An Empirical Investigation of IPOs' Annualized Returns in the Last Three Decades

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Abstract

Venture investment activity covers many phases of financial stages. In spite of the increased attention to the venture capital process during the last three decades, misconceptions about the industry still exist. This paper examines annualized returns for different stages of financing in venture-backed public companies. The unique database includes current actively and inactively trading public companies. The data enable one to ascertain the relationship among companies' annualized rates of return, share price at the Initial Public Offering (IPO) date, IPO size, current total shares, and the role of venture capital. Annualized returns are found to be positively affected by cumulative returns, IPO year, current price, and IPO size in dollars while being negatively influenced by IPO price. The paper refutes the myth that investors demand very high rates of return to compensate for the risks involved in financing ventures.

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.

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I.   Introduction

This paper investigates the actual performance of 3,063 Initial Public Offerings (IPOs) of companies that were backed by venture capital from 1968 until the end of 1998. The unique database includes current actively and inactively trading public companies.[1]

In the past, venture capital financing was regarded as the early-stage financing for relatively small, rapidly growing companies. At the end of the 1990s, venture investment activity covers many phases of business growth. Besides early-stage financing, venture capitalists provide expansion financing for companies that have overcome initial difficulties and require additional capital for growth. After all, these companies do not yet have access to public or credit-oriented institutional funding. However, venture capitalists, together with entrepreneurs and business management, are involved in all stages of financing. For example, they finance leveraged buyouts, which may involve purchasing ailing corporate divisions or absentee-owned private business with the objective of revitalizing them.

Venture capital traditionally has been a low profile, private industry. Although the national media has given increased attention to the venture capital process during the 1980s and 1990s, misconceptions about the industry continue to proliferate. One often hears about the incredible capital gains of IPO share prices. One case cites and recites the success of eBay Inc., an online auction house that went public in September 1998 at $18 a share and was trading at $241.25 in December 1998, a 1,240 percent increase from its offering price. Another success story frequently mentioned is Inktomi Corp., the developer of online search technology. The company, which was originally offered at $18 a share in July 1998, had a price of $129.38 per share at the close of that year, a 618.8 percent increase. Another example is Theglobe.com, an online community site, which had a 605 percent gain on its first day of trading.

Since many publications are vague about their definitions of various venture capital terms, the following terms have been clearly defined.

Early-Stage Financing

- *Seed Financing* is a relatively small amount of capital provided to an investor or entrepreneur to prove a concept and to qualify for start-up capital. If the initial steps are successful, this stage may involve product development, market research, building a management team and developing a business plan.

- *Research and Development Financing* (R&D) is a tax-advantaged partnership set up to finance product development for start-ups and more mature companies. Investors secure both tax write-offs for the investments and a later share of the profits if the product development is successful.

- *Start-up Financing* is provided to companies completing product development and initial marketing. These companies may be in the process of organizing or they may already be in business for one year or less, but they have yet to sell their products commercially. Usually such firms will have made market studies, assembled the key management, developed a business plan, and readied themselves to do business.

- *First-Stage Financing* is provided to companies that have expended their initial capital (often in developing and market testing a prototype) and require funds to initiate full-scale manufacturing and sales.

Expansion Financing

- *Second-Stage Financing* is working capital for the initial expansion of a company that is producing and shipping and has growing accounts receivable and inventories. Although the company has made progress, it may not yet be showing a profit.

- *Third-Stage or Mezzanine Financing* is provided for major expansion of a company with an increasing sales volume that is breaking even or showing a profit. These funds are used for further plant expansion, marketing, working capital, or development of an improved product.

- *Bridge Financing* is needed at times when a company plans to go public within six months to a year. Bridge financing, which is often structured so that it can be repaid from the proceeds of a public underwriting, can also involve restructuring of major

stockholder positions through secondary transactions.   Restructuring is undertaken if there are early investors who want to reduce or liquidate their positions, or if management has changed and the stockholdings of the former management, their relatives and associates are being bought out to relieve a potential oversupply of stock when going public.

Acquisition/Buyout Financing

- *Acquisition Financing* provides funds to finance an acquisition of another company.

- *Management/Leveraged Buyout* (LBO) funds enable an operating management group to acquire a product line or business (which may be at any stage of development) from either a public or private company; often these purchased companies are closely held or family owned.   Management/leveraged buyouts usually involve revitalizing an operation in such a way that entrepreneurial management gains a significant equity interest.

The data enable one to ascertain the relationship among company rate of return, share price at the IPO date, IPO size, current total shares, and the role of venture capital. The role of venture capital in leveraged buyouts is also investigated along with the company's investment-stage levels: seed, research and development, start-up, first-stage, second-stage, third-stage, bridge, acquisition, and management leveraged buyout funds.   Examination of these data rebuffs many of the myths and misconceptions about the venture-capital industry and its performances.

The remainder of the paper is organized around additional sections.   Section II presents a brief review of the literature; Section III.1 presents the empirical findings for all firms and for current actively and inactively traded firms; Section III.2 presents the findings by stages of financing for all firms and current actively and inactively traded firms; Section IV offers an econometric analysis of the data; and Section V concludes.

II.   Review of the Literature

In this paper, we seek to refute the myth that investors demand very high rates of return to compensate for the risks involved in financing ventures.   For example, Roberts and

Stevenson (1992) write about target returns of 50 percent or 60 percent and claim that such returns are not uncommon. Rich and Gumpert (1992) offer the following assessment:

> "Because risk and reward are closely related, investors believe companies with fully developed products and proven management teams should yield between 35 percent and 40 percent on their investment, while those with incomplete products and management teams are expected to bring in 60 percent annual compounded returns."

A 1984 congressional survey found that independent private venture capital firms expect a minimum annualized rate of return on individual investments that range from 75 percent for seed-stage financing to about 35 percent per year for bridge financing (Bygrave and Timmons, 1992).

Furthermore, Timmons (1994, 1999) provides a more comprehensive summary of rates of return sought by venture capital investors according to stage of investment (see, Table 1). The basis for such high rates of return is the result of asking venture capital investors to report the rates they apply when discounting the projected cash flows of proposed new ventures.

Poindexter (1976), however, studies 92 venture capital firms and finds that the average return during the 1960s and early 1970s is about 14 percent. Hoban (1976) examines returns (before management fees) for a sample of over 100 investments by venture capital firms made during the years 1960 to 1968, and he finds that, before deducting management fees, the average return through 1975 was 23 percent. Once one accounts for management fees, the return is estimated at 18-19 percent.

In another study, 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. Martin and Petty (1983) find a much higher average rate of return, 27 percent, but they study only 11 venture capital firms over a short period of five years, from 1974 through 1979.

Bygrave and Timmons (1992) examine returns that are based on valuations by the fund managers. The study is limited to funds in existence for at least five years and has a time period of 16 years, from 1974 through 1989. They find that the maximum return on a

capitalized-weighted basis was 32 percent; the minimum was a negative return of 3 percent. The compound annual return over the period was approximately 13.5 percent.

Venture Economics (1997, page 272) estimates that the internal rate of return (IRR) performance of venture capital funds between 1986-1996 has roughly paralleled the performance of the stock market. While the 10-year holding period Internal Rate of Return (IRR), which ended in 1996, was 20.7 percent, most of it was generated in the last five years, over which the median was 23.7 percent.

III.   Empirical Results

III.1   Empirical Results for All, Current Actively and Inactively Traded Firms

The data consist of all venture-backed public companies (3,063) from the end of 1968 to August 1998.[2] Upon analysis, some interesting statistics are revealed. Table 2 presents basic statistics for annualized returns from the IPO date until the 08/19/1998. The descriptive statistics include the mean, median, standard deviation, Pearson coefficient of skewness, and the minimum and maximum data values. In addition, Table 2 includes the t-statistics testing the null hypothesis, whether the mean of the variable equals to zero, and the observed significance level, p value of the t-statistic test. A low level of the p value implies that the mean of the variable is significantly different than zero.

The annualized return that is gained from the date of the IPO to the terminal sampled data was -45.34 percent, with standard deviation of 99.58 percent. The p-value of the t-statistic, testing the null hypothesis whether the mean of annualized return is equal to zero, is 0.0001. Thus, the null hypothesis, which states that the mean of annualized returns is equal to zero, is rejected by the test. Although the maximum annualized returns of the IPOs was impressive (3,296.1 percent), the second quartile for this variable was –100 percent. Moreover, the bottom three quartiles have annualized returns of 0.2 percent or less. Another interesting phenomenon is that only the IPOs in the top 10 percent have annualized returns greater than 21.9 percent.

Columns 2 and 3 of Table 2 divide the data into current actively and inactively traded venture firms. It is interesting to note that the means for the annualized returns were

significantly negative for both current actively and for inactively traded firms (-7.64 percent and -80.69 percent, respectively).

Other figures of interest include the standard deviations that are 126.20 percent versus 41.26 percent for the annualized returns of current actively and inactively traded firms. Also, the top quartile of active venture-backed public companies shows annualized returns of 12.6 percent or more, whereas the corresponding figure for the current inactively traded companies is negative 100 percent. The lower two quartiles for both active and inactive categories are negative. Finally, it is worthwhile to note that, for 90 percent of the inactive firms, the annualized returns are negative. For the 90th firm the annualized return is equal to negative 8.5 percent. The p values of the t-statistics for all, active and inactive IPOs, indicate that the reported means are significantly different than zero.

III.2 Empirical Results for Current Actively and Inactively Traded Firms by Stages of Financing

Table 3 presents descriptive statistics for the annualized returns of both current actively and inactively traded venture-backed public companies by stages of financing. The data are divided to the following stages of financing: unknown stage, acquisition for expansion, general acquisition, bridge, early-stage, expansion, first stage, LBO, open-market purchase, other acquisition, other early stage, other expansion, research and development financing, second stage, seed, special situation, startup, third stage, and finally financing for turnaround purposes.

A few interesting points can be observed from the data in Table 3. The means of annualized returns for all stages of financing are significantly different from zero and negative, except for second-stage financing (p=0.142) and acquisition (both general and other acquisition) in which the means are negative but not significantly different from zero. The bottom three quartiles show negative returns for bridge, first-stage, other expansion, research and development financing, and special situation. Of those stages with positive returns for the bottom 75 percent, the following have negative returns at the lower two quartiles: acquisition for expansion, early-stage financing, expansion, first stage, LBO, open-market purchase, other early second stage, seed, startup, third stage, and turnarounds.

Even if one is wise or lucky enough to pick the venture capital backed firms at the top ten percent of the distribution the return is less than 20 percent annually for the 90th firm in the distribution, for many stages of financing. For example, the annualized returns for bridge financing for the 90th percentile firm of the distribution is 19 percent, 20.9 percent for early stage, and 18.4 percent for first stage. The annualized returns for bridge financing of the 90th percentile of the distribution is 13.6 percent for open-market purchase, 10.2 percent for other acquisitions, 18.3 percent for other early stage financing, and 19.3 percent for second stage financing. In the top decile, one also observes that the annualized returns at the acquisition stage are impressive, namely 53.3 percent or higher, and are equal to 36.9 percent or more for third-stage financing and above 32.5 percent for acquisition for expansion.

Table 3 reveals that, as one stratifies the data based on stages of financing, there are different rates of return. However, it does refute many of the findings mentioned in the literature surveyed above.

Table 4 duplicates Table 3, but it does so only for current actively traded firms. Table 4 presents the annualized returns for current actively traded firms grouped by stages of financing. Note that restricting the discussion to current actively traded firms biases the reported returns. Furthermore, many of the firms are at the unknown stage of financing in Table 4 because most of these firms are new. Note that the category "other expansion" has no active firms.

The mean annualized returns are negative for the following stages: research and development (-3.4 percent), seed (-1.68 percent), and turnarounds (-1.35 percent). Although the mean values for the above three stages of financing are negative, the null hypothesis of annualized returns being equal to zero cannot be rejected. Thus, one concludes that all of these mean returns are practically zero. They are at annualized ten percent or lower for the following stages of financing:

- first stage (1.34 percent, but not significantly different from zero),
- other acquisition (10.2 percent, with too few firms in the sample to conduct formal statistical testing),
- special situation (3.07 percent),
- third-stage (7.45 percent), and

- other early financing (0.63 percent).

For all of these afore mentioned stages of financing, the testing of the means of these stages being equal to zero cannot be rejected.

The following stages of financing yield annualized returns between 10 and 15 percent: early stage (11.48 percent), LBO (11.01 percent), open-market purchase (14.64 percent), and startup (11.62 percent). For this group of stages of financing, they are all significantly different from zero. Acquisition financing yields annualized returns of 21.34 percent (with p-value of 0.1337) and bridge financing yields – 23.28 percent (with p-value of 0.0636).

The highest mean returns are found in the following three groups: acquisition for expansion (33.13 percent, but not significantly different from zero), expansion (41.43 percent), and second-stage financing (55.62 percent). The last two categories each have a p-value, which rejects the null hypothesis that the mean returns are equal to zero. However, even for this impressive group, the lower two quartiles of returns are only 15.9 percent or less for acquisition for expansion, 4.7 percent or less for expansion, and 2.7 percent or less for second-stage financing. At the top 25 percent, the annualized yield is 22.5 percent or more for acquisition for expansion, 25.45 percent or more for expansion, and only 16.2 percent or more for second-stage financing.

Table 5 presents the results for the current inactively traded firms. As one might expect, inactive firms are performing much worse. For all stages of financing, the means for annualized returns are negative. Testing the null hypotheses that the means are equal to zeros is rejected for all stages of production. Even at the top 25 percent, all returns are negative. Furthermore, at the top 10 percent, annualized returns are negative for bridge, early stage, expansion, first stage, LBO, open-market purchase, other acquisition (but only one firm in the sample), other early, other expansion, research and development, second stage, startup, and third stage. Moreover, for 95 percent of the current actively traded firms, annualized returns are negative for bridge, first stage, open-market purchase, other acquisition, other expansion, and research and development.

In addition, at the 90th percentile of inactive public companies that were venture capital backed, positive annualized returns are found only for the following stages of financing: special situation (1.8 percent), turnarounds (4.9 percent), seed (8.6 percent),

acquisition (25.3 percent), acquisition for expansion (32.5 percent), and unknown stage (79.9 percent).

Table 6 presents the independent-sample t-test. The goal is to test whether the means of the two populations are equal. For this test, the sample is divided into two mutually exclusive groups; for example, one consists of all acquisition financing and the second group consists of all other observations excluding the acquisition financing and so on for each of the stages in the database. Then the test is performed using a variable common to both groups, which is, in this case, annual returns. The null hypothesis states that the population means of the two groups are equal. The two-sided alternate hypothesis states that the means are unequal. The two samples or sample groups are independent of each other because no observation is preset in both groups.

Since the independent-samples t-test involves two samples, an additional problem arises regarding variances. Specifically, the question is whether the two population variances are equal or not. This situation is resolved by testing whether the two population variances are equal using data from the samples. This procedure requires an F-test of homogeneity of variance. If the F-test is not significant, thus leading one to conclude that the variances are equal, then the standard independent-samples t-test is employed. Otherwise, one decides that the variances are unequal based on a significant F statistic, and then one uses a modified version of the independent-samples t-test.

In the current database, this test is demanding because each of the categories has few firms relative to the total of 3,063 ventures. The first three columns of data in Table 6 present the F-test results where each stage of financing is compared to all other stages of financing for all current actively and inactively traded firms, respectively. Column 1 of Table 6 shows that the null hypotheses of equal variances for all firms are rejected by the test for all stages of financing except acquisition for expansion financing (0.1484). For current actively traded firms, the null hypotheses of equal variances are rejected for all stages of financing. However, for current inactively traded firms, the null hypotheses of equal variances can be rejected only for unknown stage of financing, acquisition for expansion financing, bridge financing, early stage financing, first stage financing, open market purchase financing, and seed financing.

Equipped with the variances results presented in the first three columns of Table 6, columns 4 through 6 in the table, present the test of the difference in the means for all current actively and inactively traded firms, respectively. Based on these last three columns one can infer the following points. First, by and large, the null hypotheses of equal means are rejected for all stages of financing for actively traded firms (column 5) except first stage, R&D, special situation, and turnaround financing. Second, the null hypotheses of equal means are rejected for unknown stage financing, expansion financing, and second-stage financing for all firms and active firms. Third, the null hypotheses of equal means are rejected for open market purchase for all, active and inactive firms. Fourth, the same applies to seed financing in all current inactively traded firms (but not in active firms).

IV.   Econometric Model and Results

It is postulated that annualized returns are positively correlated with the following factors: current actively traded firm versus inactively traded firm, cumulative returns since the first date of IPO, date of IPO, founding year of the company, the current stock price (on August 19, 1998 or the last date of trade for current inactively traded firms), and IPO size measured in dollars. Additionally, it is hypothesized that annualized returns are negatively affected by the number of shares issued at the time of IPO and the price of the share at the date of the IPO (IPO Price).

It is also postulated that both the date of IPO and year founded positively affect the firms' annualized returns because investors are looking for high short-term profits. The number of IPO shares is assumed to negatively affect annualized returns. This is because it is more difficult to market a large number of shares. The size of the IPO is assumed to positively affect annualized return. In other words, the greater the size, the higher the annualized return.

The correlation and regression results for annualized and cumulative returns are presented in Tables 7 and 8. Table 7 presents the Pearson Correlation Coefficient Matrix for these variables; Table 8 presents the results of the regression equations. As for the expected signs, the regression equation for annualized returns confirms the above hypotheses. However, the coefficients for the founding year of the company and whether the firm is

current actively or inactively traded are not significant for the annualized returns. The Adjusted R-Squared for the annualized return regression equation is 0.26.

V.   Conclusion

The paper finds that there are different rates of return as one stratifies the data based on stages of financing. However, it does refute many of the findings mentioned in the literature surveyed because the rates of return are much lower than the literature and the media are quoting.

Furthermore, the paper offers some hypotheses with regards to the determinants of annualized returns on venture backed public companies. Annualized returns are found to be positively affected by cumulative returns, IPO year, current price, and IPO size in dollars while being negatively influenced by IPO price.

Further research is currently underway to stratify the data by industry classifications.

Notes

1.   The venture capital literature is by now vast. Early studies include Mansfield (1969), Weiser (1975), Mansfield et al. (1977), Tassey (1977), Cooper and Carleton (1979), Baty (1981), Timmons (1981), Mansfield and Romeo (1980), Mansfield (1981, 1983A, 1983B), Martin and Petty (1983), Chan (1983), Timmons, Smollen and Dingle (1985), Megginson (1991), and Schilit (1991). Tax policies issues related to venture capital financing were studied by, among others, Bisesi (1986), Bygrave and Shulman (1988), Landau and Jorgenson (1986), Mansfield. (1985, 1986), Mansfield and Switzer, (1985), McMurtry (1986), Poterba (1989), and Summers (1989). More recent literature includes, among others, Admati and Pfleiderer (1994), Allen and Gale (1994), Berglof (1994), Chemmanur and Fulghieri (1999), Espenlaub (1999), Gompers (1993, 1995, 1996), Gompers and Lerner (1997, 1999), Lerner (1994, 1995), Mason and Harrison (1999), Murray (1999), Reynolds and White (1997), Rich and Gumpert (1992), and Smith and Smith (2000).

2.   The primary source for the data is the Securities and Exchange Commission (SEC), including EDGAR, the SEC's electronic database of corporate reports.

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Table 1: Rates of Return (ROR) sought by Venture Capital Investors

Stage	Annual ROR (Percent)	Typical Expected Holding Period (Years)
Seed and start-up	50-100 or more	More than 10
First stage	40-60	5-10
Second stage	30-40	4-7
Expansion	20-30	3-5
Bridge and mezzanine	20-30	1-3
LBOs	30-50	3-5
Turnarounds	50+	3-5

Source: Jeffrey A. Timmons, <u>New Venture Creation</u>, 4th Edition, Chicago Irwine, 1994, p. 512. See, also Timmons (1999, page 465).

TABLE 2:   Annualized Returns - All, Current Actively and Inactively Traded Firms

Statistics	All Firms	Active	Inactive
Mean	-45.34	-7.64	-80.69
Median	-100	-5.8	-100
Std Dev	99.58	126.20	41.26
Skewness	16.34	15.71	2.33
Kurtosis	483.99	368.64	6.20
Min	-100	-100	-100
Max	3296.1	3296.1	219.3
T: Mean=0	-24.50	-2.27	-75.58
Pr > |T|	0.0001	0.0235	0.0001

Key For Tables 2 - 5

Label on Output	Description of Statistic
Mean	Arithmetic mean
Median	Median
Std Dev	Standard deviation
Skewness	Pearson coefficient of skewness
Kurtosis	Measure of kurtosis
Min	Minimum data value
Max	Maximum data value
T: Mean = 0	t-statistic testing the mean equal to zero
Pr > T	p value of the t-statistic

TABLE 3:   Annualized Returns by Stages of Financing - All Firms

Statistics	Unknown Stage	Acquisition for expansion	Acquisition	Bridge	Early Stage	Expansion	First Stage	LBO	Open Market Purchase
Mean	-83.16	-33.92	-18.18	-57.541	-41.19	-29.27	-47.3	-46.429	-54.29
Median	-100	-62.05	2.3	-100	-48.65	-50.9	-49.5	-77.65	-100
Std Dev	59.97	82.58	61.93	61.62	74.48	193.70	60.27	57.75	57.87
Skewness	8.20	1.87	-0.38	1.23	3.19	13.96	1.70	0.43	0.81
Kurtosis	98.14	6.09	-1.37	0.65	20.54	234.27	6.26	-1.20	-0.29
Min	-100	-100	-100	-100	-100	-100	-100	-100	-100
Max	718.1	303.9	67.7	135.4	563.5	3296.1	297.7	104.2	147.8
T:Mean=0	-25.19	-2.53	-1.06	-7.17	-8.85	-2.93	-10.08	-9.85	-11.49
Pr>|T|	0.0001	0.016	0.31	0.0001	0.0001	0.0036	0.0001	0.0001	0.0001

	Other Acquisition	Other Early	Other Expansion	R&D	Second Stage	Seed	Special Situation	Startup	Third Stage	Turnaround
Mean	-44.9	-48.85	-100	-72.4	-21.306	-32.96	-52.54	-41.071	-39.16	-41.93
Median	-44.9	-58.2	-100	-100	-46.4	-25.55	-100	-43.3	-39.2	-29.3
Std Dev	77.92	54.91	0	47.16	177.47	59.48	54.88	68.84	58.85	55.02
Skewness	.	0.58		1.23	7.83	1.83	0.35	2.39	0.59	0.01
Kurtosis	.	-0.46		-0.81	77.16	10.36	-1.88	14.38	-0.10	-1.94
Min	-100	-100	-100	-100	-100	-100	-100	-100	-100	-100
Max	10.2	185.7	-100	-0.9	1813.3	373.2	35.3	550	157.9	36.9
T:Mean=0	-0.81	-18.08		-4.06	-1.48	-8.58	-4.28	-11.89	-7.14	-2.64
Pr>|T|	0.56	0.0001		0.007	0.142	0.0001	0.0004	0.0001	0.0001	0.023

TABLE 4: Annualized Returns by Stages of Financing - Current Actively Traded Firms

Statistics	Unknown Stage	Acquisition for expansion	Acquisition	Bridge	Early Stage	Expansion	First Stage	LBO	Open Market Purchase
Mean	-84.39	33.13	21.34	23.28	11.48	41.44	1.34	11.01	14.65
Median	-100	15.9	13.3	1	3.4	4.7	0.15	8.4	7.3
Std Dev	59.21	82.20	32.57	46.49	75.7602	277.81	54.51	27.88	30.70
Skewness	8.70	3.47	0.07	1.22	4.80	10.44	3.08	1.15	2.64
Kurtosis	107.15	12.33	-0.69	0.88	30.06	120.43	13.92	2.97	8.82
Min	-100	-9.6	-27	-37.5	-68.3	-100	-75.6	-49	-33.2
Max	718.1	303.9	67.7	135.4	563.5	3296.1	297.7	104.2	147.8
T:Mean=0	-25.50	1.45	1.73	2.00	1.62499	1.887	0.203	2.929	3.407
Pr>|T|	0.0001	0.1718	0.1337	0.0636	0.1069	0.061	0.8398	0.005	0.0013

Statistics	Other Acquisition	Other Early	R&D	Second Stage	Seed	Special Situation	Startup	Third Stage	Turnaround
Mean	10.2	0.64	-3.4	55.62	-1.68	3.07	11.62	7.45	-1.35
Median	10.2	0.4	-3.4	2.7	-6.8	-3.6	2.95	1	-3.8
Std Dev	.	33.02	3.54	241.24	51.16	16.81	61.52	42.13	29.54
Skewness	.	1.373366	.	6.22	4.26	1.42	5.02	1.40	-0.51
Kurtosis	.	6.600783	.	43.93	28.01	1.57	36.98	3.11	0.82
Min	10.2	-100	-5.9	-64.6	-82.4	-12.9	-62.8	-58.6	-49.3
Max	10.2	185.7	-0.9	1813.3	373.2	35.3	550	157.9	36.9
T:Mean=0	.	0.250	-1.36	1.89	-0.37	0.48	2.45	1.24	-0.11
Pr>|T|	.	0.80	0.40	0.06	0.71	0.65	0.02	0.22	0.92

TABLE 5: Annualized Returns by Stages of Financing - Current Inactively Traded Firms

Statistics	Unknown Stage	Acquisition for expansion	Acquisition	Bridge	Early Stage	Expansion	First Stage	LBO	Open Market Purchase
Mean	-43.75	-68.79	-64.28	-87.61	-84.15	-81.89	-81.39	-79.68	-89.80
Median	-77.9	-100	-100	-100	-100	-100	-100	-100	-100
Std Dev	73.68	58.59	56.51	32.52	35.94	41.32	35.80	42.33	29.39
Skewness	1.15	1.51	1.14	2.46	2.18	2.79	1.73	1.94	2.65
Kurtosis	0.18	0.57	-0.83	4.64	3.66	10.30	1.69	2.66	5.41
Min	-100	-100	-100	-100	-100	-100	-100	-100	-100
Max	102.2	65.8	25.3	19	65.7	195	47.9	74.1	22.8
T:Mean=0	-1.88	-5.87	-2.79	-17.67	-27.80	-29.06	-22.39	-18.35	-30.40
Pr>|T|	0.093	0.0001	0.039	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Statistics	Other Acquistion	Other Early	Other Expansion	R&D	Second Stage	Seed	Special Situation	Startup	Third Stage	Turnaround
Mean	-100	-82.45	-100	-100	-82.67	-69.31	-82.48	-79.73	-73.77	-82.52
Median	-100	-100	-100	-100	-100	-100	-100	-100	-100	-100
Std Dev	.	39.11	0	0	45.37	46.49	43.04	43.74	43.70	42.83
Skewness	.	2.14	.	.	3.32	1.39	2.24	2.82	1.40	2.45
Kurtosis	.	3.53	.	.	13.35	1.25	3.69	11.01	0.63	6.00
Min	-100	-100	-100	-100	-100	-100	-100	-100	-100	-100
Max	-100	88.3	-100	-100	178.1	98.2	25.9	219.3	54.5	4.9
T:Mean=0	.	-33.07	.	.	-16.70	-15.71	-6.91	-27.59	-13.72	-4.72
Pr>|T|	.	0.0001	.	.	0.0001	0.0001	0.0001	0.0001	0.0001	0.005

TABLE 6: Independent-Samples t-Tests for Differences in Means

	Prob>F	Prob>F	Prob>F	Prob>|T|	Prob>|T|	Prob>|T|
Stage	**All**	**Active**	**Inactive**	**All**	**Active**	**Inactive**
Unknown	0.00001	0.00001	0.0013	0.0001	0.0001	0.1452
Acq. for Expansion	0.1484	0.0893	0.004	0.4769	0.0984	0.314
Acquisition	0.0618	0.0023	0.1893	0.1397	0.0569	0.3293
Bridge	0.00001	0.00001	0.0488	0.1355	0.019	0.167
Early Stage	0.00001	0.00001	0.0235	0.3687	0.0094	0.239
Expansion	0.00001	0.00001	0.9591	0.0687	0.0132	0.6459
First Stage	0.00001	0.00001	0.0587	0.6832	0.2102	0.8432
LBO	0.00001	0.00001	0.6868	0.8219	0.0002	0.8061
Open Market Purchase	0.00001	0.00001	0.00001	0.066	0.0001	0.0025
Other Early	0.00001	0.00001	0.2117	0.2327	0.0407	0.4651
R&D	0.0616	0.0447	NA	0.18	0.3415	0.2947
Second Stage	0.00001	0.00001	0.1779	0.0834	0.0283	0.6513
Seed	0.00001	0.00001	0.0443	0.0019	0.26	0.0078
Special Situation	0.0031	0.00001	0.7321	0.5657	0.1659	0.8748
Startup	0.00001	0.00001	0.1604	0.22	0.0003	0.7016
Third Stage	0.00001	0.00001	0.4591	0.2704	0.0271	0.1638
Turnaround	0.0296	0.0038	0.7427	0.8345	0.6325	0.9134
NA - Not Applicable						

TABLE 7: Pearson Correlation Coefficient Matrix

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0 / Number of Observations

	ACTIVE	Annualized Return	Cumulative Return	IPO Year	Founding Year	Current Price	IPO Price	IPO Shares (MIL)	IPO Size ($)
ACTIVE	1	0.36664	0.13054	0.3939	0.07553	0.12916	0.0814	0.11662	0.14969
	0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Annualized Return	0.3666	1	0.30291	0.1637	0.01579	0.44997	0.0312	0.01242	0.0169
	0.0001	0	0.0001	0.0001	0.4145	0.0001	0.093	0.504	0.3634
Cumulative Return	0.1305	0.30291	1	-0.0144	-0.01867	0.3116	-0.0273	0.20461	-0.0135
	0.0001	0.0001	0	0.4376	0.3346	0.0001	0.1414	0.0001	0.467
IPO Year	0.3939	0.1637	-0.01443	1	0.10048	-0.11307	-0.0208	0.24013	0.2507
	0.0001	0.0001	0.4376	0	0.0001	0.0001	0.2636	0.0001	0.0001
Founding Year	0.0755	0.01579	-0.01867	0.1005	1	0.0573	0.2146	0.04375	0.07501
	0.0001	0.4145	0.3346	0.0001	0	0.0339	0.0001	0.0235	0.0001
Current Price	0.1292	0.44997	0.3116	-0.1131	0.0573	1	0.2621	0.03146	0.14487
	0.0001	0.0001	0.0001	0.0001	0.0339	0	0.0001	0.2312	0.0001
IPO Price	0.0814	0.03122	-0.02734	-0.0208	0.2146	0.26214	1	0.02655	0.24318
	0.0001	0.093	0.1414	0.2636	0.0001	0.0001	0	0.1529	0.0001
IPO Share (Mil.)	0.1166	0.01242	0.20461	0.2401	0.04375	0.03146	0.0266	1	0.74436
	0.0001	0.504	0.0001	0.0001	0.0235	0.2312	0.1529	0	0.0001
IPO Size ($)	0.1497	0.0169	-0.01352	0.2507	0.07501	0.14487	0.2432	0.74436	1
	0.0001	0.3634	0.467	0.0001	0.0001	0.0001	0.0001	0.0001	0

In each cell, the first raw gives the Pearson Correlation Coefficients.
The second raw presents Probability that |R| under Ho: Rho=0

TABLE 8: Regression Results for Annualized Returns

Dependent Variable:	Annualized Return			
	Parameter	Standard	T for H0:	
Variable	Estimate	Error	Parameter=0	Prob > |T|
Intercept	-7465.670592	1136.447169	-6.569	0.0001
Active	8.89164	6.97017023	1.276	0.2023
Cumulative Return	0.040212	0.00532813	7.547	0.0001
IPO year	3.455758	0.53954697	6.405	0.0001
Founding Year	0.288093	0.2122814	1.357	0.175
Current Price	2.848425	0.24855455	11.46	0.0001
IPO Price	-1.475938	0.40660568	-3.63	0.0003
IPO shares (Million)	-0.000018338	0.00000317	-5.784	0.0001
IPO Size ($)	0.000000991	0.00000021	4.696	0.0001
R-square	0.2669			
Adj. R-sq.	0.2624			