52.17    | 46.93    |
| Variance    | 5428.27 | 4579.71     | 3925.02     | 1157.51  | 1852.28  | 2802.84  | 1763.54  | 2722.19  | 2202.09  |
| CV          | -1.68   | -1.32       | -0.91       | -0.39    | -0.60    | -0.79    | -0.62    | -0.83    | -0.70    |
| Skewness    | 1.15    | 0.80        | 2.00        | 3.04     | 1.42     | 2.14     | 0.90     | 1.05     | 0.86     |
| Kurtosis    | 0.18    | -1.28       | 4.00        | 9.49     | 1.11     | 6.47     | -0.52    | -0.18    | -1.14    |
| 0% Min      | -100.00 | -100.00     | -100.00     | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  |
| 25% Q1      | -100.00 | -100.00     | -100.00     | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  |
| 50% Median  | -77.90  | -100.00     | -100.00     | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  | -100.00  |
| 75%Q3       | -15.08  | 22.45       | -68.68      | -100.00  | -42.63   | -27.03   | -24.00   | -17.05   | -22.40   |
| 100% Max    | 102.20  | 65.80       | 25.30       | 19.00    | 65.70    | 195.00   | 47.90    | 74.10    | 22.80    |
| Range       | 202.20  | 165.80      | 125.30      | 119.00   | 165.70   | 295.00   | 147.90   | 174.10   | 122.80   |
| Q3-Q1       | 84.93   | 122.45      | 31.33       | 0.00     | 57.38    | 72.98    | 76.00    | 82.95    | 77.60    |
| 0.90        | 62.06   | 46.75       | -12.29      | -66.96   | -12.54   | -6.16    | -7.27    | 5.70     | -2.52    |
| 0.95        | 82.13   | 62.20       | 6.50        | -27.62   | 14.53    | 30.81    | -1.13    | 32.07    | 5.76     |
| 0.99        | 98.19   | 65.08       | 21.54       | 9.68     | 46.67    | 94.07    | 26.63    | 66.88    | 19.39    |
| Max-1       | 57.60   | 61.00       | -100.00     | -58.70   | 29.80    | 70.40    | 4.50     | 58.40    | 1.50     |
| Max-2       | -9.40   | 32.50       | -100.00     | -100.00  | 23.70    | 45.40    | -0.50    | 33.90    | -5.20    |
| Max-3       | -32.10  | 22.60       | -100.00     | -100.00  | 9.60     | 35.00    | -1.90    | 27.80    | -7.60    |
| Max-4       | -55.80  | 22.40       | NA          | -100.00  | -2.40    | 31.30    | -3.40    | 8.10     | -22.40   |
| T:Mean=0    | -1.88   | -3.03       | -2.19       | -9.29    | -12.31   | -11.45   | -11.40   | -8.27    | -5.91    |
| Prob> T     | 0.09    | 0.01        | 0.12        | 0.00     | 0.00     | 0.00     | 0.00     | 0.00     | 0.00     |
| Sum Weights | 10.00   | 16.00       | 4.00        | 13.00    | 54.00    | 82.00    | 50.00    | 47.00    | 17.00    |

| Standard Mean | 23.30    | 16.92   | 31.33    | 9.44     | 5.86      | 5.85     | 5.94     | 7.61       | 11.38 |
|---------------|----------|---------|----------|----------|-----------|----------|----------|------------|-------|
|               | Other    | R&D     | Second   | Seed     | Special   | Startup  | Third    | Turnaround |       |
| Statistics    | Early    |         | Stage    |          | Situation |          | Stage    |            |       |
| N             | 102.00   | 1.00    | 42.00    | 80.00    | 3.00      | 90.00    | 38.00    | 1.00       |       |
| Sum           | -6868.10 | -100.00 | -2840.50 | -4982.40 | -174.10   | -5644.60 | -2329.60 | -100.00    |       |
| Mean          | -67.33   | -100.00 | -67.63   | -62.28   | -58.03    | -62.72   | -61.31   | -100.00    |       |
| Mode          | -100.00  | NA      | -100.00  | -100.00  | -100.00   | -100.00  | -100.00  | NA         |       |
| Std Dev       | 49.09    | NA      | 59.01    | 49.03    | 72.69     | 55.67    | 49.21    |            |       |
| Variance      | 2409.85  | NA      | 3482.01  | 2404.06  | 5283.60   | 3099.48  | 2422.09  | NA         |       |
| CV            | -0.73    | NA      | -0.87    | -0.79    | -1.25     | -0.89    | -0.80    | NA         |       |
| Skewness      | 1.27     | NA      | 2.27     | 1.15     | 1.73      | 2.20     | 0.87     | NA         |       |
| Kurtosis      | 0.43     | NA      | 6.20     | 0.75     | NA        | 7.02     | -0.60    | NA         |       |
| 0% Min        | -100.00  | -100.00 | -100.00  | -100.00  | -100.00   | -100.00  | -100.00  | -100.00    |       |
| 25% Q1        | -100.00  | -100.00 | -100.00  | -100.00  | -100.00   | -100.00  | -100.00  | -100.00    |       |
| 50% Median    | -100.00  | -100.00 | -100.00  | -100.00  | -100.00   | -100.00  | -100.00  | -100.00    |       |
| 75%Q3         | -39.73   | -100.00 | -50.95   | -28.08   | -37.05    | -35.33   | -20.68   | -100.00    |       |
| 100% Max      | 88.30    | -100.00 | 178.10   | 98.20    | 25.90     | 219.30   | 54.50    | -100.00    |       |
| Range         | 188.30   | 0.00    | 278.10   | 198.20   | 125.90    | 319.30   | 154.50   | 0.00       |       |
| Q3-Q1         | 60.28    | 0.00    | 49.05    | 71.93    | 62.95     | 64.68    | 79.33    | 0.00       |       |
| 0.90          | 12.79    | -100.00 | 10.40    | 13.70    | 0.72      | 8.79     | 13.63    | -100.00    |       |
| 0.95          | 25.30    | -100.00 | 18.80    | 18.07    | 13.31     | 26.74    | 26.19    | -100.00    |       |
| 0.99          | 62.10    | -100.00 | 120.74   | 87.93    | 23.38     | 115.97   | 49.25    | -100.00    |       |
| Max-1         | 62.20    | NA      | 38.20    | 85.20    | -100.00   | 103.20   | 40.30    | NA         |       |
| Max-2         | 52.10    | NA      | 18.80    | 28.00    | -100.00   | 87.50    | 23.70    | NA         |       |
| Max-3         | 39.40    | NA      | 18.80    | 26.90    | NA        | 30.90    | 14.40    | NA         |       |
| Max-4         | 28.40    | NA      | 10.40    | 17.60    | NA        | 29.80    | 13.30    | NA         |       |
| T:Mean=0      | -13.85   | NA      | -7.43    | -11.36   | -1.38     | -10.69   | -7.68    | NA         |       |
| Prob> T       | 0.00     | NA      | 0.00     | 0.00     | 0.30      | 0.00     | 0.00     | NA         |       |
| Sum Weights   | 102.00   | 1.00    | 42.00    | 80.00    | 3.00      | 90.00    | 38.00    | 1.00       |       |
| Standard Mean | 4.86     | NA      | 9.11     | 5.48     | 41.97     | 5.87     | 7.98     | NA         |       |

| Table 6: Annualized Returns. | Active Firms, | 1980s |
|------------------------------|---------------|-------|
|------------------------------|---------------|-------|

|            | Acquisition | Acquisition | Bridge | Early  | Expansion | First  | LBO   | Open     |
|------------|-------------|-------------|--------|--------|-----------|--------|-------|----------|
| Statistics | For         |             |        | Stage  |           | Stage  |       | Market   |
|            | Expansion   |             |        |        |           |        |       | Purchase |
| N          | 3.00        | 2.00        | 7.00   | 22.00  | 37.00     | 9.00   | 11.00 | 23.00    |
| Sum        | -4.80       | -24.70      | -22.80 | 46.00  | 106.80    | 86.60  | 72.70 | 226.50   |
| Mean       | -1.60       | -12.35      | -3.26  | 2.09   | 2.89      | 9.62   | 6.61  | 9.85     |
| Mode       | NA          | . NA        | NA     | NA     | NA        | NA     | NA    | 10.00    |
| Std Dev    | 12.41       | 20.72       | 5.17   | 17.22  | 21.55     | 14.02  | 5.86  | 18.94    |
| Variance   | 154.09      | 429.25      | 26.76  | 296.65 | 464.58    | 196.54 | 34.30 | 358.63   |
| CV         | -7.76       | -1.68       | -1.59  | 8.24   | 7.47      | 1.46   | 0.89  | 1.92     |
| Skewness   | 1.70        | NA          | -0.06  | -1.11  | -2.95     | 1.96   | -0.94 | 2.26     |
| Kurtosis   | NA          | . NA        | 0.39   | 1.22   | 14.29     | 5.11   | 2.28  | 5.36     |
| 0% Min     | -9.60       | -27.00      | -11.50 | -41.70 | -100.00   | -6.50  | -6.80 | -9.10    |
| 25% Q1     | -8.75       | -19.68      | -5.50  | -6.58  | -2.70     | 4.20   | 4.35  | -0.85    |
| 50% Median | -7.90       | -12.35      | -4.20  | 5.40   | 4.00      | 7.30   | 8.40  | 7.30     |
| 75%Q3      | 2.40        | -5.03       | -0.40  | 12.05  | 13.80     | 11.60  | 9.45  | 10.00    |
| 100% Max   | 12.70       | 2.30        | 4.70   | 29.40  | 38.60     | 43.50  | 16.10 | 69.50    |
| Range      | 22.30       | 29.30       | 16.20  | 71.10  | 138.60    | 50.00  | 22.90 | 78.60    |
| Q3-Q1      | 11.15       | 14.65       | 5.10   | 18.63  | 16.50     | 7.40   | 5.10  | 10.85    |
| 0.90       | 8.58        | -0.63       | 2.00   | 19.18  | 22.00     | 19.10  | 10.80 | 22.06    |
| 0.95       | 10.64       | 0.84        | 3.35   | 19.98  | 28.06     | 31.30  | 13.45 | 55.56    |
| 0.99       | 12.29       | 2.01        | 4.43   | 27.43  | 35.18     | 41.06  | 15.57 | 67.19    |

| Max-1         | -7.90  | -27.00 | 0.20   |        |           |         | 10.80  | 59.00      |
|---------------|--------|--------|--------|--------|-----------|---------|--------|------------|
| Max-2         | -9.60  | NA     | -1.00  | 19.50  | 27.80     | 11.60   | 9.60   | 24.60      |
| Max-3         | NA     | NA     | -4.20  | 16.30  | 26.20     | 7.70    | 9.30   | 11.90      |
| Max-4         | NA     | NA     | -4.70  | 13.40  | 19.20     | 7.30    | 8.60   | 10.60      |
| T:Mean=0      | -0.22  | -0.84  | -1.67  | 0.57   | 0.81      | 2.06    | 3.74   | 2.49       |
| Prob> T       | 0.84   | 0.55   | 0.15   | 0.58   | 0.42      | 0.07    | 0.00   | 0.02       |
| Sum Weights   | 3.00   | 2.00   | 7.00   | 22.00  | 37.00     | 9.00    | 11.00  | 23.00      |
| Standard Mean | 7.17   | 14.65  | 1.96   | 3.67   | 3.54      | 4.67    | 1.77   | 3.95       |
|               | Other  | R&D    | Second | Seed   | Special   | Startup | Third  | Turnaround |
| Statistics    | Early  |        | Stage  |        | Situation |         | Stage  |            |
| N             | 23.00  | 1.00   | 11.00  | 18.00  | 5.00      | 43.00   | 8.00   | 2.00       |
| Sum           | 50.10  | -5.90  | 6.30   | -50.60 | -0.90     | 218.30  | 27.40  | 11.90      |
| Mean          | 2.18   | -5.90  | 0.57   | -2.81  | -0.18     | 5.08    | 3.43   | 5.95       |
| Mode          | 6.70   | NA     | NA     | NA     | NA        | 1.20    | NA     | NA         |
| Std Dev       | 9.05   | NA     | 8.72   | 17.13  | 9.33      | 14.13   | 17.93  | 21.57      |
| Variance      | 81.83  | NA     | 76.01  | 293.48 | 86.96     | 199.53  | 321.55 | 465.13     |
| CV            | 4.15   | NA     | 15.22  | -6.09  | -51.81    | 2.78    | 5.24   | 3.62       |
| Skewness      | -0.81  | NA     | 0.45   | -0.18  | 1.57      | 0.18    | 1.66   | NA         |
| Kurtosis      | 1.39   | NA     | -0.77  | -0.74  | 2.64      | -0.08   | 3.09   | NA         |
| 0% Min        | -23.00 | -5.90  | -11.60 | -36.70 | -8.50     | -22.10  | -14.10 | -9.30      |
| 25% Q1        | -2.90  | -5.90  | -6.65  | -15.13 | -5.00     | -3.90   | -8.38  | -1.68      |
| 50% Median    | 5.70   | -5.90  | -0.60  | -4.70  | -3.60     | 5.00    | -0.40  | 5.95       |
| 75%Q3         | 7.15   | -5.90  | 6.90   | 12.33  | 0.80      | 13.75   | 6.00   | 13.58      |
| 100% Max      | 18.70  | -5.90  | 16.30  | 25.30  | 15.40     | 39.90   | 42.20  | 21.20      |
| Range         | 41.70  | 0.00   | 27.90  | 62.00  | 23.90     | 62.00   | 56.30  | 30.50      |
| Q3-Q1         | 10.05  | 0.00   | 13.55  | 27.45  | 5.80      | 17.65   | 14.38  | 15.25      |
| 0.90          | 11.66  | -5.90  | 10.40  | 16.48  | 9.56      |         | 22.11  | 18.15      |
| 0.95          | 12.07  | -5.90  | 13.35  | 19.35  | 12.48     | 27.54   | 32.16  | 19.68      |
| 0.99          | 17.25  | -5.90  | 15.71  | 24.11  | 14.82     | 35.70   | 40.19  | 20.90      |
| Max-1         | 12.10  | NA     | 10.40  | 18.30  | 0.80      | 29.90   | 13.50  | -9.30      |
| Max-2         | 11.80  | NA     | 9.00   | 15.70  | -3.60     | 27.60   | 3.50   | NA         |
| Max-3         | 11.10  | NA     | 4.80   | 14.50  | -5.00     | 27.00   | 3.30   | NA         |
| Max-4         | 8.20   | NA     | 1.40   | 12.60  |           |         | -4.10  | NA         |
| T:Mean=0      | 1.15   | NA     | 0.22   | -0.70  |           | 2.36    | 0.54   | 0.39       |
| Prob> T       | 0.26   | NA     | 0.83   | 0.50   |           | 0.02    | 0.61   | 0.76       |
| Sum Weights   | 23.00  | 1.00   | 11.00  |        |           | 43.00   | 8.00   | 2.00       |
| Standard Mean | 1.89   |        |        | 4.04   |           | 2.15    | 6.34   |            |

Table 7: Annualized Returns, Active Firms, 1990s

|            | Unknown   | Acquisition | Acquisition | Bridge  | Early   | Expansion | First   | LBO     | Open     |
|------------|-----------|-------------|-------------|---------|---------|-----------|---------|---------|----------|
| Statistics | Stage     | For         |             |         | Stage   |           | Stage   |         | Market   |
|            |           | Expansion   |             |         |         |           |         |         | Purchase |
| N          | 320.00    | 10.00       | 5.00        | 9.00    | 88.00   | 119.00    | 58.00   | 42.00   | 17.00    |
| Sum        | -27006.30 | 435.50      | 174.10      | 395.20  | 1248.40 | 6518.40   | 8.20    | 511.50  | 495.20   |
| Mean       | -84.39    | 43.55       | 34.82       | 43.91   | 14.19   | 54.78     | 0.14    | 12.18   | 29.13    |
| Mode       | -100.00   | NA          | NA          | NA      | 15.70   | -33.60    | 9.10    | NA      | NA       |
| Std Dev    | 59.21     | 91.94       | 26.25       | 54.20   | 86.12   | 321.17    | 58.76   | 31.75   | 45.29    |
| Variance   | 3505.80   | 8452.76     | 689.31      | 2937.57 | 7416.51 | 103150.13 | 3452.66 | 1007.99 | 2051.61  |
| CV         | -0.70     | 2.11        | 0.75        | 1.23    | 6.07    | 5.86      | 415.61  | 2.61    | 1.55     |
| Skewness   | 8.70      | 3.10        | 0.14        | 0.22    | 4.21    | 9.02      | 2.96    | 0.92    | 1.55     |
| Kurtosis   | 107.15    | 9.73        | -2.06       | -0.49   | 22.76   | 89.74     | 12.18   | 1.58    | 2.79     |
| 0% Min     | -100.00   | -1.80       | 5.30        | -37.50  | -68.30  | -100.00   | -75.60  | -49.00  | -33.20   |
| 25% Q1     | -100.00   | 7.43        | 13.30       | 1.80    | -26.08  | -20.00    | -36.90  | -8.73   | 9.00     |
| 50% Median | -100.00   | 18.80       | 34.50       | 57.30   | -3.55   | 6.10      | -7.20   | 9.10    | 20.50    |

| 75%O3         | -100.00 | 23.78  | 53.30    | 66.00   | 20.30     | 33.60   | 17.70   | 26.05      | 34.80    |
|---------------|---------|--------|----------|---------|-----------|---------|---------|------------|----------|
| 100% Max      | 718.10  |        | 67.70    |         |           |         |         |            | 147.80   |
| Range         | 818.10  |        | 62.40    |         |           |         |         |            | 181.00   |
| Q3-Q1         | 0.00    |        | 40.00    |         |           | 53.60   | 54.60   | 34.78      | 25.80    |
| 0.90          | -30.00  |        | 61.94    | 106.04  | 82.58     |         | 28.16   |            | 77.54    |
| 0.95          | 7.99    | 178.08 | 64.82    | 120.72  |           |         | 63.42   |            | 127.40   |
| 0.99          | 85.75   |        | 67.12    |         |           |         | 227.08  |            | 143.72   |
| Max-1         | 136.40  | 24.30  | 53.30    | 98.70   | 404.00    | 742.20  | 173.80  | 97.90      | 122.30   |
| Max-2         | 132.60  |        |          |         |           |         |         | 72.70      | 47.70    |
| Max-3         | 87.50   |        | 13.30    | 58.40   |           |         | 48.20   | 50.80      | 44.00    |
| Max-4         | 78.30   |        | 5.30     |         |           |         | 46.30   | 44.70      | 34.80    |
| T:Mean=0      | -25.50  | 1.50   | 2.97     | 2.43    | 1.55      | 1.86    | 0.02    | 2.49       | 2.65     |
| Prob> T       | 0.00    |        | 0.04     | 0.04    |           | 0.07    | 0.99    | 0.02       | 0.02     |
| Sum Weights   | 320.00  | 10.00  | 5.00     | 9.00    | 88.00     | 119.00  | 58.00   | 42.00      | 17.00    |
| Standard Mean | 3.31    | 29.07  | 11.74    | 18.07   | 9.18      | 29.44   | 7.72    | 4.90       | 10.99    |
|               | Other   | R&D    | Second   | Seed    | Special   | Startup | Third   | Turnaround | <u> </u> |
| Statistics    | Early   |        | Stage    |         | Situation | _       | Stage   |            |          |
| N             | 126.00  | 1.00   | 52.00    | 111.00  | 2.00      | 119.00  | 41.00   | 3.00       |          |
| Sum           | 19.10   | -0.90  | 3682.50  | -166.30 | 22.40     | 1696.10 | 337.80  | -13.20     |          |
| Mean          | 0.15    | -0.90  | 70.82    | -1.50   | 11.20     | 14.25   | 8.24    | -4.40      |          |
| Mode          | 12.60   | NA     | -9.40    | 2.50    | NA        | -15.80  | NA      | NA         |          |
| Std Dev       | 37.80   | NA     | 272.47   | 54.78   | 34.08     | 72.51   | 45.50   | 43.21      |          |
| Variance      | 1428.68 | NA     | 74238.15 | 3000.63 | 1161.62   | 5258.00 | 2069.95 | 1867.33    |          |
| CV            | 249.35  | NA     | 3.85     | -36.56  | 3.04      | 5.09    | 5.52    | -9.82      |          |
| Skewness      | 1.26    |        | 5.46     | 4.04    | NA        | 4.26    | 1.28    |            |          |
| Kurtosis      | 4.55    | NA     | 33.92    | 24.60   | NA        | 26.06   | 2.36    | NA         |          |
| 0% Min        | -100.00 | -0.90  | -64.60   | -82.40  | -12.90    | -62.80  | -58.60  | -49.30     |          |
| 25% Q1        | -25.90  | -0.90  | -16.08   | -26.10  | -0.85     | -22.30  | -20.70  | -25.05     |          |
| 50% Median    | -2.15   |        | 3.10     | -8.00   |           |         | 1.00    | -0.80      |          |
| 75% Q3        | 15.70   | -0.90  | 19.63    | 16.50   | 23.25     | 21.55   | 26.80   | 18.05      |          |
| 100% Max      | 185.70  | -0.90  | 1813.30  |         | 35.30     | 550.00  | 157.90  | 36.90      |          |
| Range         | 285.70  | 0.00   | 1877.90  | 455.60  |           |         | 216.50  | 86.20      |          |
| Q3-Q1         | 41.60   | 0.00   | 35.70    | 42.60   | 24.10     | 43.85   | 47.50   | 43.10      |          |
| 0.90          | 41.15   | -0.90  | 292.32   | 34.50   | 30.48     | 62.76   | 54.40   | 29.36      |          |
| 0.95          | 53.40   | -0.90  | 378.57   | 46.40   | 32.89     | 142.96  | 81.40   | 33.13      |          |
| 0.99          | 113.33  | -0.90  | 1125.16  | 255.16  | 34.82     | 254.09  | 144.86  | 36.15      |          |
| Max-1         | 117.80  | NA     | 464.00   | 275.90  | -12.90    | 267.30  | 125.30  | -0.80      |          |
| Max-2         | 99.90   | NA     | 401.50   | 68.50   | NA        | 193.90  | 81.40   | -49.30     |          |
| Max-3         | 82.00   |        | 359.80   |         |           | 190.60  | 75.40   | NA         |          |
| Max-4         | 76.90   |        | 330.50   |         |           | 166.90  |         | NA         |          |
| T:Mean=0      | 0.05    |        | 1.87     | -0.29   |           |         | 1.16    |            |          |
| Prob> T       | 0.96    |        | 0.07     | 0.77    |           | 0.03    | 0.25    | 0.88       |          |
| Sum Weights   | 126.00  |        | 52.00    |         |           |         | 41.00   | 3.00       |          |
| Standard Mean | 3.37    | NA     | 37.78    | 5.20    | 24.10     | 6.65    | 7.11    | 24.95      |          |