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The Impact of Insider Ownership Stake Changes at the IPO and Earnings Management on Post-IPO Operating Performance

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Abstract

Past academic research reports that post-IPO operating performance can be signaled through or explained by company characteristics in a period immediately preceding or following the IPO. This paper examines whether post-IPO operating performance is correlated with earnings management activities immediately preceding and following the IPO, insider ownership retention rates after the IPO, and percentage of insider ownership changes at the IPO. I also test whether aggressive earnings managers experience worse operating performance measured by operating income over total assets than conservative earnings managers. The results from various regression analyses and t-tests in this paper show that earnings management activities immediately preceding and following the IPO and insider ownership retention rates are not correlated with post-IPO operating performance. However, this paper reports a statistically negative relationship between percentage of insider ownership changes at the IPO and post-IPO operating performance in the issue year.

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Background and Hypothesis

The initial public offering (“IPO”) occurs as a privately held firm sells its stock to the general public for the first time. A core benefit of the IPO is that the firm going public can raise capital from diversified investors to finance the firm’s growth. An IPO also enables the firm to access the public capital market on more favorable terms after the IPO because the firm’s liquidity increases as its stock is traded publicly (Ritter 1998). Since the main objective of going public is to acquire investment to expand a firm’s successful business model, the effectiveness of the acquired investment and post-IPO firm performance have extensively been researched. Academic research suggests that systematic patterns exist with both initial and long-run returns of IPOs (Ritter 1991). For instance, in terms of initial returns, IPOs offer high initial returns on average due mainly to the underpricing of IPOs; however, clear reasons that explain the causes of the underpricing phenomenon have not yet been fully provided. A study on post-IPO performance by Ibbotson (1975) confirms that the mean initial performance of unseasoned new issues is unusually high. In terms of IPO long-run performance, Ritter (1991) presents that a sample of 1,526 IPOs during the period 1975-84 generated 27.39% lower market returns than the industry matching firms over the same 3 year holding period.

Intrigued by empirical findings that illustrate these short-term and long-term systematic patterns of post-IPO performance, I investigate whether post-IPO firm performance can be predicted or signaled through firm characteristics before the IPO or at the time of the IPO. If they can be, investors could probably make wiser investment decisions. As a result of the investigation, I find that many firm characteristics before the IPO or at the time of the IPO do, indeed, have various degrees of correlation with post-IPO firm performance and value. For example, Teoh (1998) reports that the amount of earnings management has a negative relation with long-run market

performance of IPOs. Mikkelson (1997) finds that pre-IPO size and age have a correlation with post-IPO operating performance. Jain and Kini (1994) discover that change in insider-ownership-stake has a positive correlation with post-IPO operating performance. Furthermore, Downes (1982) reports that the value of a new venture, measured by expected cash flows, is positively correlated with ownership retention rate of entrepreneurs. Downes' argument is strengthened by the findings of Jensen and Meckling (1976), who assert that reduction in management ownership results in increase of agency costs that lead to operating inefficiency and decline in firm value.

I replicate many of these results using updated data. I use insider ownership retention rates after the IPO, percentage of insider ownership change at the IPO, and short-term earnings management of the year prior and the year of the IPO to predict whether these variables have correlations with post-IPO operating performance, which is measured by operating income divided by total assets. I have three hypotheses. The first hypothesis states that IPO firms with higher insider ownership retention rates after the IPO would show superior operating performance than those with lower insider ownership retention rates. The second hypothesis states that IPO firms with a lower percentage of insider ownership change at the IPO perform superior to those with a higher percentage of insider ownership change at the IPO. The third hypothesis states that firms that manage earnings more immediately before and after the IPO perform inferior to those with less earnings management in the long run. The first two hypotheses are formulated based upon the idea of increased agency costs as a result of decreased ownership held by insiders. The third hypothesis is developed based on the idea that firms that manage earnings more around the IPO would not be able to sustain the falsely represented prior IPO operating performance.

Description of Variables

a. Insider Ownership Stake Change at the IPO

Percentage of insider ownership changes and ownership retention rates may convey a critical message about the insiders' perspective towards the intrinsic firm quality because information asymmetry exists between the insiders and the investors at the IPO, and the insiders have both motivation and opportunities to capitalize on this information asymmetry for their gains. Leland and Pyle (1977) document that the entrepreneur's willingness to invest in his own project can serve as a signal of project quality and also reports that the value of the firm increases with a larger portion of the firm held by the entrepreneur.

I employ two metrics to measure insider ownership stake change at the IPO. I study correlations of both percentage of insider ownership changes at the IPO and percentage ownership retention rates after the IPO. I use both to measure changes in ownership stake because the amount of ownership stake that insiders have before the IPO is different across firms. The insiders of firm A may sell or dilute a larger percentage of their ownership either by ownership sales or by issuance of new shares than the insiders of firm B; however, the firm A insiders may still retain higher ownership stake after the IPO. For example, let's assume that the firm A insiders own 90% of their firm whereas the insiders of firm B own only 40% of their firm before the IPO. The firm A insiders decide to issue additional shares at the IPO that dilute the firm A insider ownership by 27% to 63% of the resulting firm. The change of the insider ownership stake is 27% of the total firm, which represents a 30% ownership decrease from the 90% initial insider ownership before the IPO. On the other hand, the firm B insiders decide to sell 8% of the firm which represents a 20% ownership decrease from the 40% initial insider ownership of the total

firm. After the IPO, the firm A insiders retain 63% of the total firm and the firm B insiders retain 32% of the total firm. Even though the firm A insiders have gone through a larger percentage of their ownership change, they retain a larger portion of the firm after the IPO. By using these two ways to measure insider ownership change at the IPO, I not only replicate a positive correlation between insider ownership retention rates and post-IPO operating performance (Jain 1994) with updated data, but also I study whether a positive correlation exists between a smaller percentage of insider ownership change and post-IPO operating performance.

b. Short-term Earnings Management: Discretionary Current Accruals

In terms of short-term earnings management of the year prior and the year of the IPO, the amount of discretionary current accruals scaled by total assets are used as a proxy for earnings management. As a result of scaling, DCA is recorded in percentage of total assets. Since financial statements and reported earnings are recorded on accrual basis rather than cash basis, managers are capable of managing earnings on financial statements through using accounting adjustments. Teoh (1998) documents that total accruals have short-term and long-term components, and entrepreneurs have more discretion over short-term accruals that involve managing short-term assets and liabilities that directly impact the day-to-day operations of the firm. Within the short-term accruals, two subcomponents exist: nondiscretionary current accruals (NDCA) and discretionary current accruals (DCA). NDCA result from an acceptable industry practice that the managers use to manage seasonality of business and certain industry conditions. An example of NDCA is a firm that incurs high depreciation expense resulting from a large portion of fixed assets. DCA are a superior proxy for short-term earnings management that represent intentional management of timing of cash flow that make financial statements look more lucrative than they actually do. An example of DCA is a firm that advances revenue

recognition of credit sales and delays expense recognition associated with the sales. I use the model that Teoh (1998) employs to calculate DCA of IPO firms. The detailed process and the model is presented in the Appendix A. Teoh (1998) reports that those aggressive earnings managers, measured by discretionary current accruals (DCA), report 15 to 30 percent lower stock returns than conservative earnings managers. I study whether aggressive earnings managers experience not only lower stock returns reported by Teoh but also lower post-IPO operating performance than conservative earnings managers.

To summarize, I study whether post-IPO operating performance is signaled through or explained by the percentage of insider ownership change at the IPO, insider ownership retention rates after the IPO, and the amount of short-term earnings management the year prior and the year of IPO.

Description of the Offering Firms

a. Industry and Offering Year Distribution and Firm Characteristics

My sample data has been collected from Thompson SDC Platinum and represents original initial public offerings in the years from 1996 to 2002. The collected data excludes closed-end fund/trusts, depositary issues, unit issues, limited partnerships, and IPO offerings with less than five dollar offer price. Also, the collected IPOs exclude firms that belong to selected industries including CB, CR, FC, IN, IB, IF, MB, MO, FO, RI, RE, and SL. I further restrict my sample to IPO firms that have financial information in Compustat as DCA and post-IPO operating performance calculations require financial data from one year before the IPO to three years after the IPO. As a result, the final sample includes a total of 996 IPO offerings.

Industry	Two - digit SIC Codes	Count	%
Agriculture	1	2	0.20%
Food Products	2	6	0.60%
Candy and Soda	3	3	0.30%
Alcoholic Beverage	4	5	0.50%
Recreational Products	6	11	1.10%
Entertainment	7	15	1.51%
Printing and Publishing	8	4	0.40%
Consumer Goods	9	7	0.70%
Apparel	10	7	0.70%
Healthcare	11	28	2.81%
Medical Equipment	12	48	4.82%
Pharmaceutical Products	13	59	5.92%
Chemicals	14	7	0.70%
Rubber and Plastic Products	15	2	0.20%
Textiles	16	3	0.30%
Construction Materials	17	9	0.90%
Construction	18	7	0.70%
Steel Works, Etc	19	1	0.10%
Fabricated Products	20	1	0.10%
Machinery	21	23	2.31%
Electrical Equipment	22	3	0.30%
Automobiles and Trucks	23	6	0.60%
Aircraft	24	4	0.40%

Shipbuilding and Railroad Equipments	25	3	0.30%
Petroleum and Natural Gas	30	15	1.51%
Utilities	31	4	0.40%
Telecommunications	32	39	3.92%
Personal Services	33	19	1.91%
Business Services	34	359	36.04%
Computers	35	52	5.22%
Electronic Equipment	36	68	6.83%
Measuring and Control Equip	37	29	2.91%
Business Supplies	38	2	0.20%
Shipping Containers	39	3	0.30%
Transportation	40	23	2.31%
Wholesale	41	34	3.41%
Retail	42	56	5.62%
Restaraunts, Hotel, Motel	43	22	2.21%
Miscellaneous	48	7	0.70%
Total	39	996	100.00%

IPO Issue Year	Freq.	%
1996	319	32.0%
1997	240	24.1%
1998	117	11.7%
1999	182	18.3%
2000	103	10.3%
2001	24	2.4%
2002	11	1.1%
Total	997	100.0%

	Total Assets before IPO (925) (\$m)	Total Sales before IPO (972) (\$m)	% of Insider Ownership Change at IPO (975) (%)	Insider Ownership Retention Rate (987) (%)
Mean	88.01	97.90	28.38	47.29
Median	22.20	34.29	26.94	48.50

Table A illustrates industry distribution of sample IPOs. Business services comprise 36.04% of the entire sample with 359 IPOs, and they are followed by electronic equipment and pharmaceutical products with concentration of 6.83% and 5.92% of the sample, respectively. Table B illustrates issue year distribution of sample IPOs. The number of IPOs steadily decreases from 319 firms in 1996 to 11 firms in 2002. This downward trend reflects a deterioration in economic condition resulted from the 1997 Asian crisis and the technology crisis in early 21st

century. Table C shows that the sample firms have a median \$22.20 million total assets and \$34.29 million sales. In terms of ownership changes, the insiders of the sample firms retain a median of 48.50% of ownership after the IPO, and a median percentage change of insider ownership either through additional share offering or primary share sales is 26.94%.

b. Post-IPO Operating Performance of the Sample Firms

Table D reports the median change in post-IPO operating performance of the sample firms relative to the year prior to the IPO. Four years of post-IPO operating performance is measured from the issue year (year 0) to three years after the IPO (year 3), and the operating performance of these years are compared to the year preceding the issue year (year -1) to calculate the median change post-IPO operating performance. Three metrics are employed to calculate operating performance including cash flow over total assets, operating income over total assets, and operating return over total sales. All the financial information of the sample firms is collected from COMPUSTAT including the year preceding the IPO issue year.

Table D: Post-IPO Operating Performance of Initial Public Offering Firms				
Year Relative to Completion of IPO				
	From -1 to 0	From -1 to +1	From -1 to +2	From -1 to +3
Panel A : Operating Cash Flow on Assets				
Median level in Year -1 (%): IPO issuing firms = 0.01				
Median change	14.35%	-11.65%	-11.42%	5.17%
Number of observations	897	847	715	597
Panel B : Operating Income on Assets				
Median level in Year -1 (%): IPO issuing firms = 7.35				
Median change	12.00%	-6.94%	-18.32%	-16.12%
Number of observations	925	848	716	598
Panel C : Operating Income on Total Sales				
Median level in Year -1 (%): IPO issuing firms = 5.82				
Median change	16.22%	8.86%	2.04%	1.71%
Number of observations	885	808	680	567
Panel D : Capital Expenditures				
Median level in Year -1 (\$ in million): IPO issuing firms = 1.02				
Median change	106.76%	219.73%	177.85%	123.65%
Number of observations	905	829	697	585

Table D illustrates that IPO firms report an increased operating performance in the issue year, and the performance starts to deteriorate thereafter. Both operating income on assets and operating income on total sales decrease from the issue year without a clear sign of recovery; however, operating cash flow on assets seems to improve in year 3. In terms of capital expenditure, IPO firms show a 106.76% and a 219.73% increase in the issue year and year 1, respectively, and begins to decrease from year 2. Overall, Table D shows an expected trend of post-IPO operating performance that aligns with the systematic pattern of high initial market returns and low long-term returns reported by Ibbotson (1975).

Statistical Analysis and Empirical Results

Two statistical analyses are employed. The first statistical analysis breaks the sample firms into four quartiles for: discretionary current accruals, insider ownership retention rates after the IPO, and percentage of insider ownership changes at the IPO. As a result, one set of data is created for each variable. The first quartile (Q1) has the firms with the lowest values and the fourth quartile (Q4) has the firms with the highest values for every variable. For example, in Panel E, the firms in Q1 have the lowest insider ownership retention rates after the IPO, and the firms in Q4 have the highest insider ownership retention rates after the IPO. After dividing the sample firms into four quartiles, a t-test analysis is used to test whether post-IPO operating performance measured by operating income over total assets, the dependent variable, of the firms in Q1 is statistically different from post-IPO operating performance of the firms in Q4 for each time period. Tables E, F, and G report the results of the statistical analysis.

The second statistical analysis regresses all the independent variables against the dependent variable to test whether independent variables have correlations with the dependent variable for each time period. The independent variables in Table H include discretionary current accruals, insider ownership retention rate after the IPO, percentage of insider ownership changes at the IPO, and firm size before the IPO, and the dependent variable is post-IPO operating performance measured by operating income over total assets. In addition to post-IPO operating performance as the dependent variable, the presence of secondary offering within two years of IPO is introduced as another dependent variable in Table I to test whether the presence of secondary offering can be explained by the same independent variables.

a. Sample Firm by Independent Variable Quartiles and t-statistics

Table E breaks the sample firms by discretionary current accruals in percentage of total assets and puts them into four quartiles in an ascending order. The firms in the Q1 have the lowest, and the firms in the Q4 have the highest amount of DCA. In other words, the firms in the Q4 have conducted the most amount of earnings management activities. Table E also illustrates that the median percentage changes in operating income over total assets for the firms in Q1 and Q4 during the issue year (year 0) relative to the year before the IPO (year -1) are -9.95% and 63.45%, respectively. The superior operating performance of the firms in Q4 during the issue year confirm that these firms manage more earnings than the firms in Q1. The post-IPO operating performance of both the firms in Q1 and Q4 gradually deteriorate as the time passes.

Table E: Sample Firms by DCA Quartiles and Post-IPO Operating Performance				
Year Relative to Completion of IPO				
	From -1 to 0	From -1 to +1	From -1 to +2	From -1 to +3
Discretionary Current Accruals (DCA)	Median	Median	Median	Median
Quartiles	OI/Assets	OI/Assets	OI/Assets	OI/Assets
Q1 (DCA < -0.78%)	-9.95%	-26.21%	-35.84%	-20.69%
Q4 (DCA > 0.96%)	63.45%	18.98%	-12.00%	-19.76%
Q4 - Q1	73.41%	45.19%	23.84%	0.92%
t-Stat	1.04	1.07	-1.00	0.12
Sample Size	212	193	161	136

However, t-statistics show that the difference in the change of post-IPO operating performance relative to year -1 between the firms in Q1 and the firms in Q4 is not statistically significant from year 0 to year 3. Even though the difference in post-IPO operating performance between the firms in Q1 and the firms in Q4 is not statistically significant, it is worthwhile to note that the firms in Q4 report a steeper decrease in post-IPO operating performance than the firms in Q1. This trend shows that the firms in Q4 are unable to maintain the managed operating performance level during the post-IPO period.

Table F classifies the sample firms by insider ownership retention rates after the IPO and puts them into four quartiles in an ascending order. The firms in Q1 have the lowest and the firms in Q4 have the highest ownership retention rates after the IPO. Table F also shows that the median percentage changes of operating income over total assets in the issue year (year 0) relative to the year before the IPO (year -1) for the firms in Q1 and Q4 are 19.31% and -7.17%. The firms in both Q1 and Q4 experience a gradual deterioration in operating performance.

Table F: Sample Firms by Insider Ownership Retention Quartiles and Post-IPO Operating Performance				
Insider Ownership Retention after the IPO Quartiles	Year Relative to Completion of IPO			
	From -1 to 0	From -1 to +1	From -1 to +2	From -1 to +3
	Median	Median	Median	Median
	OI/Assets	OI/Assets	OI/Assets	OI/Assets
Q1 (Insider Ownership Retention < 34.60%)	19.31%	3.94%	-3.27%	4.43%
Q4 (Insider Ownership Retention > 64.50%)	-7.17%	-16.97%	-34.39%	-44.10%
Q4 - Q1	-26.48%	-20.90%	-31.12%	-48.52%
t-Stat	-1.17	-1.11	-0.50	-1.47
Sample Size	207	197	165	139

The results of t-statistics test show that the post-IPO operating performance of the firms in the lowest insider ownership retention quartile is not statistically different from the firms in the highest insider ownership retention quartile.

Table G breaks the sample firms by percentage of insider ownership changes at the IPO and places them into four quartiles in an ascending order. Also, the table reports median changes of operating income over total assets for the firms in Q1 and Q4 during the post-IPO years relative to the year before the IPO (year -1). Although the differences of median operating performance changes relative to the year before IPO between the firms in Q1 and Q4 look significant at the absolute level, the results of t-statistics test show that the differences are not statistically significant.

Table G: Sample Firms by % Change of Insider Ownership Quartile and Post-IPO Operating Performance				
Year Relative to Completion of IPO				
	From -1 to 0	From -1 to +1	From -1 to +2	From -1 to +3
% Change of Insider Ownership at the IPO	Median	Median	Median	Median
Quartiles	OI/Assets	OI/Assets	OI/Assets	OI/Assets
Q1 (% Change of Insider Ownership < 20.05%)	25.86%	16.26%	-4.64%	-17.67%
Q4 (% Change of Insider Ownership > 35.06%)	-12.87%	-23.33%	-34.42%	-28.40%
Q4 - Q1	-38.73%	-39.59%	-29.78%	-10.73%
t-Stat	0.93	1.39	1.16	0.05
Sample Size	211	191	163	137

The results of t-statistics test illustrated in Table D, E, and F report that post-IPO operating performance of the firms in Q1 and Q4 is not statistically different whether the sample firms are classified by discretionary current accruals, insider ownership retention rates after the IPO, and percentage of insider ownership changes at the IPO. The results suggest that short-term earnings management activities around the IPO do not significantly affect the post-IPO accounting operating performance as managers can effectively recover the earnings gap created through earnings management activities during the post-IPO years. Also, the results of the statistical analysis imply that increased agency costs from reduced insider ownership does not significantly affect post-IPO operating performance. This implication suggests that the managers with smaller ownership retention rates are as effective at managing IPO firms.

b. Regression Analysis of All Independent Variables against post-IPO Operating Performance and the Presence of Secondary Offering within Two Years of the IPO

In this regression analysis, all independent variables are regressed against post-IPO operating performance and the presence of secondary offering within two years of the IPO to test whether the independent variables are correlated with the two dependent variables. In addition to discretionary current accruals, insider ownership retention rates after the IPO, and percentage change of insider ownership stake at the IPO, total assets is added to the independent variable list.

Table H illustrates the results of the regression analysis in which four independent variables are regressed against post-IPO operating performance measured by operating income over total assets from the issue year (year 0) to three years after the IPO (year 3).

Table H: Regression Analysis of All Independent Variables against Post-IPO Operating Performance (Dependent Variable)				
	OI/Assets (year 0)	OI/Assets (year 1)	OI/Assets (year 2)	OI/Assets (year 3)
	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)	Coefficient (t-stat)
Insider Ownership Retention Rate	-0.0053 (-1.49)	-0.2822 (-0.40)	0.0384 (-0.52)	-0.0533 (-1.63)
% of Insider Ownership Change	-1.0163 (-2.69)***	-4.9965 (-0.04)	12.2692 (-0.99)	-7.5714 (-1.61)
DCA	0.0009 (-0.68)	-0.0065 (-0.02)	-0.0273 (-0.17)	-0.0043 (-0.07)
Firm Size (Total Assets before the IPO)	0.0000 (-0.07)	-0.0058 (-0.08)	0.0038 (-0.50)	0.0005 (-0.17)
R-square	0.0133	0.0003	0.0024	0.0101
Sample Size	716	659	549	459

Table H reports that a significant negative correlation exists between percentage of insider ownership change at the IPO and post-IPO operating performance in year 0 with a t-statistic of -2.69. No significant correlations have been found when insider ownership retention rates after the IPO, discretionary current accruals, and total assets are regressed against post-IPO operating performance during from year 0 to year 3. A possible reason that the negative correlation between percentage of insider ownership changes and post-IPO operating performance only exists in year 0 is that I measure percentage of insider ownership changes that occur only in the issue year and regress them to post-IPO operating performance from year 0 to year 3. Had I had available insider ownership change data to measure percentage of insider ownership changes from year 1 to year 3, I might have found a continuous negative correlation between percentage of insider ownership changes and post-IPO operating performance. This statistically negative correlation between percentage of insider ownership changes and post-IPO operating performance in year 0 aligns with the findings of academic research reporting that inferior post-IPO operating performance can be explained by insider ownership reduction at the IPO.

However, the fact that I find no significant relationships between insider ownership retention rates after the IPO and post-IPO operating performance contrasts with the findings of Jain and Kini (1994), who report a positive correlation between entrepreneur ownership retention rates and post-IPO operating performance. My findings may suggest that percentage of insider ownership change at the IPO is a more accurate metric to capture increasing agency cost, which leads to decreasing post-IPO operating performance, than insider ownership retention rates after the IPO.

In Table I, all independent variables are regressed against the presence of a secondary offering within two years of the IPO. The results of the regression analysis illustrate that the only statistically significant relationship exists between percentage of insider ownership changes at the IPO and the presence of secondary offering within two years with a t-statistic of -2.09.

Table I: Regression Analysis of All Independent Variables against the Presence of Secondary Offering within Two Years of the IPO	
	Secondary Offering
	Coefficient
Sample Size = 716	(t-stat)
Ownership Retention Rate	0.0009 (-1.04)
% of Insider Ownership Change	-0.2814 (-2.09)**
DCA	-0.0002 (-0.35)
Firm Size	0.0000 (-0.51)
R-square	0.0122

This finding illustrates that the IPO firms with a lower percentage of insider ownership changes at the IPO would more likely issue a secondary offering within two years of the IPO. A feasible interpretation of the finding is that those insiders who understand good intrinsic quality of their firms hold the decision to sell their ownership at the IPO. These insiders make the decision at the

expense of forgoing a chance to diversify their wealth at the IPO; however, once their firms prove to the market that the firms are desirable investments, these insiders would more likely have a chance later to diversify their wealth on more favorable terms through a secondary offering than other firms' insiders who already sold or diluted their ownership either through primary share sales or issuance of new shares.

Conclusion

Three hypotheses are tested in this study are the following: First, IPO firms with more earnings management activities measured by discretionary current accruals will experience statistically significant inferior post-IPO operating performance to the IPO firms with less earnings management activities; Second, IPO firms with higher insider ownership retention rates after the IPO will experience statistically significant superior post-IPO operating performance to IPO firms with lower insider ownership retention rates after the IPO; Third, IPO firms with more percentage insider ownership changes at the IPO will experience statistically significant inferior post-IPO operating performance to IPO firms with less percentage of insider ownership changes at the IPO. The first hypothesis is developed from the idea that the IPO firms that aggressively manage their earnings to make their financial statements look more desirable than they actually do would not be able to maintain the managed performance level during the post-IPO period. The second and the third hypotheses are formulated based upon the idea that increased agency costs caused from reduction in insider ownership would lead to a decrease in post-IPO operating performance.

The results from the first statistical analysis, which breaks the sample firms into four quartiles in an ascending order for each independent variable, illustrate that post-IPO operating performance cannot be explained by the three independent variables. However, the results from the second statistical analysis, which regresses all independent variables against post-IPO operating performance, reports a statistically significant negative correlation between percentage of insider ownership changes at the IPO and post-IPO operating performance in year 0. This finding aligns with the hypothesis proposed by academic research that entrepreneurial ownership retention rates should have a positive correlation with post-IPO firm value (Pyle 1977) since high

entrepreneurial ownership minimizes agency costs that decrease post-IPO firm performance and value. Furthermore, regression analysis shows that IPO firms with a lesser percentage of insider ownership changes at the IPO would more likely issue a secondary offering that helps the insiders diversify their wealth on more favorable terms. This finding implies that these insiders hold their decision to sell or dilute their ownership at the IPO in order to signal to the public market that their firms are worthwhile investments to investors.

Appendix A: Discretionary Current Accruals Measurement

Discretionary current accruals measurement calculation process is an excerpt from Teoh (1998).

The four accrual variables in the paper are: discretionary current accruals (DCA), nondiscretionary current accruals (NDCA), discretionary long-term accruals (DLA), and nondiscretionary long-term accruals (NDLA). These four variables are components of total accruals AC, measured using COMPUSTAT annual item numbers in parentheses as follows:

$$AC \equiv \text{Net Income (172)} - \text{Cash Flows from Operations (308)}.$$

When cash flow from operations (308) is unavailable, it is measured as funds flow from operations (110) minus current accruals CA. Current accruals are defined as the change in noncash current assets minus the change in operating current liabilities,

$$CA \equiv \Delta[\text{current assets (4)} - \text{cash (1)}] - \Delta[\text{current liabilities (5)} - \text{current maturity of long-term debt (44)}].$$

Our paper follows the accounting literature in calculating current accruals as

$$CA \equiv \Delta[\text{accounts receivables (2)} + \text{inventory (3)} + \text{other current assets (68)}] - \Delta[\text{accounts payables (70)} + \text{tax payables (71)} + \text{other current liabilities (72)}],$$

which reduces the influence of nonstandard classifications of certain items. Nondiscretionary variables are expected accruals from a cross-sectional modification of the Jones (1991) model (see Teoh, Wong, and Rao (1998)) and the discretionary variables are the residuals. Expected current accruals for an IPO firm in a given year are estimated from a cross-sectional regression in that year of current accruals on the change in sales (12) using an estimation sample of all two-

digit SIC code peers. (The IPO firm and other firms conducting an IPO or SEO firm in that year are not included in the regression.) Thus for the expected current accruals of an IPO firm I in year t , we run the following cross sectional OLS regression:

$$(CA, t / TA, t-1) = a_0 (1/TA, t-1) + a_1(\Delta \text{Sales}, t / TA, t-1) + \varepsilon, t$$

where ΔSales is the change in sales, and TA is total assets (6). Nondiscretionary current accruals are calculated as

$$NDCA, t \equiv \hat{a}_0 (1/TA, t-1) + \hat{a}_1((\Delta \text{Sales}, t - \Delta \text{TR}, t)/TA, t-1),$$

where \hat{a}_0 is the estimated intercept and \hat{a}_1 is the slope coefficient for IPO firm in year t , and $\Delta \text{TR}, t$ is the change in trade receivables (151) in year t for the issuer. We subtract the increase in trade receivables from change in sales to allow for the possibility of credit sales manipulation by the issuer (for example, by allowing generous credit policies to obtain high sales prior to the offering). See Teoh, Wong, and Rao (1998) for evaluation of the robustness of this measure relative to other measures. The results of our paper are robust to omitting this adjustment.

Discretionary current accruals, DCA, t , for IPO firm for year t are represented by the residual:

$$DCA, t \equiv (CA, t / TA, t-1) - NDCA, t.$$

Appendix B: Journal Reviews

A. Earnings Management and the Long-Run Market Performance of Initial Public Offerings by Siew Hong Teoh, Ivo Welch, and T. J. Wong (2008)

Motivated by the empirical evidence that investors are often overly optimistic about the growth prospect of IPO firms, Teoh et al. investigate whether discretionary accruals predict the cross-sectional variation in post-IPO long-run stock return performance.

A sample of 1,649 IPOs during the period 1980-1992 is collected. In regards to measuring earnings management, Teoh divides the total accruals into four components: nondiscretionary current and long-term accruals, and discretionary current and long-run accruals. Among these four components, discretionary current accruals are identified as the most effective and relevant component to measure earnings management because managers have the most control over adjusting short-term items on financial statements.

In testing the hypothesis, sample firms are divided into four quartiles depending on how aggressively they manage their earnings. Then, three-year post-issue buy-and-hold returns are regressed on the four accrual variables, using cross sectional regression method. The result of the analysis illustrates a significantly different performance between the most aggressive and the most conservative quartiles. The firms in the most aggressive quartile experience a 15 to 30 percent worse three-year performance on average than those in the most conservative quartile.

B. Ownership and Operating Performance of Companies that Go Public by Wayne Mikkelson, Megan Partch, and Kshitij Shah (1997)

Mikkelson et al(.) illustrate that no relation exists between changes in ownership stake and post-IPO operating performance. This result contrasts with the one of Jain and Kini. The authors point out that the analysis conducted by Jain and Kini could be more thorough in terms of measuring management ownership changes and grouping target IPO firms.

A total of 283 IPOs from the years 1980 to 1983 are collected. Numerous types of management ownership changes are directly measured to capture any relation between these ownership changes and post-IPO operating performance. Post-IPO operating performance is measured with industry adjusted operating income scaled by assets and sales. The authors divide the time period into four segments to monitor changes in operating performance: prior to offering, after offering, five years after offering and ten years after offering.

The data shows that post-IPO operating performance decreases for firms with different sizes and histories; however, operating performance recovers one year or a few years after the IPO. Therefore, the authors state that even though performance deterioration and recovery time vary firm by firm depending on the sizes and histories, it is not associated with changes in ownership stake. In addition to firm size and history, presence of secondary offering is included among the factors that make a statistically significant difference to post-IPO operating performance.

C. Signaling and the Valuation of Unseasoned New Issues by David H. Downes and Robert Heinkel (1982)

Downes and Hinkel examine whether entrepreneurial ownership retention and dividend policy have relation with the value of a new venture. This study is motivated by the idea of information asymmetry between insiders and investors. According to Downes and Hinkel, a new venture has two types of signals that potentially indicate a firm's value: controllable and uncontrollable

signals. Controllable signals include known firm characteristics such as size and industry group; uncontrollable signals include the two variables mentioned earlier, where information asymmetry exists. Downes and Hinkel hypothesize that since managers know their firm's future cash flow, which is typically used to estimate a firm's value, their decisions regarding controllable signals reveal the value of the firm.

A sample of 449 IPOs during the period 1965 – 1969 is collected. Downes and Hinkel test the signaling hypothesis by examining relation between the offer price of new issues to the level of the signals.

The result from the Leland-Pyle Model demonstrates a positive relation between entrepreneurial ownership retention and firm value. On the other hand, the result from the Earnings Multiple Model illustrates that dividend policy does not significantly impact the value of a firm. A reason for the result with respect to the dividend policy is that unobservable and unquantifiable variables may be omitted in the regression equation such as future investment opportunities.

D. The Impact of Strategic Investment Choices on Post-Issue Operating Performance and Survival of US IPO Firms by Bharat A. Jain and Omesh Kini (2008)

Jain and Kini examine the impact of strategic investment choices at the time of the IPO on post-IPO operating performance and probability of IPO firm survival. The research is motivated by the empirical evidence that IPO firms experience gradual reduction in post-IPO operating performance. Furthermore, the results of the research provide insight into resource allocation decisions among investment decisions studied in the paper.

A sample of 3,837 US firms during the period 1980-1997 is collected. The strategic investment choices selected as variables include investments in R&D, capital expenditures, and advertising

expense as well as corporate diversification. Jain and Kini use operating income deflated by book value of assets and operating income deflated by sales. Additionally, to account for a possibility of downward bias in measuring post-issue operating performance, Jain and Kini provide two measures with R&D expense added back to the two metrics mentioned above.

The results of the research illustrate that diversified IPO firms exhibit a significantly higher survival rate. For example, an additional line of business at the time of IPO lowers the risk of post-IPO failure by 18.4%. Jain and Kini argue that impacts of diversification by established firms are fundamentally different from those of IPO firms because risks faced by these two types of firms are different. Furthermore, higher capital expenditures at the IPO and higher pre-IPO R&D investment are positively associated with higher post-IPO operating performance and post-IPO survival rate. However, these results vary widely depending on the specific performance metric. Lastly, the study shows that no relationship exists between pre-IPO investment in advertising and post-IPO performance.

E. The Post-Issue Operating Performance of IPO Firms by Bharat A. Jain and Omesh Kini (1994)

Bharat and Omesh(1994) investigate the relation between post-IPO operating performance and equity retention rate by original entrepreneurs. Also, the relation between IPO underpricing and post-IPO operating performance is examined.

The authors employ the sample of 682 IPO firms that went public between 1976 and 1988. The final sample excludes 1,444 IPOs from the initial sample after sorting through a list of variables. In measuring the operating performance, two measures are selected: operating income divided by total assets and operating income less capital expenditure divided by total assets. These metrics

are chosen to capture asset utilization and operating performance. Also, industry adjusted measures of these two metrics are recorded to normalize any industry effects. In regards to measuring equity retention rate and underpricing, the final sample is divided into two groups: one below the median and one above the median. The median equity retention rate for the final sample is 73.12%, and the median underpricing percentage is 1.17%. As a result, the authors find that a positive relation exists between post-IPO operating performance and equity retained by original entrepreneurs while no relation exists between underpricing and post-IPO operating performance.

The authors state a few probable reasons that cause post-IPO operating performance to deteriorate. The first reason is agency costs can lead to increasing perquisite consumption and investing in nonvalue maximizing projects. The second reason is earnings management by the original entrepreneurs. Earnings management can manipulate investors' expectation of potential earnings growth, which can result in higher offer prices. This phenomenon is explained by the paper by illustrating decreasing price-to-earnings, market-to-book, and earnings per share ratios for IPO firms in comparison to industry averages. The third reason is timing of IPO. Managers may choose a time to go public when their firms perform unusually well.

Appendix C: Data

Issue Date	Issuer	Insider Ownership Rates after the IPO	% of Insider Ownership Change at the IPO	Discretionary Current Accruals Scaled by Total Assets	The Presence of a Secondary Offering	Change in Operating Performance (from year -1 to year 0)	Change in Operating Performance (from year -1 to year 1)	Change in Operating Performance (from year -1 to year 2)	Change in Operating Performance (from year -1 to year 3)
11-Jan-1996	Sagebrush Inc	53.6%	27.4%	0.0%	0	-31.0%	-	-	-
18-Jan-1996	NorWester Brewing Co Inc	27.5%	31.6%	0.0%	0	-239.7%	-	-	-
23-Jan-1996	Open Text Corp	51.1%	26.3%	0.0%	0	46.9%	25.5%	103.6%	120.9%
24-Jan-1996	Performance Technologies Inc	38.8%	42.1%	0.6%	0	-36.9%	-29.3%	-37.2%	-20.6%
24-Jan-1996	K&G Men's Center Inc	58.7%	26.0%	0.0%	1	-44.9%	-33.8%	-43.3%	-
25-Jan-1996	Neopharm Inc	42.4%	28.4%	-	-	82.7%	70.4%	30.2%	107.3%
25-Jan-1996	World Color Press Inc	3.1%	0.0%	-	-	-	9.7%	-0.3%	-
31-Jan-1996	Heartstream Inc	35.4%	33.2%	-	0	44.7%	-	-	-
1-Feb-1996	Conceptus Inc	52.7%	34.0%	1.7%	0	77.4%	57.3%	49.3%	36.0%
1-Feb-1996	Unidigital Inc	66.7%	33.3%	0.3%	0	-49.2%	-52.6%	-55.9%	-56.3%
5-Feb-1996	ArthroCare Corp	48.1%	26.5%	1.2%	0	69.3%	63.2%	91.2%	107.4%
5-Feb-1996	Documentum Inc	65.3%	13.0%	0.0%	1	-38.8%	-34.1%	-12.0%	-133.2%
6-Feb-1996	Renal Care Group Inc	23.4%	-	-	1	-55.0%	-59.8%	-48.9%	-39.8%
6-Feb-1996	Raptor Systems Inc	67.1%	25.0%	0.0%	0	99.7%	-	-	-
6-Feb-1996	3-D Geophysical Inc	27.9%	72.1%	-	1	-	-	-	-
7-Feb-1996	Globe Business Resources Inc	47.8%	34.5%	3.5%	0	-30.8%	-34.3%	-37.3%	-42.2%
7-Feb-1996	TresCom International Inc	61.9%	38.1%	0.0%	0	35.5%	-258.9%	-	-
8-Feb-1996	TB Wood's Corp	48.2%	34.7%	1.5%	0	-7.6%	-0.4%	-12.0%	-30.7%
12-Feb-1996	Physician Support Systems Inc	29.3%	60.9%	0.0%	0	-34.7%	-	-	-
13-Feb-1996	XeTel Corp	17.0%	28.3%	-	0	-	-73.2%	-86.6%	-78.2%
13-Feb-1996	NCS HealthCare Inc	3.1%	92.8%	0.0%	1	-27.7%	-52.3%	-53.7%	-52.5%
14-Feb-1996	VitalCom Inc	70.1%	26.1%	0.4%	0	-189.5%	-160.8%	-123.2%	-189.8%
14-Feb-1996	Landec Corp	36.6%	26.2%	0.0%	0	60.0%	68.7%	82.8%	85.7%
15-Feb-1996	Neose Technologies Inc	11.8%	28.0%	1.3%	0	42.2%	46.8%	25.5%	24.1%
15-Feb-1996	CyberCash Inc	48.1%	32.9%	-	0	49.7%	47.5%	77.4%	73.6%
15-Feb-1996	SCB Computer Technology Inc	56.5%	34.0%	3.7%	0	123.3%	95.0%	47.5%	-66.0%
15-Feb-1996	ULTRADATA Corp	22.0%	29.9%	4.0%	0	-434.7%	-331.2%	91.8%	-
16-Feb-1996	Gensym Corp	43.3%	26.7%	0.2%	0	41.4%	-227.8%	-143.1%	-156.5%
16-Feb-1996	Iridex Corp	38.9%	39.3%	0.2%	0	-79.0%	-53.7%	-64.4%	-67.0%
16-Feb-1996	Cylink Corp	69.2%	20.5%	0.0%	0	101.7%	88.2%	-78.3%	-34.6%
20-Feb-1996	Impath Inc	8.1%	38.2%	0.0%	0	-40.4%	3.0%	-47.7%	-16.9%
22-Feb-1996	Mossimo Inc	73.3%	26.7%	0.6%	0	-68.4%	-156.3%	-150.2%	-166.7%
22-Feb-1996	Ultraform Inc	30.6%	58.0%	-	-	86.5%	61.8%	-	-
26-Feb-1996	Sonics & Materials Inc	73.7%	26.3%	-0.1%	0	-59.2%	-91.1%	-100.4%	-64.5%
28-Feb-1996	CSG Systems International Inc	12.3%	11.5%	1.9%	0	159.2%	300.8%	493.3%	909.8%
28-Feb-1996	Alexion Pharmaceuticals Inc	29.3%	30.1%	0.6%	0	69.1%	61.7%	72.1%	80.1%
28-Feb-1996	Engineering Animation Inc	45.4%	34.9%	105.2%	1	-62.9%	-42.3%	-3.0%	-242.1%
29-Feb-1996	OrCAD Inc	31.2%	43.1%	0.0%	0	-18.0%	-38.3%	-17.2%	-
5-Mar-1996	Health Systems Design Corp	68.1%	27.9%	-0.1%	0	75.5%	10.7%	100.5%	127.8%
5-Mar-1996	Data Processing Resources Corp	62.9%	37.1%	0.0%	1	-73.9%	-78.1%	-81.0%	-
8-Mar-1996	Cytec Corp	34.1%	22.9%	0.0%	1	49.7%	55.1%	66.7%	103.9%
8-Mar-1996	Superior Services Inc	44.3%	19.0%	0.0%	1	-13.6%	-34.7%	-22.6%	-
11-Mar-1996	Forté Software Inc	63.5%	8.0%	0.0%	0	957.6%	-1235.5%	502.3%	-
11-Mar-1996	Vanstar Corp	44.5%	19.8%	0.0%	0	72.5%	74.5%	-	-
12-Mar-1996	Platinum Entertainment Inc	45.7%	51.7%	0.5%	0	97.2%	-	12.8%	-156.9%
12-Mar-1996	Ocal Inc	58.9%	40.4%	0.0%	0	64.6%	15.5%	-	-
13-Mar-1996	HMT Technology Corp	70.5%	22.1%	0.5%	1	-35.1%	-31.0%	-75.1%	-104.0%
13-Mar-1996	Hub Group Inc	12.6%	68.3%	-	-	-	-	-	-
14-Mar-1996	Isocor	37.3%	25.2%	0.0%	0	-60.2%	-353.6%	-324.3%	-
14-Mar-1996	Prism Solutions Inc	76.4%	16.6%	0.0%	0	80.1%	16.8%	-230.0%	-
14-Mar-1996	Innotech Inc	36.6%	31.1%	0.0%	0	42.1%	-	-	-
15-Mar-1996	JDA Software Group Inc	57.6%	21.3%	0.0%	1	-21.5%	-7.6%	-69.9%	-80.1%
15-Mar-1996	Individual Inc	29.6%	17.8%	0.0%	0	3.0%	-	-	-
19-Mar-1996	Semiconductor Laser Intl	24.4%	50.7%	-	0	68.2%	39.5%	22.3%	45.5%
19-Mar-1996	Gateway Data Sciences Corp	45.5%	43.8%	0.0%	0	-34.1%	-	-	-
20-Mar-1996	Dawson Production Services Inc	28.0%	37.8%	0.0%	1	-59.7%	-5.1%	-	-
21-Mar-1996	AlphaNet Solutions Inc	51.0%	32.0%	0.8%	1	-36.8%	-34.6%	-57.3%	-72.3%
21-Mar-1996	Analogy Inc	25.7%	17.1%	10.7%	0	-65.7%	-110.2%	-80.7%	-
21-Mar-1996	Intelligent Medical Imaging	41.4%	26.7%	0.0%	0	87.3%	52.4%	-4.1%	-
22-Mar-1996	Intelliquest Information Group	41.6%	35.7%	0.0%	1	-80.7%	-90.1%	-105.8%	-
25-Mar-1996	Katz Digital Technologies Inc	58.3%	41.1%	5.5%	0	-67.3%	-62.8%	-	-
26-Mar-1996	Party City Corp	53.9%	29.8%	-1.0%	1	-30.4%	-36.1%	-	-85.1%
26-Mar-1996	Penske Motorsports Inc	59.9%	28.8%	0.0%	0	-48.8%	-35.6%	-29.1%	-
26-Mar-1996	May & Speh Inc	16.5%	32.1%	0.0%	1	-48.4%	-48.2%	-	-
27-Mar-1996	GalaGen Inc	34.5%	26.8%	0.0%	0	91.8%	91.4%	90.4%	91.7%
27-Mar-1996	PCD Inc	26.3%	17.3%	0.5%	0	-45.4%	-82.6%	-62.3%	-81.1%
27-Mar-1996	FemRx Inc	54.9%	32.2%	-	0	46.8%	-34.3%	-	-
28-Mar-1996	Segue Software Inc	35.8%	38.5%	0.0%	0	-91.0%	-113.4%	-127.3%	-292.7%
29-Mar-1996	Barnett Inc	49.9%	50.1%	3.9%	1	11.2%	13.9%	11.1%	-17.5%
1-Apr-1996	Lycos Inc	63.5%	21.2%	-	0	-	-	-	-
2-Apr-1996	Microwave Systems Corp	65.4%	18.6%	0.2%	0	-114.1%	-303.0%	-381.9%	-443.2%
2-Apr-1996	York Group Inc	20.1%	29.5%	0	0	-	-27.6%	-49.6%	-53.5%
2-Apr-1996	KVH Industries Inc	39.8%	28.7%	0.4%	0	54.7%	31.9%	-241.1%	-215.4%
2-Apr-1996	Bonded Motors	66.7%	33.3%	2.7%	0	-18.6%	-73.3%	-118.0%	-
2-Apr-1996	Arterial Vascular Engineering	35.4%	17.9%	0.0%	0	-62.1%	-72.9%	-33.6%	-
3-Apr-1996	Ansoft Corp	31.3%	19.7%	0.3%	1	54.8%	13.3%	-254.7%	-127.9%
3-Apr-1996	Sapient Corp	75.2%	14.0%	0.0%	1	-69.3%	-51.1%	-57.1%	-61.9%
3-Apr-1996	Excite Inc	52.9%	18.4%	3.4%	0	55.9%	81.2%	97.2%	-
3-Apr-1996	Housecall Medical Resources	56.4%	35.8%	0.0%	0	102.2%	-92.3%	-	-

4-Apr-1996	Cost Plus Inc	59.9%	26.1%	2.9%	1	5.7%	6.3%	14.7%	27.6%
4-Apr-1996	Praegitser Industries Inc	81.4%	18.5%	2.3%	0	48.1%	-30.4%	-43.9%	-68.2%
8-Apr-1996	Parts Source Inc	63.2%	35.5%	3.9%	0	-43.9%	-59.9%	-53.8%	-
11-Apr-1996	Universal Display Corp	42.1%	14.3%	-	-	-	-	-	-
12-Apr-1996	Worldtalk Communications Corp	34.5%	20.9%	-	0	-	34.8%	25.4%	-
12-Apr-1996	Yahoo! Inc	85.4%	10.1%	-	0	-	-	-	-
16-Apr-1996	Walsh International Inc	39.0%	27.5%	0.0%	0	568774.8%	885234.6%	-	-
17-Apr-1996	Kentek Information Systems Inc	18.4%	31.9%	4.3%	0	19.6%	-28.6%	-56.6%	-42.6%
18-Apr-1996	Transition Systems Inc	46.8%	33.1%	0.0%	0	-48.2%	-47.1%	-66.0%	-
18-Apr-1996	CompuServe Inc(H&R Block)	82.3%	17.7%	0.0%	0	-105.8%	-	-	-
18-Apr-1996	CardioThoracic Systems Inc	43.1%	36.2%	-	0	-	-	-	-
22-Apr-1996	Carbo Ceramics Inc	53.1%	16.2%	0.9%	0	-30.3%	-23.4%	-40.0%	-66.3%
23-Apr-1996	Shells Seafood Restaurants Inc	58.4%	38.1%	0.0%	0	102.6%	131.2%	41.5%	45.9%
23-Apr-1996	AXENT Technologies Inc	33.6%	24.5%	0.0%	0	125.6%	154.1%	152.8%	101.3%
25-Apr-1996	Affinity Technology Group	58.2%	16.1%	6.7%	0	58.4%	21.2%	-24.2%	-74.2%
25-Apr-1996	MotorVac Technologies Inc	1.9%	24.5%	-0.2%	0	75.7%	116.4%	98.8%	166.8%
25-Apr-1996	Heartport Inc	63.9%	20.5%	-	0	53.5%	47.5%	34.1%	61.0%
26-Apr-1996	SpectraLink Corp	69.3%	18.3%	0.4%	0	-63.6%	-118.6%	-71.7%	-23.3%
29-Apr-1996	Sykes Enterprises Inc	73.3%	21.0%	0.0%	1	-22.9%	14.9%	31.9%	13.4%
29-Apr-1996	Polycorn Inc	41.8%	13.1%	0.0%	0	235.5%	133.6%	723.2%	820.5%
30-Apr-1996	Physiometrix Inc	38.5%	33.3%	-7.2%	0	92.9%	82.8%	44.8%	27.7%
30-Apr-1996	JPM Co	63.7%	33.0%	2.0%	0	36.0%	78.3%	-25.8%	-14.2%
1-May-1996	Sawtek Inc	70.7%	22.9%	1.4%	1	-40.5%	-31.4%	-31.6%	-40.0%
1-May-1996	Bolder Technologies Corp	58.1%	23.9%	0.6%	0	77.0%	67.2%	58.0%	43.3%
1-May-1996	Autonomous Technologies Corp	36.2%	35.1%	-	0	87.0%	81.4%	60.6%	-
1-May-1996	Biopsys Medical Inc	49.4%	23.6%	0.0%	0	98.3%	-	-	-
2-May-1996	Marks Brothers Jewelers Inc	35.4%	42.9%	0.0%	1	17.8%	7.8%	-6.6%	1.7%
2-May-1996	JAKKS Pacific Inc	43.3%	33.6%	0.7%	1	-30.6%	-15.6%	32.7%	-19.3%
2-May-1996	Edify Corp	39.1%	15.9%	0.0%	0	-121.5%	70.6%	-64.5%	-
2-May-1996	Lion Brewery Inc	41.3%	42.3%	0.0%	0	-11.0%	-	-	-
6-May-1996	Millennium Pharmaceuticals Inc	31.1%	19.6%	0.0%	0	-158.8%	-58.2%	-75.8%	-89.3%
7-May-1996	Zomax Optical Media Inc	41.2%	33.0%	-	0	-	25.9%	-7.0%	84.2%
7-May-1996	OpenVision Technologies Inc	59.8%	17.6%	0.0%	0	103.6%	-	-	-
8-May-1996	BioTransplant Inc	40.1%	32.6%	0.5%	0	-60.4%	-2.2%	-255.5%	-206.5%
8-May-1996	En Pointe Technologies Inc	49.0%	40.5%	3.4%	0	44.4%	36.9%	-37.8%	-206.7%
8-May-1996	NOVA Corp	86.3%	12.4%	0.0%	0	37.3%	79.1%	81.2%	123.8%
9-May-1996	Onyx Pharmaceuticals Inc	54.1%	29.9%	7.7%	0	58.0%	12.1%	-6.0%	-42.9%
9-May-1996	SIBIA Neurosciences Inc	8.5%	27.4%	0.0%	0	-1592.9%	-2422.5%	-8266.2%	-
10-May-1996	General Surgical Innovations	34.6%	23.6%	0.0%	0	91.5%	88.9%	61.0%	4.4%
10-May-1996	Vincam Group Inc	70.9%	27.6%	0.0%	0	8.6%	31.5%	-	-
10-May-1996	Forasol-Foramer NV	62.6%	37.4%	-	-	-	-	-	-
14-May-1996	West Coast Entertainment Inc	36.2%	56.7%	0.7%	0	33.4%	93.9%	97.6%	98.3%
14-May-1996	Coach USA Inc	51.6%	-	-	1	-22.6%	-6.6%	-16.7%	-
15-May-1996	SunStar Healthcare Inc	12.7%	-4.1%	-	0	-103.6%	-250.8%	-442.7%	-
16-May-1996	UroCor Inc	17.1%	30.5%	3.5%	0	-61.1%	-57.7%	-11.7%	-44.0%
16-May-1996	Oacis Healthcare Holdings Corp	57.3%	27.8%	0.0%	0	82.8%	81.9%	-	-
17-May-1996	GeoScience Corp(Tech-Sym Corp)	77.5%	22.5%	0.0%	0	-5.6%	-40.3%	-28.2%	-
21-May-1996	CardioGenesis Corp	49.1%	25.4%	-	0	49.3%	-27.9%	-	-
21-May-1996	Craig Consumer Electronics	36.9%	33.6%	0.0%	0	-181.9%	-	-	-
22-May-1996	Garden Botanika Inc	19.9%	40.4%	0.3%	0	-126.6%	-190.3%	-1150.3%	-1676.6%
22-May-1996	Avigen Inc	17.3%	34.1%	-0.7%	0	89.2%	76.8%	14.8%	65.7%
22-May-1996	Digene Corp	49.8%	24.2%	0.0%	1	53.8%	-60.7%	-141.3%	-127.5%
23-May-1996	99 Cents Only Stores	70.0%	30.0%	0.0%	1	-21.2%	-10.8%	-21.9%	-14.7%
23-May-1996	Neurocrine Biosciences Inc	21.6%	25.5%	0.0%	0	133.2%	113.7%	13.0%	-7.2%
24-May-1996	Aspect Development Inc	71.8%	17.4%	0.0%	0	-56.2%	-83.6%	54.0%	-57.0%
24-May-1996	Cerion Technologies Inc	45.3%	54.7%	0.0%	0	-53.9%	-76.4%	-	-
29-May-1996	Photran Corp	13.9%	39.3%	0.0%	0	-307.8%	-371.8%	-	-
30-May-1996	Sunquest Information Systems	79.9%	20.1%	7.2%	0	-10.2%	-16.0%	2.2%	44.1%
30-May-1996	AirNet Systems Inc	51.2%	48.8%	0.5%	0	-9.0%	-8.7%	-31.4%	-38.8%
30-May-1996	Urologix Inc	44.6%	30.6%	0.0%	1	84.3%	76.6%	81.7%	74.8%
30-May-1996	Exactech Inc	45.6%	34.3%	0.6%	0	-18.6%	-28.0%	-4.9%	17.3%
30-May-1996	Imagyn Medical Inc	37.6%	36.8%	0.0%	0	77.4%	-	-	-
31-May-1996	SS&C Technologies Inc	68.5%	30.6%	0.0%	0	-65.6%	-6.9%	102.9%	-273.7%
31-May-1996	Sunrise Assisted Living Inc	60.7%	39.3%	0.0%	1	-71.6%	-48.6%	27.2%	2.3%
3-Jun-1996	Paravant Computer Systems Inc	48.9%	38.5%	0.6%	0	-4.2%	18.5%	24.4%	88.1%
5-Jun-1996	ASE Test Ltd	2.3%	11.5%	-	1	-	19.8%	14.4%	-11.3%
5-Jun-1996	Virus Research Institute Inc	43.1%	25.0%	0.0%	0	97.2%	83.2%	-	-
6-Jun-1996	Affymetrix Inc	37.4%	26.5%	0.0%	0	47.7%	-2.2%	28.9%	73.0%
6-Jun-1996	Innovasive Devices Inc	42.5%	25.3%	0.0%	0	67.9%	48.4%	31.9%	-
7-Jun-1996	Fusion Medical Technologies	65.2%	28.7%	-	0	43.0%	-19.3%	-83.9%	2.8%
7-Jun-1996	Thermo Optek Corp	94.0%	6.0%	0.0%	0	27.9%	95.4%	101.7%	90.4%
11-Jun-1996	EntreMed Inc	26.6%	27.2%	0.0%	0	84.5%	75.1%	48.9%	-60.2%
11-Jun-1996	Infoseek Corp	62.4%	13.6%	0.0%	1	55.1%	53.2%	95.7%	-
13-Jun-1996	DuPont Photomasks Inc	72.0%	28.0%	0.0%	0	33.6%	31.8%	11.0%	-32.8%
13-Jun-1996	Diatide Inc	60.1%	20.9%	3.6%	0	-11.9%	-1.0%	-70.3%	-
14-Jun-1996	ICT Group Inc	74.4%	20.1%	2.0%	0	-55.1%	-44.4%	-41.3%	-6.0%
17-Jun-1996	Ugly Duckling Corp	65.2%	32.6%	0.6%	1	83.4%	51.3%	-9.3%	23.7%
18-Jun-1996	Boston Communications Group	53.5%	29.1%	0.0%	1	-76.4%	-82.0%	-56.8%	-28.8%
18-Jun-1996	Visible Genetics Inc	15.9%	34.0%	-	0	83.7%	52.1%	70.1%	77.1%
19-Jun-1996	Bigmar Inc	25.8%	37.1%	-1.1%	0	-328.2%	-1120.9%	-1134.5%	-980.0%
19-Jun-1996	Fine Host Corp	25.6%	58.5%	0.0%	1	-100.9%	-117.4%	-98.2%	-
19-Jun-1996	Diamond Home Services Inc	53.8%	39.3%	0.0%	1	-19.3%	-70.2%	-65.6%	-
20-Jun-1996	Thermatrix Inc	39.2%	26.2%	-1.2%	0	83.1%	51.4%	51.1%	78.2%
20-Jun-1996	ANSYS Inc	23.5%	21.7%	0.3%	0	34.5%	36.0%	52.7%	37.5%
20-Jun-1996	Keystone Automotive Inds Inc	31.1%	34.9%	0.0%	1	22.4%	32.8%	6.0%	-14.6%

20-Jun-1996	CollaGenex Pharmaceuticals Inc	39.9%	26.5%	-	1	60.0%	51.7%	4.5%	8.3%
20-Jun-1996	Pacific Greystone Corp	5.7%	30.5%	-	0	75.0%	-	-	-
21-Jun-1996	EP MedSys Inc	21.1%	39.0%	0.6%	0	69.3%	-45.3%	13.0%	26.3%
21-Jun-1996	Sabratek Corp	18.4%	28.8%	0.0%	1	102.0%	107.7%	105.6%	-
24-Jun-1996	Kideo Productions Inc	26.6%	44.3%	-2.5%	0	64.3%	-116.0%	-59.7%	78.4%
24-Jun-1996	Genesee & Wyoming Inc	40.3%	51.6%	1.4%	0	10.4%	-16.5%	2.0%	-13.2%
24-Jun-1996	Multicom Publishing Inc	80.7%	17.4%	3.7%	0	61.8%	30.8%	-	-
24-Jun-1996	Grand Prix Assoc Of Long Beach	32.0%	45.6%	0.0%	0	-82.8%	-73.7%	-	-
26-Jun-1996	Integ Inc	6.0%	32.6%	-	0	14.9%	-36.3%	-71.7%	-112.8%
26-Jun-1996	ICTS Holland Production BV	59.5%	34.2%	-	1	-	-	-52.7%	-34.7%
27-Jun-1996	Travis Boats & Motors Inc	52.7%	41.7%	0.9%	0	6.0%	-16.1%	4.9%	-26.5%
27-Jun-1996	Smithway Motor Xpress Corp	45.9%	35.0%	1.6%	0	-2.1%	-3.1%	-23.2%	-19.2%
27-Jun-1996	FactSet Research Systems Inc	46.3%	41.5%	3.4%	0	2.1%	5.0%	6.0%	3.1%
27-Jun-1996	Siebel Sys Inc	67.0%	11.5%	0.0%	1	148.9%	607.8%	577.2%	423.8%
1-Jul-1996	Printware Inc	51.3%	35.3%	0.0%	0	-69.9%	-80.0%	-89.0%	-120.6%
1-Jul-1996	Channell Commercial Corp	56.2%	33.1%	3.5%	0	-37.7%	-45.7%	-65.2%	-61.0%
2-Jul-1996	Printrak International Inc	71.9%	26.3%	0.5%	0	20.9%	-110.9%	5.5%	40.4%
2-Jul-1996	North Face Inc	13.7%	25.1%	9.6%	1	-4.9%	-13.7%	-31.1%	-225.1%
3-Jul-1996	Elbit Vision Systems Ltd	69.1%	24.2%	0.3%	0	23.0%	-14.2%	-278.2%	-530.6%
11-Jul-1996	RemedyTemp Inc	40.6%	57.5%	2.0%	0	11.0%	32.3%	46.2%	27.2%
16-Jul-1996	Precision Response Corp	80.0%	20.0%	0.0%	1	-38.4%	-56.0%	-47.4%	-26.9%
17-Jul-1996	Cadus Pharmaceutical Corp	59.4%	21.1%	0.6%	0	-17.9%	-115.0%	-498.0%	-284.9%
17-Jul-1996	Coinmach Laundry Corp	54.6%	38.2%	1.4%	1	-38.6%	-40.5%	-12.4%	-10.4%
18-Jul-1996	Pegasystems Inc	86.6%	12.9%	2.7%	1	6.5%	-106.9%	-189.3%	-107.2%
18-Jul-1996	Karrington Health Inc	55.0%	44.8%	0.0%	0	-85.6%	-75.8%	-212.5%	-
19-Jul-1996	Pacific Gateway Exchange Inc	68.2%	28.0%	0.0%	0	-31.7%	-12.9%	-1.6%	-56.8%
19-Jul-1996	Claremont Technology Group Inc	31.7%	21.9%	0.0%	0	-23.9%	-55.7%	-	-
19-Jul-1996	Black Rock Golf Corp	32.5%	33.3%	3.9%	0	-96.4%	-337.0%	-	-
23-Jul-1996	Universal Outdoor Holdings Inc	49.0%	8.9%	0.0%	1	-75.4%	-51.0%	-	-
25-Jul-1996	Optika Imaging Systems Inc	55.9%	28.6%	0.0%	0	325.1%	285.3%	-835.4%	-10.1%
25-Jul-1996	American Disposal Services Inc	2.9%	32.6%	0.0%	1	114.8%	73.6%	-	-
26-Jul-1996	Ventana Medical Systems Inc	34.8%	16.5%	0.6%	1	101.6%	115.9%	135.3%	147.1%
30-Jul-1996	Geron Corp	43.9%	21.3%	2.4%	0	3.4%	7.1%	35.8%	31.5%
30-Jul-1996	Source Services Corp	47.5%	32.9%	0.0%	0	-23.7%	-7.6%	-	-
31-Jul-1996	Golden Bear Golf Inc	92.8%	7.2%	-0.2%	0	-109.4%	-469.4%	-180.7%	-205.8%
31-Jul-1996	Silicon Gaming Inc	35.0%	32.7%	-	-	68.9%	63.1%	41.9%	52.2%
1-Aug-1996	Lamar Advertising Co	68.8%	16.2%	3.5%	1	-5.7%	-53.7%	-68.8%	-78.9%
6-Aug-1996	TriTeal Corp	39.9%	28.4%	0.0%	1	94.3%	-	-	-
7-Aug-1996	Amarillo Biosciences Inc	21.8%	36.1%	-	0	-18.4%	-174.8%	-229.2%	-2586.9%
8-Aug-1996	SRS Labs Inc	46.8%	31.5%	0.1%	0	110.7%	119.4%	105.1%	99.0%
8-Aug-1996	HealthCor Holdings Inc	60.6%	32.4%	0.0%	0	-9.5%	-88.7%	-235.4%	-
8-Aug-1996	Raster Graphics Inc	30.5%	22.6%	0.0%	0	-17.7%	-520.1%	-	-
8-Aug-1996	Visigenic Software Inc	53.8%	15.8%	0.0%	1	74.8%	-	-	-
8-Aug-1996	TeleSpectrum Worldwide Inc	56.4%	43.6%	-	-	-	-	-	-
9-Aug-1996	Aware Inc	24.1%	17.7%	0.0%	0	94.1%	-70.7%	23.1%	219.3%
9-Aug-1996	Midcoast Energy Resources Inc	51.8%	40.0%	1.4%	1	-54.4%	-74.5%	-67.9%	-78.2%
13-Aug-1996	Paracelsus Healthcare Corp	66.9%	8.2%	5.5%	0	-102.6%	-52.0%	-46.7%	-59.7%
13-Aug-1996	Ace*Comm Corp	43.7%	28.9%	-	-	-	-	-	-
14-Aug-1996	DURA Automotive Systems Inc	96.9%	0.0%	0.0%	-	-37.3%	-27.7%	-35.4%	-34.5%
14-Aug-1996	Dailey Petroleum Services Corp	9.6%	-	-	-	-31.9%	-53.5%	-91.0%	-
16-Aug-1996	CCC Information Services Group	58.1%	26.6%	1.7%	0	2.1%	-13.3%	-10.7%	-18.7%
16-Aug-1996	Service Experts Inc	23.9%	46.0%	0.0%	1	-78.8%	-49.5%	-55.3%	-
20-Aug-1996	Atria Communities Inc	66.9%	33.1%	0.0%	1	-30.8%	-63.3%	-	-
22-Aug-1996	TransAct Technologies Inc	82.4%	17.6%	0.2%	0	91.6%	135.9%	18.3%	-44.1%
23-Aug-1996	Stericycle Inc	21.7%	31.8%	2.0%	0	93.3%	172.6%	206.8%	150.3%
27-Aug-1996	New York Bagel Enterprises Inc	45.0%	44.0%	1.4%	0	-70.0%	-86.1%	-107.1%	-
28-Aug-1996	Gradall Industries Inc	57.4%	34.3%	0.0%	1	24.3%	9.3%	-0.1%	-
28-Aug-1996	CompuRAD Inc	50.0%	27.7%	0.0%	0	89.1%	-	-	-
11-Sep-1996	American Craft Brewing Intl	51.5%	45.8%	4.7%	0	85.2%	-102.1%	-	-
17-Sep-1996	QEP Co Inc	51.9%	47.9%	1.0%	-	-28.0%	-62.8%	-47.1%	-46.0%
18-Sep-1996	RMH Teleservices Inc	62.0%	36.2%	-0.4%	0	-37.5%	-24.1%	-77.8%	-68.8%
18-Sep-1996	Cymer Inc	5.9%	24.4%	0.0%	1	83.1%	154.7%	36.1%	71.8%
18-Sep-1996	Willis Lease Finance Corp	60.9%	39.1%	-	1	-	-30.0%	-27.3%	-21.8%
18-Sep-1996	Rental Service Corp	44.4%	49.8%	0.0%	1	20.0%	-12.0%	13.7%	-
18-Sep-1996	International Network Services	76.3%	8.1%	-	0	-	-	-	-
20-Sep-1996	Document Sciences Corp	75.5%	22.0%	1.3%	0	-79.4%	-95.5%	-185.4%	-77.8%
20-Sep-1996	Technology Modeling Assoc Inc	43.6%	41.4%	0.0%	0	-82.0%	-	-	-
23-Sep-1996	Hot Topic Inc	54.0%	28.8%	1.9%	0	18.0%	67.6%	103.0%	179.6%
23-Sep-1996	Cross-Continent Auto Retailers	73.3%	26.7%	0.0%	0	9.0%	10.7%	-	-
25-Sep-1996	Industri-Matemetik Intl Corp	70.4%	28.3%	0.0%	1	1.4%	-35.8%	-444.3%	-304.6%
25-Sep-1996	LCC International Inc	64.6%	35.4%	0.0%	0	-27.5%	-13.2%	-136.4%	-112.9%
25-Sep-1996	Algos Pharmaceutical Corp	23.9%	22.4%	-	0	87.5%	56.8%	44.7%	12.6%
25-Sep-1996	Peerless Systems Corp	28.1%	41.9%	0.0%	0	261.9%	533.6%	484.0%	487.1%
25-Sep-1996	Coffee People Inc	35.5%	44.1%	1.4%	0	-86.3%	-92.2%	-78.2%	-
25-Sep-1996	Halter Marine Group Inc	83.3%	16.7%	0.0%	0	-15.8%	-49.6%	-66.1%	-
26-Sep-1996	RockShox Inc	36.5%	35.2%	0.4%	0	-6.1%	-43.6%	-91.0%	-112.7%
26-Sep-1996	Abacus Direct Corp	22.6%	36.7%	2.0%	-	-18.9%	-22.2%	-36.6%	-
26-Sep-1996	Kapson Senior Quarters Corp	53.9%	46.1%	0.0%	0	-38.4%	-57.9%	-	-
26-Sep-1996	Xionics Document Technologies	58.7%	28.0%	-	0	-	-	-	-
26-Sep-1996	Univision Communications Inc	59.8%	6.7%	-	-	-	-	-	-
27-Sep-1996	Gargoyles Inc	45.8%	32.8%	-0.7%	0	42.4%	-279.0%	-292.3%	42.1%
27-Sep-1996	Intelligroup Inc	77.0%	23.0%	1.2%	1	629.8%	589.6%	865.8%	362.9%
30-Sep-1996	Film Roman Inc	61.3%	38.4%	0.1%	0	-35.1%	-30.3%	-55.7%	-11.7%
30-Sep-1996	Storm Technology Inc	48.5%	30.6%	0.0%	0	66.2%	-54.6%	-	-
2-Oct-1996	CN Biosciences Inc	68.0%	31.3%	0.0%	1	-1.9%	6.3%	-	-

3-Oct-1996	Peerless Group Inc	22.9%	45.0%	0.0%	0	-44.9%	-61.3%	-	-
3-Oct-1996	Integrated Living Communities	43.8%	56.2%	0.0%	0	-52.7%	-	-	-
9-Oct-1996	Markwest Hydrocarbon Inc	63.6%	29.5%	0.4%	0	11.7%	-30.2%	-78.9%	-60.2%
9-Oct-1996	Splash Technology Holdings Inc	74.6%	21.8%	0.2%	1	2.7%	-34.6%	-47.2%	-83.0%
9-Oct-1996	Suburban Ostomy Supply Co Inc	52.6%	37.9%	0.0%	0	-38.1%	-36.4%	-	-
10-Oct-1996	Superior Consultant Holdings	64.9%	33.9%	0.0%	1	-82.6%	-7.9%	53.1%	-106.1%
10-Oct-1996	Trusted Information Systems	41.1%	31.0%	0.0%	0	-121.9%	-150.8%	-	-
10-Oct-1996	Intensiva Healthcare Corp	43.8%	25.9%	0.0%	0	28.5%	132.3%	-	-
11-Oct-1996	Xomed Surgical Products Inc	59.0%	36.1%	-	1	-	54.2%	37.9%	-
16-Oct-1996	DIGEX Inc	53.9%	40.8%	3.9%	0	-23.3%	-24.1%	-4.2%	121.2%
16-Oct-1996	TALX Corp	32.9%	37.6%	0.0%	0	-8.9%	-72.4%	-10.4%	48.4%
16-Oct-1996	Transkaryotic Therapies Inc	41.1%	16.5%	0.0%	0	-323.3%	-296.4%	-427.4%	-449.8%
16-Oct-1996	Metro Networks Inc	54.9%	39.7%	0.0%	0	15.4%	33.4%	39.8%	-
16-Oct-1996	MetroGolf Inc	30.6%	50.6%	0.0%	0	86.4%	-	-	-
17-Oct-1996	Specialty Catalog Corp	17.5%	27.4%	0.6%	0	-1.5%	17.6%	8.1%	-16.4%
17-Oct-1996	XLConnect Solutions Inc	82.1%	17.9%	-	0	-	-19.1%	-	-
21-Oct-1996	ACI Telecentrics Inc	76.0%	24.0%	-0.9%	0	-36.5%	-82.1%	-125.3%	-12.5%
21-Oct-1996	Image Guided Technologies Inc	20.6%	40.2%	-0.3%	0	107.0%	101.8%	95.6%	59.2%
22-Oct-1996	Wild Oats Markets Inc	57.4%	22.7%	-	1	-	61.2%	119.0%	154.8%
22-Oct-1996	Alyn Corp	36.3%	25.6%	-	1	96.5%	90.3%	81.3%	77.4%
23-Oct-1996	CyberMedia Inc	41.3%	21.8%	0.0%	0	92.5%	103.6%	-	-
23-Oct-1996	SmarTalk TeleServices Inc	44.7%	36.1%	0.0%	0	81.6%	105.2%	-	-
23-Oct-1996	Homegate Hospitality Inc	58.5%	40.3%	-	-	-	-	-	-
24-Oct-1996	PJ America Inc	48.7%	38.9%	-6.0%	1	-82.5%	-71.3%	-67.0%	-54.3%
24-Oct-1996	QC Optics Inc	69.4%	30.6%	-1.5%	0	50.1%	-83.8%	-84.3%	-202.4%
24-Oct-1996	Enamelon Inc	54.1%	21.3%	-	-	52.1%	51.3%	-104.4%	-343.8%
24-Oct-1996	Uroquest Medical Corp	56.0%	27.2%	-	0	94.1%	92.9%	88.6%	-
24-Oct-1996	International Telecommun Data	52.1%	34.5%	0.0%	1	-68.2%	-55.3%	-51.8%	-
25-Oct-1996	Triumph Group Inc	8.5%	23.4%	0.0%	1	60.7%	36.7%	39.1%	32.5%
25-Oct-1996	Cubist Pharmaceuticals Inc	43.4%	27.4%	0.7%	0	80.1%	40.3%	30.1%	18.0%
25-Oct-1996	Simulation Sciences Inc	13.8%	44.4%	0.0%	1	-28.2%	-34.5%	-	-
25-Oct-1996	Award Software International	48.4%	20.4%	0.0%	0	-45.5%	-31.9%	-	-
28-Oct-1996	National-Oilwell Inc	64.5%	23.2%	0.0%	0	138.5%	229.6%	229.6%	-4.2%
29-Oct-1996	Dominick's Supermarkets Inc	42.7%	27.3%	0.0%	0	16.3%	38.1%	-	-
29-Oct-1996	Aurum Software Inc	70.2%	23.2%	0.0%	0	106.1%	-	-	-
30-Oct-1996	Bitstream Inc	16.7%	18.9%	0.0%	0	-85.9%	-91.9%	-126.1%	-128.3%
30-Oct-1996	Education Management Corp	17.6%	20.4%	-	-	-	-	-	-
30-Oct-1996	Midway Games Inc	86.8%	13.2%	-	-	-	-	-	-
31-Oct-1996	Ridgeview Inc	13.1%	46.7%	0.0%	0	21.9%	14.5%	-64.7%	-
1-Nov-1996	Allin Communications Corp	14.0%	48.9%	-2.0%	0	72.9%	47.3%	87.5%	92.9%
1-Nov-1996	Kevco Inc	58.3%	32.1%	0.6%	0	92.4%	-64.2%	-42.9%	-86.6%
1-Nov-1996	Room Plus Inc	43.5%	23.7%	1.1%	0	103.3%	37.6%	66.6%	-
1-Nov-1996	Synthetic Industries Inc	2.7%	29.4%	0.0%	0	20.1%	26.7%	15.5%	-
1-Nov-1996	Offshore Energy Development	50.5%	41.1%	0.0%	0	37.6%	-	-	-
1-Nov-1996	United Natural Foods Inc	60.4%	22.6%	-	-	-	-	-	-
4-Nov-1996	SeaChange International Inc	57.2%	13.3%	0.0%	0	10.5%	-16.6%	-138.7%	-47.1%
4-Nov-1996	International Speedway Corp	55.5%	10.5%	7.2%	1	-14.9%	-34.0%	-43.3%	-72.4%
5-Nov-1996	Aviron	28.3%	12.6%	8.0%	1	-66.7%	32.0%	9.7%	-22.4%
5-Nov-1996	WCH INC	27.7%	42.7%	-	0	-	-	-	-
6-Nov-1996	NCO Group Inc	60.8%	37.1%	1.3%	1	-40.5%	-55.3%	-73.0%	-62.9%
6-Nov-1996	Integrated Medical Resources	52.7%	37.2%	4.4%	0	-201.1%	-188.9%	-	-
12-Nov-1996	Bristol Technology Systems	46.5%	36.6%	-	-	-	-	-	-
13-Nov-1996	American Medserve Corp	44.8%	47.2%	0.0%	0	-40.1%	-	-	-
13-Nov-1996	Decor Group Inc	20.1%	16.3%	-	-	-	-	-	-
18-Nov-1996	Rankin Automotive Group Inc	67.0%	33.0%	0.5%	0	-58.5%	-115.5%	-96.1%	-44.9%
18-Nov-1996	Ticketmaster Group Inc	57.8%	30.5%	0.0%	0	-1.7%	58.4%	-	-
19-Nov-1996	CV Therapeutics Inc	20.2%	26.2%	-	1	74.9%	80.4%	80.0%	81.6%
19-Nov-1996	ViroPharma Inc	68.1%	24.2%	-	1	65.0%	66.6%	-38.2%	47.6%
20-Nov-1996	GeoTel Communications Corp	44.5%	17.1%	0.0%	0	104.7%	115.2%	132.4%	-
21-Nov-1996	Obie Media Corp	60.7%	28.6%	0.5%	0	-3.4%	-3.6%	-26.0%	-29.1%
21-Nov-1996	Rogue Wave Software Inc	47.0%	30.4%	-	1	-	-	-	-
21-Nov-1996	Styling Technology Corp	26.5%	73.5%	-	-	-	-	-	-
22-Nov-1996	Top Image Systems Ltd	32.9%	32.6%	0.2%	0	-104.1%	-94.1%	-59.2%	-102.8%
22-Nov-1996	Ciao Cucina Corp	49.2%	26.7%	6.4%	0	56.0%	-108.8%	-	-
26-Nov-1996	Firearms Training Systems Inc	1.5%	28.6%	1.3%	-	11.7%	-44.6%	-83.4%	-128.0%
26-Nov-1996	Roadhouse Grill Inc	66.0%	26.9%	0.4%	0	202.7%	357.2%	480.8%	412.4%
26-Nov-1996	Forrester Research Inc	75.0%	25.0%	0.0%	0	-38.3%	-19.2%	-11.4%	-13.2%
26-Nov-1996	Think New Ideas Inc	44.7%	33.5%	-	0	-	-	-	-
2-Dec-1996	Leading Edge Packaging(Chung)	60.0%	40.0%	2.5%	0	-86.7%	-91.4%	-150.5%	-
3-Dec-1996	ViaSat Inc	34.9%	24.3%	0.7%	0	-18.1%	10.7%	18.0%	13.0%
4-Dec-1996	TTI Team Telecom Intl Ltd	68.8%	31.2%	0.7%	0	-57.5%	-19.8%	4.1%	2.5%
4-Dec-1996	WebSecure Inc	4.3%	17.3%	-	0	-	-	-	-
6-Dec-1996	Powerwave Technologies Inc	75.7%	13.8%	0.0%	1	-42.0%	-49.0%	-85.0%	-63.6%
10-Dec-1996	Ecomat Inc	66.6%	33.4%	2.2%	0	83.7%	27.5%	-	-
11-Dec-1996	Cal-Maine Foods Inc	58.2%	33.6%	9.0%	0	-5.0%	-49.7%	-52.9%	-113.0%
11-Dec-1996	SkyMall Inc	64.8%	22.6%	1.3%	0	-52.7%	-69.4%	-58.9%	-220.6%
12-Dec-1996	Versatility Inc	46.7%	30.4%	-	-	-217.6%	-924.0%	-	-
16-Dec-1996	Titan Exploration Inc	13.8%	38.1%	3.7%	0	250.5%	425.1%	172.1%	400.0%
17-Dec-1996	Bowlin Outdoor Advtg & Travel	63.5%	25.0%	0.4%	0	-14.8%	-18.2%	-28.8%	-30.3%
17-Dec-1996	Procom Technology Inc	66.1%	28.3%	-	0	-	-	-	-
18-Dec-1996	Accent Color Sciences Inc	21.4%	29.8%	-	0	92.0%	76.2%	77.6%	86.0%
18-Dec-1996	Credit Management Solutions	66.3%	33.7%	0.0%	0	-90.8%	-158.8%	-235.4%	-96.3%
18-Dec-1996	Amscan Holdings Inc	76.4%	20.6%	0.0%	0	0.5%	-40.8%	-27.1%	-12.4%
18-Dec-1996	Lithia Motors Inc	6.2%	93.8%	0.0%	1	-44.0%	-51.6%	-35.5%	-34.3%
19-Dec-1996	Delia s Inc	78.5%	19.7%	0.7%	1	902.9%	741.2%	789.2%	-1360.4%

20-Dec-1996	3DX Technologies Inc	45.3%	33.6%	6.4%	0	61.2%	-88.6%	-101.6%	-
9-Jan-1997	Sun Hydraulics Corp	50.1%	34.8%	-0.2%	0	12.9%	-0.7%	-29.3%	0.5%
13-Jan-1997	Aramex International Ltd	71.8%	21.6%	0.5%	1	-18.5%	-16.9%	-12.3%	-7.1%
21-Jan-1997	EarthLink Network Inc	48.5%	19.2%	0.0%	1	56.2%	81.3%	-	-
22-Jan-1997	Eltek Ltd	36.7%	31.7%	7.2%	-	-22.3%	18.4%	-7.2%	-
22-Jan-1997	SEEC Inc	34.7%	38.8%	0.0%	1	277.1%	48.0%	-422.2%	-
22-Jan-1997	CD Warehouse Inc	24.1%	75.9%	-	0	-	-	-	-
23-Jan-1997	RDO Equipment Co	86.9%	12.0%	25.9%	0	2.7%	12.0%	2.2%	-102.1%
28-Jan-1997	Coldwater Creek Inc	75.0%	25.0%	1.3%	0	2.4%	4.7%	2.1%	-14.4%
28-Jan-1997	Administaff Inc	60.6%	25.6%	0.6%	0	-29.0%	-36.5%	-21.3%	-14.2%
28-Jan-1997	Coulter Pharmaceuticals Inc	47.8%	25.0%	-	1	58.8%	95.9%	39.6%	-
29-Jan-1997	Photoelectron Corp	53.1%	22.6%	-	0	61.8%	12.2%	-163.3%	28.6%
29-Jan-1997	Metro Information Services Inc	66.1%	22.0%	2.2%	0	-39.2%	-31.8%	-61.1%	-70.2%
29-Jan-1997	Template Software Inc	47.7%	38.8%	0.0%	0	-26.5%	-61.1%	-	-
30-Jan-1997	Cerus Corp	29.5%	27.7%	5.1%	0	53.3%	-19.7%	51.4%	65.1%
30-Jan-1997	Medical Manager Corp	52.7%	-	-	1	-74.5%	-80.9%	-	-
3-Feb-1997	NovAtel Inc	46.2%	34.0%	-	0	-40.3%	-109.8%	-	-
4-Feb-1997	Aastro Biosciences Inc	46.9%	12.5%	-0.5%	0	1.1%	-79.8%	-66.6%	11.2%
5-Feb-1997	Digital Lightwave Inc	76.8%	13.7%	0.0%	0	16.5%	-174.8%	189.3%	305.1%
5-Feb-1997	Brunswick Technologies Inc	44.5%	50.2%	6.0%	0	33.2%	39.6%	57.5%	-
5-Feb-1997	Yurie Systems Inc	78.6%	15.9%	-	0	-	-	-	-
7-Feb-1997	General Bearing Corp	76.9%	23.1%	0.3%	0	34.8%	29.7%	23.0%	-59.3%
7-Feb-1997	Four Media Co	49.3%	40.0%	0.0%	0	-26.4%	-28.0%	-29.2%	-
7-Feb-1997	Puro Water Group Inc	62.5%	37.5%	-	-	-	-	-	-
11-Feb-1997	Independence Brewing Co	22.6%	28.0%	3.4%	0	-224.9%	-243.5%	-	-
12-Feb-1997	Daou Systems Inc	54.5%	19.4%	2.0%	1	80.4%	-267.2%	-637.0%	-1737.9%
12-Feb-1997	Biosite Diagnostics	40.8%	19.0%	0.0%	0	-69.0%	-102.0%	-80.7%	-47.5%
12-Feb-1997	Profile Technology Inc	45.7%	19.7%	0.4%	0	74.6%	75.8%	69.4%	30.0%
12-Feb-1997	Radiant Systems Inc	62.9%	26.2%	0.0%	1	-27.3%	-115.0%	-10.7%	-48.6%
12-Feb-1997	Wesley Jessen(Bain Capital)	81.4%	13.7%	0.0%	1	97.9%	99.7%	120.2%	-
12-Feb-1997	Qualix Group Inc	45.9%	28.0%	0.0%	0	53.3%	-487.8%	-	-
13-Feb-1997	Silgan Holdings Inc	42.7%	18.1%	2.7%	0	-0.5%	-6.0%	3.3%	-11.7%
14-Feb-1997	Judge Group Inc	60.6%	30.4%	0.1%	0	54.1%	-96.2%	72.5%	78.2%
18-Feb-1997	Micro Therapeutics Inc	55.7%	12.6%	-0.6%	0	40.7%	55.5%	22.7%	28.0%
20-Feb-1997	ILEX Oncology Inc	27.9%	21.4%	0.0%	0	-548.8%	-1627.7%	-710.3%	-667.0%
20-Feb-1997	Brylane Inc	45.7%	20.5%	0.0%	1	98.2%	-	-	-
25-Feb-1997	Edge Petroleum Corp	37.2%	29.2%	0.0%	0	-35.4%	-132.3%	-31.0%	57.5%
26-Feb-1997	NACT Telecommunications(GST)	63.0%	37.0%	0.0%	0	106.3%	-	-	-
27-Feb-1997	Vistana Inc	69.8%	29.6%	0.0%	1	-12.3%	-23.0%	-	-
28-Feb-1997	Mercury Waste Solutions Inc	68.5%	28.0%	-10.2%	0	0.0%	184.8%	22.7%	266.0%
4-Mar-1997	Riviera Tool Co	54.1%	40.8%	1.5%	0	44.4%	30.5%	14.1%	-27.0%
4-Mar-1997	Aviation Distributors Inc	60.0%	40.0%	-	0	-	-	-	-
6-Mar-1997	EMCORE Corp	52.9%	32.3%	1.2%	0	226.1%	-88.2%	31.7%	71.2%
7-Mar-1997	Kos Pharmaceuticals Inc	72.7%	27.3%	-	-	94.7%	44.8%	72.0%	86.8%
7-Mar-1997	ATL Products Inc	82.9%	17.1%	0.0%	0	7.3%	-	-	-
11-Mar-1997	Total Control Products Inc	56.1%	23.8%	0.0%	0	39.9%	-	-	-
12-Mar-1997	ProMedCo Management Co	48.7%	35.0%	0.0%	1	787.0%	1091.7%	1240.9%	-
14-Mar-1997	Euro Tech Holdings Co Ltd	68.0%	29.9%	0.9%	0	-25.0%	-49.9%	-39.3%	-44.1%
19-Mar-1997	Endocardial Solutions Inc	57.6%	22.0%	-	-	58.7%	7.7%	29.8%	54.2%
20-Mar-1997	PalEx Inc	34.6%	29.7%	0.0%	0	-58.2%	-72.7%	-	-
20-Mar-1997	Physicians Specialty Corp	36.7%	63.3%	-	1	-	-	-	-
26-Mar-1997	Asia Pacific Wire & Cable Corp	68.3%	31.7%	1.4%	0	-18.6%	-72.7%	-66.0%	-55.4%
27-Mar-1997	AHL Services Inc	77.5%	22.5%	0.0%	1	-11.1%	-36.1%	-19.5%	-49.7%
3-Apr-1997	Gulf Island Fabrication Inc	59.0%	35.9%	0.1%	1	22.8%	28.8%	-41.2%	-58.9%
9-Apr-1997	Meade Instruments Corp	33.3%	33.4%	2.8%	0	44.6%	42.1%	61.8%	-60.1%
10-Apr-1997	Valley National Gases Inc	78.2%	21.4%	0.5%	0	-14.9%	-25.7%	-32.7%	-34.0%
10-Apr-1997	BEA Systems Inc	73.7%	20.6%	0.0%	1	108.1%	134.5%	107.1%	128.1%
11-Apr-1997	AccelGraphics Inc	51.7%	33.4%	0.0%	0	77.6%	-	-	-
14-Apr-1997	Take-Two Interactive Software	65.3%	17.8%	0.9%	0	-149.0%	-19.7%	-7.1%	-7.1%
17-Apr-1997	DG Jewellery of Canada Ltd	50.8%	29.0%	1.7%	0	-14.1%	49.3%	68.2%	54.0%
23-Apr-1997	Go2Net Inc	47.7%	37.6%	-	0	-	-	-	-
29-Apr-1997	International CompuTex Inc	62.4%	34.2%	0.0%	0	-84.9%	-	-	-
1-May-1997	Brookdale Living Communities	69.7%	30.3%	-	1	-	-	-	-
2-May-1997	DTM Corp	52.3%	43.6%	-0.2%	0	-18.6%	13.1%	320.1%	364.6%
6-May-1997	Kaynar Technologies Inc	16.2%	21.0%	0.0%	0	33.3%	-14.8%	-	-
8-May-1997	Brigham Exploration Co	36.5%	25.1%	0.4%	0	-53.4%	-220.1%	-34.2%	-20.7%
13-May-1997	Rambus Inc	45.8%	12.4%	0.0%	0	116.3%	135.7%	140.6%	152.4%
15-May-1997	LHS Group Inc	14.8%	40.6%	0.0%	0	-9.6%	39.3%	56.5%	-
19-May-1997	Lexington Healthcare Group	67.0%	27.8%	-0.1%	0	-104.3%	-32.8%	-62.3%	-137.9%
21-May-1997	MER Telemanagement Solutions	79.6%	20.4%	-0.7%	0	-46.7%	-137.0%	-79.4%	-154.3%
22-May-1997	Apple Orthodontix Inc	9.5%	78.3%	-	1	-	-	-	-
27-May-1997	Carey International Inc	35.1%	47.3%	0.0%	-	-5.0%	-3.8%	8.8%	-
28-May-1997	DSI Toys Inc	36.2%	41.6%	0.6%	0	-164.8%	-100.0%	-40.8%	-82.4%
29-May-1997	NetSpeak Corp	4.7%	23.0%	0.0%	0	36.0%	27.8%	11.7%	57.9%
30-May-1997	American Retirement Corp	41.5%	28.6%	0.5%	1	-22.1%	-33.4%	-44.7%	-62.8%
3-Jun-1997	RF Micro Devices Inc	15.5%	20.9%	0.0%	1	-108.5%	76.1%	333.3%	81.7%
5-Jun-1997	Silverleaf Resorts Inc	68.8%	31.2%	0.1%	1	-2.0%	-16.6%	-21.8%	-139.8%
10-Jun-1997	Peapod Inc	22.7%	23.1%	0.0%	0	65.0%	14.7%	-108.6%	-59.9%
10-Jun-1997	HTE Inc	64.1%	33.8%	0.0%	0	75.4%	-19.8%	-291.7%	-224.0%
12-Jun-1997	MAXIMUS Inc	64.5%	35.2%	0.0%	1	-46.6%	-27.7%	-37.8%	-28.4%
12-Jun-1997	OptiSystems Solutions Ltd	60.7%	32.7%	9.6%	0	84.0%	-33.0%	-	-
17-Jun-1997	ORBIT/FR Inc	65.6%	34.4%	0.1%	0	16.8%	-206.9%	-224.4%	-111.3%
17-Jun-1997	inTEST Corp	49.7%	38.7%	0.7%	0	-56.7%	-82.5%	-69.3%	-53.5%
17-Jun-1997	Genesys Telecommun Labs	62.2%	11.8%	0.0%	0	116.8%	167.0%	198.2%	-
18-Jun-1997	Simulations Plus Inc	61.1%	31.9%	-2.6%	0	-521.0%	-1488.9%	-522.2%	-248.2%

18-Jun-1997	StarTek Inc	31.6%	26.9%	0.0%	0	53.2%	117.8%	178.7%	222.0%
19-Jun-1997	RWD Tech Inc	77.1%	21.4%	0.0%	0	-32.4%	-30.7%	-64.9%	-63.6%
19-Jun-1997	Aurora Biosciences Corp	36.1%	23.8%	0.0%	0	98.3%	-88.0%	122.1%	112.9%
19-Jun-1997	Laser Power Corp	59.0%	23.6%	3.9%	0	884.5%	-393.8%	1291.9%	-
19-Jun-1997	Professional Transportation	66.7%	30.8%	2.8%	0	-136.2%	-96.7%	-144.4%	-
19-Jun-1997	Great Plains Software Inc	41.1%	23.0%	0.0%	1	-37.7%	-43.4%	-67.8%	-
24-Jun-1997	Waterlink Inc	34.1%	43.6%	19.5%	0	-8.8%	17.5%	39.7%	36.2%
25-Jun-1997	3Dfx Interactive Inc	45.3%	24.6%	0.0%	1	99.8%	111.5%	84.0%	-32.5%
26-Jun-1997	Robocom Systems Inc	55.8%	43.3%	-2.5%	0	-172.6%	-186.8%	-240.1%	-363.8%
26-Jun-1997	800-JR Cigar Inc	75.6%	24.4%	0.0%	0	-5.7%	-24.8%	-29.9%	-
27-Jun-1997	Advanced Communication Systems	50.1%	44.5%	0.0%	1	-21.6%	-48.1%	-30.4%	-
27-Jun-1997	Comfort Systems USA Inc	46.6%	-	-	-	-	-	-	-
30-Jun-1997	Heska Corp	66.5%	23.7%	0.4%	1	-17.5%	6.4%	10.5%	-0.7%
30-Jun-1997	Schuff Steel Co	71.4%	28.6%	1.9%	0	17.7%	-61.9%	-45.4%	-31.5%
1-Jul-1997	Schick Technologies Inc	42.8%	17.9%	1.5%	0	7322.2%	-119250.3%	-74942.3%	15836.9%
2-Jul-1997	Peritus Software Services Inc	51.4%	28.3%	-0.2%	0	141.2%	-343.4%	-1.6%	94.1%
2-Jul-1997	Coinstar Inc	20.4%	18.7%	1.2%	1	-9.5%	87.0%	161.6%	148.1%
2-Jul-1997	Centennial HealthCare Corp	14.6%	34.8%	0.0%	0	33.9%	29.2%	-113.5%	-
2-Jul-1997	Transcend Therapeutics Inc	53.1%	29.9%	-	0	93.3%	72.6%	-	-
3-Jul-1997	Hagler Bailly Inc	34.4%	37.4%	0.0%	0	3.1%	36.6%	-102.2%	-
8-Jul-1997	Horizon Pharmacies Inc	32.5%	52.6%	0.7%	0	-40.2%	-122.1%	-127.9%	-239.3%
10-Jul-1997	Apollo International of	40.1%	24.2%	0.0%	0	42.6%	-	-	-
11-Jul-1997	At Home Corp	92.4%	3.9%	0.0%	1	81.5%	94.0%	97.0%	-66.7%
15-Jul-1997	Home Security International	5.0%	3.8%	1.3%	0	9.0%	30.0%	-8.7%	-182.2%
21-Jul-1997	Friede Goldman International	58.3%	39.9%	0.0%	0	44157.7%	45478.3%	-5982.8%	-17154.2%
22-Jul-1997	RiT Technologies Ltd	46.2%	27.4%	-0.1%	0	86.4%	52.7%	-	235.0%
22-Jul-1997	Travel Services International	51.9%	28.6%	2.7%	1	2.4%	77.9%	7.8%	-
23-Jul-1997	JLM Industries Inc	63.4%	33.4%	0.2%	0	30.2%	-1.2%	-100.3%	-103.0%
23-Jul-1997	Trailer Bridge Inc	56.9%	28.9%	0.2%	0	-96.6%	-85.3%	-84.8%	-98.2%
23-Jul-1997	Excelsior-Henderson Motorcycle	29.1%	30.7%	-	-	50.4%	-75.5%	-	-
28-Jul-1997	BioReliance Corp	43.8%	27.6%	0.0%	0	-18.3%	-38.9%	-83.3%	-54.3%
30-Jul-1997	Information Management Assocs	21.5%	35.2%	0.0%	0	54.9%	-457.6%	-	-
31-Jul-1997	Continental Natural Gas Inc	5.0%	64.8%	0.0%	0	-34.3%	-	-	-
1-Aug-1997	Concentric Network Corp	21.6%	42.9%	0.0%	1	79.6%	81.9%	88.3%	-
4-Aug-1997	Hall Kinion & Associates Inc	74.6%	23.6%	0.5%	0	-0.5%	29.6%	59.9%	49.6%
5-Aug-1997	Eagle Geophysical Inc	7.3%	50.0%	0.0%	0	-67.0%	-73.0%	-	-
6-Aug-1997	Carrizo Oil & Gas Inc	4.4%	25.4%	0.2%	0	-26.7%	-326.1%	-51.1%	59.9%
6-Aug-1997	Pegasus Systems Inc	4.5%	30.8%	-	1	148.3%	242.9%	194.8%	129.4%
6-Aug-1997	Fine Air Services Inc	60.3%	39.7%	-	-	-	-	-	-
7-Aug-1997	GlobeComm Systems Inc	26.7%	31.0%	2.0%	0	61.9%	91.6%	52.2%	90.8%
8-Aug-1997	Innova Corp	62.2%	18.8%	0.0%	0	100.3%	-	-	-
11-Aug-1997	Computer Motion Inc	36.8%	31.2%	0.0%	0	80.1%	61.2%	46.6%	38.9%
11-Aug-1997	fine.com International Corp	47.8%	49.5%	16.8%	0	-96.1%	-252.3%	-	-
12-Aug-1997	Syntel Inc	87.9%	12.1%	0.0%	0	27.1%	95.7%	48.9%	20.8%
13-Aug-1997	On Stage Entertainment	64.8%	20.5%	-3.6%	0	-108.8%	-106.2%	-79.7%	-154.0%
13-Aug-1997	Sterigenics International Inc	28.5%	27.7%	0.0%	1	-8.8%	2.0%	-	-
14-Aug-1997	Aehr Test Systems Inc	15.4%	69.2%	0.8%	0	-43.9%	-157.3%	-162.3%	-69.7%
14-Aug-1997	Trendwest Resorts	3.0%	33.0%	1.4%	0	-11.3%	-21.3%	9.9%	-17.8%
14-Aug-1997	International Isotopes Inc	43.9%	36.7%	-	0	21.3%	7.3%	-86.5%	-349.4%
14-Aug-1997	Discas Inc	68.5%	28.7%	0.0%	0	-1464.3%	-	-	-
15-Aug-1997	LeukoSite Inc	37.1%	27.0%	0.0%	0	44.0%	16.5%	-	-
18-Aug-1997	Vision Twenty-One Inc	43.3%	3.1%	-0.5%	1	108.3%	120.5%	51.3%	56.5%
18-Aug-1997	Positron Fiber Systems Corp	45.2%	41.5%	0.0%	0	-432.7%	-	-	-
18-Aug-1997	Clearview Cinema Group Inc	58.8%	41.2%	0.0%	0	-25.5%	-	-	-
19-Aug-1997	US Liquids Inc	35.9%	22.3%	2.3%	1	563.2%	270.7%	241.3%	88.6%
20-Aug-1997	CTB International Corp	60.0%	38.7%	0.8%	0	-18.6%	-32.9%	-25.1%	-19.5%
21-Aug-1997	OrthAlliance Inc	12.8%	24.3%	-	-	-	-	-	-
22-Aug-1997	INSPire Insurance Solutions	5.1%	27.1%	2.2%	1	9075.6%	8750.5%	5946.8%	4166.1%
22-Aug-1997	Kendle International Inc	35.9%	56.8%	0.0%	1	-51.0%	-42.1%	-41.5%	-76.7%
27-Aug-1997	Authentic Specialty Foods Inc	31.8%	58.9%	0.0%	0	-65.4%	-	-	-
27-Aug-1997	ExecuStay Corp	58.7%	41.3%	0.0%	0	-69.6%	-	-	-
3-Sep-1997	Compass Plastics	37.5%	31.8%	0.0%	0	21.4%	-	-	-
11-Sep-1997	Signature Eyewear Inc	50.9%	43.6%	0.0%	0	-18.0%	-26.2%	-85.0%	-174.9%
12-Sep-1997	Castle Dental Centers Inc	44.4%	42.9%	0.4%	0	40.2%	20.4%	35.3%	-125.7%
17-Sep-1997	FARO Technologies Inc	47.8%	33.1%	0.0%	0	-66.3%	-98.1%	-106.7%	-86.7%
18-Sep-1997	Il Fornaio America Corp	2.4%	64.7%	0.6%	0	-19.5%	-8.9%	-8.9%	-12.5%
18-Sep-1997	The Children's Place	78.3%	16.7%	3.8%	1	-1.3%	52.5%	60.8%	52.5%
18-Sep-1997	Piranha Interactive Publishing	50.0%	50.0%	0.0%	0	29.4%	-	-	-
19-Sep-1997	International Total Services	52.5%	45.4%	0.0%	0	25.1%	-101.9%	-156.9%	-60.8%
19-Sep-1997	ProBusiness Services Inc	45.9%	18.5%	0.0%	1	-1088.5%	-505.3%	-900.2%	-384.1%
23-Sep-1997	Industrial Distribution Group	14.1%	48.9%	0.0%	0	-57.3%	-12.6%	-27.2%	-28.8%
23-Sep-1997	Boron LePore & Associates Inc	20.1%	29.5%	0.0%	1	173.3%	151.0%	117.4%	138.6%
23-Sep-1997	EduTrek International Inc	68.8%	24.4%	0.0%	0	3.5%	-	-128.2%	-
24-Sep-1997	Star Buffet Inc	6.1%	31.5%	1.9%	0	-27.4%	-26.6%	-29.8%	-18.3%
24-Sep-1997	BridgeStreet Accommodations	39.2%	37.9%	2.0%	0	-85.0%	-81.0%	-89.3%	-
25-Sep-1997	Pervasive Software Inc	64.5%	16.9%	0.4%	1	184.8%	143.2%	140.9%	146.4%
30-Sep-1997	Power-One Inc	30.3%	30.5%	0.0%	1	-0.5%	-33.0%	-20.3%	-14.2%
30-Sep-1997	Best Software Inc	47.5%	38.1%	0.0%	0	-62.3%	-42.2%	-	-
1-Oct-1997	OSI Systems Inc	23.2%	36.1%	1.5%	0	12.0%	-21.9%	-43.0%	-67.4%
1-Oct-1997	Corixa Corp	56.0%	25.8%	0.0%	0	83.4%	46.9%	40.3%	81.0%
1-Oct-1997	SPR Inc	52.1%	19.2%	14.5%	1	115.0%	115.4%	98.4%	-
1-Oct-1997	Petersen Companies Inc	40.7%	26.9%	-	0	-	-	-	-
2-Oct-1997	Cognicase Inc	22.4%	28.7%	0.6%	1	-69.5%	-52.4%	-35.9%	-91.0%
6-Oct-1997	SCM Microsystems Inc	23.3%	36.2%	0.0%	1	136.7%	230.2%	232.7%	98.9%
7-Oct-1997	Logility Inc	83.7%	16.3%	1.5%	0	150.7%	-94.3%	147.6%	-47.9%

7-Oct-1997	Trimeris Inc	32.4%	27.2%	0.0%	1	92.0%	76.1%	91.9%	85.9%
7-Oct-1997	Jevic Transportation Inc	57.3%	35.6%	0.0%	0	9.5%	-3.7%	-	-
8-Oct-1997	Renex Corp	32.7%	43.1%	0.0%	0	3292.3%	5100.6%	-	-
9-Oct-1997	A C Moore Arts & Crafts Inc	61.8%	38.2%	0.0%	0	-34.6%	-54.4%	-38.8%	-36.5%
9-Oct-1997	Startec Global Communications	45.5%	32.3%	0.0%	0	116.7%	87.5%	71.9%	54.7%
10-Oct-1997	Track 'n Trail Inc	52.1%	36.0%	0.2%	0	-12.9%	-75.0%	-127.5%	-70.0%
10-Oct-1997	Intercorp Excelle Inc	74.9%	25.1%	0.1%	0	-57.5%	-68.4%	-57.2%	-56.6%
10-Oct-1997	National Research Corp	71.3%	28.7%	1.6%	0	-63.7%	-79.3%	-84.3%	-76.8%
10-Oct-1997	Kofax Image Products Inc	51.7%	39.3%	3.5%	0	8.4%	-33.9%	-27.0%	-
15-Oct-1997	Concord Communications Inc	39.3%	19.1%	0.0%	0	101.3%	118.2%	131.5%	113.3%
16-Oct-1997	Mac-Gray Corp	33.3%	36.5%	0.5%	0	-15.6%	-28.7%	-34.6%	-25.5%
17-Oct-1997	N2K Inc	32.6%	27.9%	0.0%	1	67.0%	-	-	-
20-Oct-1997	Toymax International Inc	58.5%	26.4%	0.0%	0	96.5%	22.8%	-93.2%	-69.0%
20-Oct-1997	Petroglyph Energy Inc	31.3%	46.9%	0.0%	0	-63.4%	-100.0%	-102.8%	-
20-Oct-1997	Neutral Posture Ergonomics Inc	60.8%	35.2%	-	0	-	-	-	-
21-Oct-1997	Rock of Ages Corp	31.2%	39.7%	1.4%	0	-40.8%	-13.3%	-38.9%	-38.4%
22-Oct-1997	Dril-Quip Inc	70.4%	29.6%	0.0%	0	-2.3%	-1.2%	-23.6%	-40.1%
22-Oct-1997	White Cap Industries Inc	58.4%	38.8%	-	0	-	46.8%	-	-
22-Oct-1997	Innovative Valve Technologies	9.3%	-	-	0	118.8%	136.4%	-	-
22-Oct-1997	Intl Manufacturing Svcs Inc	72.3%	25.5%	0.0%	0	-20.6%	-	-	-
24-Oct-1997	Priority Healthcare Corp	83.6%	16.4%	0.0%	1	-11.4%	4.6%	-5.5%	-14.0%
28-Oct-1997	Tropical Sportswear Intl Corp	40.8%	34.7%	0.7%	0	36.8%	-48.7%	-20.9%	-6.4%
28-Oct-1997	Casella Waste Systems Inc	41.8%	32.7%	1.8%	1	-14.4%	-1.1%	-42.2%	-19.8%
28-Oct-1997	Beringer Wine Estates Holdings	81.2%	10.7%	0.0%	-	-8.4%	134.6%	188.3%	228.0%
29-Oct-1997	Group 1 Automotive Inc	41.5%	31.7%	-	1	143.5%	201.0%	194.5%	201.5%
29-Oct-1997	Zymetx Inc	1.5%	34.8%	-	0	-	-	-	-
30-Oct-1997	Capital Senior Living Corp	51.0%	49.0%	0.0%	0	-45.7%	-14.4%	-40.4%	-57.6%
30-Oct-1997	UBICS Inc	66.9%	29.4%	0.6%	0	-6.5%	-11.8%	-60.0%	-83.1%
30-Oct-1997	Faroudja Inc	44.1%	25.0%	0.0%	0	-72.6%	-156.9%	-124.4%	-
30-Oct-1997	TransCoastal Marine Services	17.9%	78.1%	0.0%	0	-73.8%	-40.5%	-141.5%	-
30-Oct-1997	AVTEAM Inc	37.4%	48.7%	0.0%	0	-40.2%	-59.1%	-52.3%	-
31-Oct-1997	Pericom Semiconductor Corp	31.9%	24.8%	0.7%	0	-69.5%	-58.1%	-53.4%	-72.7%
4-Nov-1997	Young Innovations Inc	62.1%	31.3%	-	0	-	-9.5%	2.3%	3.7%
4-Nov-1997	Bayard Drilling Technologies	18.1%	49.2%	0.0%	0	27.0%	-17.0%	-	-
4-Nov-1997	Dental Care Alliance Inc	32.4%	33.1%	0.0%	0	-78.9%	88.8%	-	-
6-Nov-1997	Precision Auto Care Inc	55.0%	45.0%	0.0%	-	-6.8%	-58.7%	-161.6%	-101.3%
6-Nov-1997	American Skiing Co	17.9%	82.1%	0.4%	0	99.7%	121.0%	-3.3%	1.0%
7-Nov-1997	Bright Horizons Holdings Inc	17.4%	51.3%	0.0%	0	27.8%	-	-	-
11-Nov-1997	Novacare Employee Services Inc	2.1%	19.2%	-	0	-	-	-	-
12-Nov-1997	Hybrid Networks Inc	30.1%	24.6%	0.0%	0	64.4%	-68.3%	24.9%	-103.9%
13-Nov-1997	SportsLine USA Inc	50.6%	24.6%	0.0%	1	13.3%	62.2%	71.6%	61.4%
14-Nov-1997	Friendly Ice Cream Corp	13.1%	61.6%	0.5%	0	-6.6%	-4.9%	0.4%	-2.7%
17-Nov-1997	Landmark Systems Corp	1.2%	42.9%	2.0%	0	306.6%	354.4%	248.9%	146.6%
18-Nov-1997	Noble International Ltd	47.3%	45.7%	2.8%	0	-51.9%	11.1%	26.8%	32.2%
19-Nov-1997	Progenics Pharmaceuticals Inc	44.5%	21.1%	0.5%	0	106.6%	100.4%	100.4%	96.5%
19-Nov-1997	InterVU Inc	36.0%	23.4%	-	1	70.8%	52.3%	77.1%	-
19-Nov-1997	Preview Travel Inc	34.7%	22.2%	0.0%	1	24.1%	-28.2%	-	-
20-Nov-1997	Oyo Geospace	60.0%	40.0%	0.9%	0	192.9%	71.9%	-34.2%	-71.0%
20-Nov-1997	Denali Inc	39.4%	47.0%	2.1%	0	114.1%	127.1%	121.7%	34.0%
21-Nov-1997	Applied Films Corp	42.3%	14.7%	-0.4%	0	303.4%	336.5%	19.7%	-60.7%
21-Nov-1997	RealNetworks Inc	74.1%	10.8%	0.0%	1	24.6%	55.0%	110.4%	-54.2%
21-Nov-1997	HomeUSA Inc	56.6%	-	-	0	-75.9%	-	-	-
24-Nov-1997	Bioanalytical Systems Inc	56.8%	32.2%	-0.8%	0	10.8%	-27.4%	-15.3%	-87.4%
24-Nov-1997	Motor Cargo Industries	61.4%	32.2%	0.5%	0	17.5%	8.8%	-7.3%	-1.8%
24-Nov-1997	Holt's Cigar Holding Inc	70.0%	30.0%	0.0%	0	-51.7%	-65.0%	-70.4%	-
24-Nov-1997	Let's Talk Cellular & Wireless	72.1%	27.9%	0.0%	0	-43.0%	8.7%	-	-
25-Nov-1997	GameTech International Inc	41.7%	35.5%	0.1%	0	32.4%	-59.2%	-30.2%	-24.7%
25-Nov-1997	Meadowcraft Inc	83.2%	16.8%	-	0	-	31.3%	-	-
26-Nov-1997	Nanophase Technologies Corp	3.6%	33.3%	19.5%	0	92.0%	78.2%	77.8%	78.7%
26-Nov-1997	Brass Eagle Inc	63.0%	31.0%	0.0%	0	-21.3%	54.5%	22.1%	-19.1%
1-Dec-1997	US Vision Inc	47.9%	33.4%	0.6%	0	9.9%	-5.3%	-54.6%	-18.0%
2-Dec-1997	MPW Industrial Services Group	63.8%	35.3%	0.2%	0	-4.3%	-24.1%	-38.8%	-55.9%
3-Dec-1997	ImageMAX Inc	20.7%	55.9%	-	-	-	-	-	-
4-Dec-1997	Midway Airlines Corp	4.5%	28.6%	0.0%	0	219.0%	261.3%	203.7%	89.9%
5-Dec-1997	USWeb Corp	48.2%	21.9%	0.0%	1	70.0%	86.1%	-	-
8-Dec-1997	Broughton Foods Co	45.0%	26.1%	0.0%	0	-32.1%	-7.0%	-	-
9-Dec-1997	ICOS Vision Systems Corp	66.0%	21.3%	1.1%	0	-40.4%	-66.9%	-45.8%	28.1%
10-Dec-1997	Thermo Vision(Thermo Inst)	80.0%	14.0%	0.0%	0	-0.5%	-28.1%	-	-
11-Dec-1997	Focal Inc	46.8%	19.4%	0.6%	0	99.4%	34.8%	-27.4%	-112.0%
12-Dec-1997	FlexiInternational Software	62.8%	18.5%	0.4%	0	93.3%	49.1%	-4.6%	116.7%
12-Dec-1997	Power Integrations Inc	8.9%	71.5%	0.0%	0	154.6%	293.6%	355.0%	252.2%
16-Dec-1997	CrossKeys Systems Corp	28.2%	16.1%	0.0%	0	40.9%	-54.3%	-212.7%	-
17-Dec-1997	IC Isaacs & Co Inc	38.5%	48.1%	2.8%	0	-12.4%	-170.9%	-160.0%	-214.3%
17-Dec-1997	Tier Technologies Inc	76.6%	16.7%	0.6%	1	-57.1%	-65.6%	-52.1%	-50.9%
17-Dec-1997	Information Advantage Software	49.3%	21.6%	0.0%	0	87.9%	110.1%	-	-
18-Dec-1997	Made2Manage Systems Inc	36.8%	50.5%	0.4%	0	-58.7%	-21.0%	-130.1%	-163.3%
18-Dec-1997	Lecg Inc	54.1%	34.7%	0.0%	0	-55.0%	-	-	-
19-Dec-1997	Big City Radio Inc	71.3%	28.7%	0.4%	0	48.1%	69.0%	63.9%	58.5%
9-Jan-1998	Diversified Senior Services	52.7%	45.4%	1.5%	0	96.0%	107.8%	97.3%	-
15-Jan-1998	800 Travel Systems Inc	23.3%	22.6%	2.3%	0	428.2%	302.0%	-455.1%	-
22-Jan-1998	Standard Automotive Corp	42.0%	46.2%	0.0%	0	170.7%	199.7%	15.0%	-
28-Jan-1998	Noga Electro Mechanical	68.5%	31.5%	-	0	-	-	-	-
29-Jan-1998	Hawker Pacific Aerospace	24.5%	43.8%	0.3%	0	-81.1%	-45.4%	-65.4%	-100.6%
29-Jan-1998	Mercury Computer Systems Inc	2.9%	27.5%	2.2%	0	-2.2%	4.4%	19.8%	12.4%
30-Jan-1998	AquaPenn Spring Water Co Inc	27.5%	57.7%	-	0	-	-	-	-

4-Feb-1998	Vysis Inc(BP Amoco PLC)	2.1%	38.2%	0.0%	0	44.3%	42.4%	104.6%	-
4-Feb-1998	BMJ Medical Management Inc	29.2%	-73.4%	-	-	-	-	-	-
6-Feb-1998	Jinpan International Ltd	54.9%	37.2%	-	0	-57.9%	-49.4%	-47.7%	-46.6%
6-Feb-1998	ACSYS Inc	50.2%	23.4%	0.0%	0	-23.3%	-5.2%	-	-
12-Feb-1998	Balanced Care Corp	29.5%	43.7%	0.5%	0	206.5%	20.6%	-30.5%	-117.9%
12-Feb-1998	Astropower Inc	41.7%	32.4%	2.4%	1	-31.9%	-41.9%	-38.2%	-49.7%
12-Feb-1998	Ambient Corp	20.1%	17.6%	-	-	-	-	-	-
13-Feb-1998	Symphonix Devices Inc	57.7%	19.3%	-	0	17.6%	-44.2%	18.3%	-84.3%
13-Feb-1998	First Consulting Group Inc	34.2%	27.8%	0.0%	0	-10.1%	-23.1%	-121.9%	-69.6%
17-Feb-1998	Steelcase Inc	54.1%	2.2%	1.1%	0	-7.9%	-35.5%	-26.1%	-65.2%
20-Feb-1998	Decoma International	83.0%	17.0%	4.1%	0	-32.5%	-27.0%	0.0%	-5.7%
20-Feb-1998	Nutraceutical Intl Corp	56.7%	27.6%	0.9%	0	-14.4%	-9.0%	-20.7%	-8.3%
24-Feb-1998	Shoe Pavilion Inc	69.2%	30.8%	0.1%	0	-19.6%	-43.0%	-53.5%	-46.0%
27-Feb-1998	Compass International Svcs	49.4%	37.1%	0.0%	0	-74.3%	-	-	-
3-Mar-1998	PC Connection Inc	79.8%	20.2%	5.8%	0	53.7%	87.3%	127.2%	-15.0%
3-Mar-1998	SurModics Inc	24.3%	28.5%	0.4%	0	-16.5%	26.8%	64.8%	94.8%
4-Mar-1998	Extended Systems Inc	32.3%	0.9%	0.3%	0	-28.0%	-67.4%	-112.1%	-303.9%
4-Mar-1998	ViaGrafix Corp	53.9%	36.4%	0.0%	0	-83.7%	-	-	-
12-Mar-1998	CSK Auto Inc	36.3%	28.8%	2.1%	1	32.3%	14.8%	12.7%	-3.9%
13-Mar-1998	Fundtech Ltd	49.0%	27.7%	0.8%	1	153.7%	-109.8%	-105.6%	-403.8%
13-Mar-1998	Command Systems Inc	65.0%	35.0%	0.0%	0	-98.7%	-197.1%	-	-
13-Mar-1998	LJL Biosystems Inc	55.6%	19.4%	6.4%	0	-63.6%	-47.7%	-	-
13-Mar-1998	Grand Court Lifestyles Inc	84.3%	15.7%	0.0%	0	-57.0%	-	-	-
13-Mar-1998	Integrated Sensor Solutions In	33.3%	34.1%	0.0%	0	-880.0%	-	-	-
1-Apr-1998	Frisby Technologies Inc	58.2%	32.7%	-	0	50.1%	0.0%	11.0%	7.3%
1-Apr-1998	Rollerball International Inc	28.9%	41.0%	2.5%	0	-42.6%	-21.8%	-	-
2-Apr-1998	Omega Protein Corp	64.1%	35.9%	1.1%	0	3.9%	-86.7%	-97.2%	-60.5%
2-Apr-1998	Happy Kids Inc	77.9%	22.1%	0.0%	0	88.8%	-	-	-
8-Apr-1998	Schein Pharmaceutical Inc	60.7%	8.9%	0.0%	0	35.9%	3.8%	-	-
14-Apr-1998	Horizon Medical Products Inc	51.5%	21.5%	0.6%	0	-42.3%	-42.2%	-122.2%	-97.0%
15-Apr-1998	LJ International Inc	63.2%	24.4%	-0.3%	0	1.7%	-22.0%	-41.1%	-87.4%
16-Apr-1998	BrightStar Information	22.7%	65.4%	-2.8%	0	-72.2%	-102.6%	-391.4%	-102.7%
22-Apr-1998	Cunningham Graphics Intl Inc	55.4%	44.2%	0.0%	0	-37.0%	-51.2%	-	-
23-Apr-1998	Iomed Inc	2.7%	50.9%	0.0%	0	-109.5%	-110.8%	-148.9%	-428.2%
23-Apr-1998	US LEC Corp	64.6%	20.8%	0.0%	0	189.9%	197.6%	71.0%	53.1%
24-Apr-1998	Industrial Rubber Products Inc	70.0%	30.0%	-2.8%	-	-95.3%	-107.2%	-78.6%	-79.8%
28-Apr-1998	Provant Inc	50.9%	26.2%	-	1	-	-	-	-
5-May-1998	Caliber Learning Network Inc	29.9%	40.0%	0.0%	0	54.5%	67.1%	-1.5%	-
6-May-1998	Innotrac Corp	72.5%	27.5%	3.9%	1	-28.4%	-41.2%	-91.6%	-69.5%
7-May-1998	Sherwood Brands Inc	58.1%	41.9%	-0.2%	0	104.0%	-306.1%	-76.4%	368.5%
7-May-1998	ATG Inc	20.4%	13.9%	0.0%	0	159.8%	119.3%	-159.3%	-
7-May-1998	Genesis Direct Inc	9.3%	66.9%	0.0%	0	-18.6%	-	-	-
8-May-1998	CombiChem	30.8%	16.8%	0.0%	0	61.0%	-	-	-
11-May-1998	Sauer Inc	62.4%	34.1%	1.3%	0	-6.2%	-15.9%	-30.1%	-41.5%
11-May-1998	Verio Inc	1.6%	31.2%	0.0%	0	60.2%	96.0%	-	-
12-May-1998	Hawk Corp	35.3%	56.1%	0.8%	0	15.6%	-18.4%	-15.2%	-46.6%
13-May-1998	Ursus Telecom Corp	72.0%	28.0%	0.0%	0	-83.4%	-159.0%	-	-
18-May-1998	L-3 Communications Hldg Inc	13.8%	22.5%	29.3%	1	-14.5%	-2.4%	-6.7%	-16.1%
19-May-1998	Blue Rhino Corp	47.8%	37.7%	1.4%	0	113.4%	143.1%	127.9%	141.5%
20-May-1998	Carreker-Antinori Inc	62.9%	29.5%	0.0%	0	-53.0%	-42.1%	-44.2%	-85.8%
22-May-1998	Atlantic Data Services Inc	71.3%	19.7%	0.6%	0	-52.9%	-103.7%	-103.8%	-106.3%
28-May-1998	American Aircarriers Support	67.2%	32.8%	0.0%	0	-63.4%	-70.7%	-	-
28-May-1998	RiboGene Inc	2.0%	74.1%	-	0	67.5%	-	-	-
2-Jun-1998	Ultimate Software Group Inc	22.5%	20.2%	0.6%	0	95.5%	108.4%	86.1%	86.3%
2-Jun-1998	Balance Bar Co	59.1%	11.4%	0.0%	0	23.2%	-	-	-
3-Jun-1998	MarineMax Inc	52.8%	35.8%	0.0%	0	-41.4%	-35.1%	-19.9%	-47.9%
5-Jun-1998	Rainbow Rentals	62.0%	38.0%	0.6%	0	-63.3%	-68.3%	-75.5%	-86.6%
9-Jun-1998	Navigant International Inc	3.0%	16.7%	1.2%	0	10.1%	30.3%	45.4%	-7.9%
10-Jun-1998	Gerber Childrenswear(Gerber)	48.2%	47.0%	3.5%	0	50.1%	31.6%	24.9%	0.0%
10-Jun-1998	Conrad Industries Inc	48.0%	27.7%	1.1%	0	13.1%	1.8%	23.4%	16.7%
10-Jun-1998	Aztec Technology Partners Inc	1.9%	20.8%	-	0	-	-55.5%	-165.6%	-
10-Jun-1998	MasterGraphics Inc	54.6%	38.0%	0.0%	0	691.6%	412.3%	-	-
11-Jun-1998	Hastings Entertainment Inc	49.1%	28.9%	1.6%	0	61.0%	-21.9%	-27.7%	-16.2%
11-Jun-1998	NetGravity Inc	52.1%	21.1%	0.0%	1	50.3%	-	-	-
16-Jun-1998	bebe stores inc	89.9%	10.1%	0.0%	0	36.2%	26.8%	4.4%	-17.3%
16-Jun-1998	Showpower Inc	56.8%	36.0%	0.0%	0	-72.3%	-	-	-
17-Jun-1998	Global Imaging Systems Inc	54.7%	34.2%	10.7%	0	0.0%	16.7%	25.7%	34.4%
17-Jun-1998	Gildan Activewear Inc	30.6%	-	-	1	-4.1%	-6.3%	13.8%	-22.4%
19-Jun-1998	Cognizant Tech Solutions Corp	95.3%	4.5%	0.0%	0	13.1%	49.6%	46.8%	52.0%
19-Jun-1998	Interplay Entertainment Corp	62.2%	34.3%	-	0	-	-	-	-
25-Jun-1998	Technisource Inc	70.7%	29.3%	0.0%	0	-52.6%	-66.0%	-74.8%	-87.8%
26-Jun-1998	ACLN Ltd	77.9%	14.7%	-	0	-28.5%	-43.3%	-39.0%	-
29-Jun-1998	MIPS Technologies Inc	85.2%	14.8%	-0.6%	1	200.7%	137.5%	124.4%	112.7%
29-Jun-1998	LMI Aerospace Inc	53.1%	38.8%	0.5%	0	-31.5%	-82.4%	-86.5%	-27.5%
29-Jun-1998	Celestica Inc	2.2%	47.6%	-	1	25.1%	36.8%	17.8%	52.9%
30-Jun-1998	Citadel Communications Corp	27.7%	62.4%	0.0%	1	30.2%	24.4%	-5.1%	-
30-Jun-1998	Allegiance Telecom Inc	28.7%	19.8%	-	1	-	-	-	-
2-Jul-1998	Horizon Organic Holding Corp	32.2%	42.9%	0.9%	0	204.8%	208.0%	207.0%	354.5%
2-Jul-1998	Collateral Therapeutics Inc	53.7%	20.8%	0.7%	0	-84.2%	-30.9%	-230.4%	-478.2%
2-Jul-1998	Abgenix Inc	53.4%	22.7%	8.0%	1	-22.5%	84.2%	93.8%	82.5%
9-Jul-1998	Cash Technologies Inc	48.4%	41.6%	-7.0%	0	-76.8%	-147.5%	-30.2%	3.9%
22-Jul-1998	Natrol Inc	53.4%	26.4%	0.5%	0	-51.6%	-55.2%	-107.7%	-80.5%
22-Jul-1998	Interactive Magic Inc	60.2%	25.8%	-1.1%	0	-223.3%	-455.8%	-144.6%	-295.5%
23-Jul-1998	Cost-U-Less Inc	27.2%	40.5%	0.0%	0	0.7%	3.9%	-57.9%	3.7%
24-Jul-1998	Bindview Development Corp	57.7%	19.1%	0.0%	1	-59.8%	-40.5%	-87.5%	-171.4%

27-Jul-1998	Central European Distn Corp	45.1%	52.5%	0.4%	0	12.4%	-9.0%	-36.5%	-9.8%
27-Jul-1998	Echelon Corp	47.3%	14.5%	0.0%	0	70.9%	81.7%	97.2%	102.8%
28-Jul-1998	Electronics Boutique Holdings	75.2%	24.8%	1.6%	1	23.0%	-11.4%	-33.4%	-27.9%
28-Jul-1998	Hometown Auto Retailers Inc	38.4%	31.0%	1.1%	0	-47.2%	4.7%	-144.4%	30.2%
29-Jul-1998	Giga Information Group Inc	35.7%	30.5%	0.0%	0	63.7%	62.5%	87.4%	110.6%
29-Jul-1998	Team Communications Group Inc	25.0%	51.0%	-	0	162.8%	-1.2%	-9.5%	-
4-Aug-1998	Softworks Inc	72.8%	21.1%	0.0%	1	30.0%	-	-	-
6-Aug-1998	Information Holdings Inc	74.8%	25.2%	0.0%	1	-33.7%	-25.9%	-63.2%	-42.6%
7-Aug-1998	NationsRent Inc	37.8%	25.9%	-	0	-	-	-	-
20-Aug-1998	New American Healthcare Corp	72.4%	23.7%	0.0%	0	37.6%	-	-	-
5-Oct-1998	Dectron Internationale Inc	60.9%	36.4%	-0.8%	0	-19.4%	-20.4%	-35.8%	-47.5%
12-Nov-1998	Network-1 Sec Solutions Inc	37.5%	31.1%	-1.2%	0	30.0%	-99.8%	-26.1%	-14.6%
12-Nov-1998	theglobe.com Inc	64.1%	24.9%	3.9%	1	-97.2%	-7.7%	-202.6%	-1053.8%
12-Nov-1998	Curtis International Ltd	68.2%	28.8%	0.0%	0	49.4%	63.4%	-	-
3-Dec-1998	uBID Inc	1.2%	20.0%	13.5%	1	83.3%	58.1%	-	-
4-Dec-1998	Select Comfort Corp	45.7%	15.2%	1.0%	0	48.3%	-179.2%	-354.5%	-107.2%
4-Dec-1998	PF Chang's China Bistro Inc	50.6%	40.9%	0.8%	0	65.7%	401.6%	524.3%	499.0%
10-Dec-1998	Internet America Inc	38.7%	47.3%	-1.8%	0	321.2%	88.4%	95.0%	-
10-Dec-1998	AboveNet Communications Inc	29.6%	33.3%	0.0%	1	75.3%	-	-	-
16-Dec-1998	Concur Tech Inc	67.6%	16.5%	0.4%	1	-15.3%	29.4%	-107.1%	-74.8%
17-Dec-1998	Artificial Life Inc	70.8%	16.8%	0.3%	0	-902.1%	-3734.9%	-7117.7%	-23421.7%
21-Jan-1999	Covad Communications Group Inc	71.3%	19.5%	0.0%	1	52.5%	-55.5%	-97.9%	26.2%
22-Jan-1999	Allaire Corp	50.5%	23.5%	0.0%	1	97.9%	-	-	-
29-Jan-1999	Packaged Ice Inc	15.4%	61.8%	0.3%	0	33.2%	36.6%	23.4%	69.6%
4-Feb-1999	Modem Media. Poppe Tyson Inc	48.8%	50.5%	0.5%	0	2098.2%	1254.1%	1860.6%	1844.9%
4-Feb-1999	AMRI	52.6%	19.7%	1.7%	1	-62.6%	-78.6%	-73.4%	-70.4%
4-Feb-1999	Del Monte Foods Co	49.7%	36.9%	0.0%	0	28.7%	20.2%	0.1%	-44.9%
5-Feb-1999	Vialog Corp	8.7%	51.9%	0.0%	0	-5.0%	10.9%	-	-
10-Feb-1999	Korn/Ferry International	38.4%	28.0%	1.5%	0	1.1%	26.9%	-90.5%	-63.4%
11-Feb-1999	Catapult Communications Corp	68.0%	26.5%	5.1%	0	-33.6%	-68.7%	-52.4%	-73.4%
11-Feb-1999	SERENA Software Inc	65.2%	17.6%	0.0%	0	-31.4%	-17.1%	-29.9%	-37.9%
12-Feb-1999	Bottomline Technologies Inc	37.5%	35.8%	0.0%	0	-61.3%	-100.6%	-111.9%	-106.6%
19-Feb-1999	WebTrends Corp	68.9%	31.0%	0.0%	-	-83.5%	-23.4%	-	-
5-Mar-1999	Neon Systems Inc	60.9%	29.0%	2.5%	0	42.9%	-327.6%	-263.4%	-368.2%
8-Mar-1999	Argosy Education Group Inc	96.1%	3.9%	0.0%	0	47.6%	54.9%	-63.0%	-
12-Mar-1999	Eagle Supply Group Inc	66.9%	29.6%	-	0	-	-	-	-
16-Mar-1999	FlashNet Communications Inc	33.5%	23.5%	0.0%	0	-15.6%	-	-	-
17-Mar-1999	Multex.com Inc	51.2%	13.9%	0.7%	0	0.4%	110.4%	100.8%	131.9%
19-Mar-1999	Cheap Tickets Inc	81.6%	16.6%	0.0%	1	-59.8%	-51.4%	-	-
22-Mar-1999	Autoweb.com Inc	73.3%	19.7%	0.0%	0	82.4%	61.6%	-	-
29-Mar-1999	MKS Instruments Inc	72.6%	26.7%	0.0%	0	21.2%	95.0%	-110.5%	-102.9%
6-Apr-1999	Claimsnet.com Inc	36.5%	39.4%	-4.9%	0	67.0%	-8.2%	-23.0%	-101.5%
7-Apr-1999	Optibase Ltd	17.8%	43.3%	0.7%	1	-40.0%	-94.1%	-217.2%	-156.4%
8-Apr-1999	Trex Co Inc	63.2%	29.8%	-0.2%	0	18.5%	-10.4%	-49.3%	-12.6%
8-Apr-1999	USInternetworking Inc	68.0%	14.8%	0.0%	1	4.5%	-1.5%	-	-
8-Apr-1999	Ravenswood Winery Inc	48.5%	21.9%	0.0%	0	20.0%	56.0%	-	-
8-Apr-1999	Value America Inc	77.7%	11.7%	0.0%	0	-23.9%	-	-	-
8-Apr-1999	Hugoton Royalty Trust	62.5%	37.5%	-	-	-	-	-	-
14-Apr-1999	Sagent Technology Inc	48.5%	20.5%	1.5%	0	92.3%	44.0%	23.6%	53.6%
15-Apr-1999	WorldGate Communications Inc	43.5%	24.1%	-	0	-	88.0%	82.0%	77.5%
15-Apr-1999	Accredo Health Inc	63.5%	34.0%	0.0%	1	4.1%	10.6%	15.6%	-32.7%
21-Apr-1999	Buca Inc	34.6%	30.8%	0.4%	1	935.2%	2004.1%	1882.8%	1856.9%
22-Apr-1999	AremisSoft Corp	39.7%	24.7%	0.0%	0	-14.0%	-19.3%	-	-
23-Apr-1999	Launch Media Inc	18.3%	35.1%	0.0%	0	72.5%	50.8%	-	-
23-Apr-1999	Statia Terminals Group NV	23.9%	66.7%	-	0	-	-	-	-
28-Apr-1999	Informatica Corp	43.7%	18.5%	0.0%	1	103.5%	104.9%	96.4%	103.4%
29-Apr-1999	Marimba Inc	40.8%	17.4%	5.1%	0	83.0%	59.3%	49.5%	62.3%
30-Apr-1999	AppliedTheory Corp	77.7%	21.1%	0.0%	0	56.3%	38.0%	50.0%	-
4-May-1999	MapQuest.com Inc	82.0%	13.1%	0.0%	0	-28.5%	-	-	-
5-May-1999	Silknet Software Inc	56.3%	22.9%	0.0%	0	70.1%	-	-	-
5-May-1999	COMPS Inc	64.2%	35.3%	-	-	-	-	-	-
6-May-1999	Latitude Communications Inc	58.4%	22.3%	0.0%	0	-62.4%	-76.9%	-223.6%	-167.3%
7-May-1999	AdForce Inc	30.0%	22.1%	-	-	-	-	-	-
11-May-1999	WESCO International Inc	53.6%	24.8%	1.7%	0	9.5%	5.9%	-15.4%	-26.4%
11-May-1999	CareerBuilder Inc	58.7%	19.4%	0.0%	0	81.4%	-	-	-
12-May-1999	BiznessOnline.com Inc	47.8%	42.1%	-	0	-	-	-	-
18-May-1999	Nextera Enterprises Inc	3.1%	38.0%	0.2%	0	438.1%	174.3%	251.1%	468.4%
19-May-1999	OneSource Information Services	67.6%	29.7%	1.4%	0	43.1%	128.1%	263.2%	231.3%
20-May-1999	@plan.inc	79.0%	20.0%	0.0%	0	78.5%	-	-	-
21-May-1999	Rubio's Restaurant Inc	55.9%	36.7%	-0.1%	0	6.5%	-37.6%	-205.3%	107.2%
21-May-1999	Fashionmall.com	50.2%	39.0%	0.0%	0	-606.9%	-729.0%	-299.1%	-
21-May-1999	David's Bridal Inc	29.1%	41.3%	0.0%	0	23.6%	-	-	-
21-May-1999	Newgen Results Corporation	62.1%	36.0%	0.0%	0	228.9%	-	-	-
25-May-1999	US Concrete Inc	46.5%	-	-	0	-62.8%	-49.6%	-56.7%	-53.4%
26-May-1999	Inet Technologies Inc	84.5%	11.9%	3.9%	0	-44.5%	-39.4%	-95.9%	-83.6%
26-May-1999	ZipLink Inc	58.3%	27.0%	-	0	-	-	-	-
28-May-1999	AudioCodes Ltd	76.0%	19.7%	0.0%	1	-21.8%	29.7%	-177.4%	-225.3%
3-Jun-1999	Zany Brainy Inc	34.2%	20.1%	-	0	-	-139.5%	-	-
4-Jun-1999	F5 Networks Inc	37.1%	15.7%	0.0%	1	67.8%	138.9%	61.2%	98.4%
4-Jun-1999	Network Access Solutions Corp	71.7%	15.9%	0.0%	0	-119.7%	-257.5%	-277.5%	-
8-Jun-1999	Drkoop.com Inc	58.0%	38.3%	0.0%	0	97.6%	80.7%	-	-
16-Jun-1999	SBA Communications Corp	88.4%	-1.5%	-	1	255.3%	340.6%	386.6%	524.5%
17-Jun-1999	Streamline.com Inc	61.7%	24.4%	0.0%	0	20.5%	-	-	-
22-Jun-1999	Ramp Networks Inc	32.8%	19.4%	0.0%	0	84.3%	-	-	-
23-Jun-1999	Software.com Inc	34.7%	11.9%	0.0%	0	76.7%	-	-	-

28-Jun-1999	Women First Healthcare Inc	41.3%	26.1%	-	0	-	-44.7%	96.1%	105.3%
29-Jun-1999	VaxGen Inc	26.0%	28.8%	-	0	35.9%	-30.9%	-6.7%	-148.8%
29-Jun-1999	Digital Island Inc	10.6%	17.2%	0.0%	1	36.5%	90.1%	-	-
29-Jun-1999	nFront Inc	69.9%	27.5%	0.0%	0	-257.4%	-	-	-
30-Jun-1999	ID Systems Inc	43.4%	34.8%	0.2%	0	-97.9%	-277.2%	-287.5%	-140.6%
1-Jul-1999	Primus Knowledge Solutions Inc	33.2%	28.9%	3.7%	0	76.8%	68.7%	30.3%	65.8%
1-Jul-1999	Clarent Corp	58.0%	14.9%	0.0%	1	57.3%	56.3%	-	-
12-Jul-1999	Keith Cos Inc	39.0%	29.5%	0.2%	1	-34.7%	-15.4%	-52.7%	-46.6%
14-Jul-1999	Efficient Networks Inc	51.8%	10.8%	0.0%	1	17.5%	90.9%	-	-
16-Jul-1999	Paradyne Networks Inc	79.6%	19.2%	1.5%	1	92.1%	2.2%	-32.8%	-98.9%
19-Jul-1999	Gadzoox Networks Inc	63.9%	12.0%	0.0%	0	78.2%	-239.1%	-289.5%	-
20-Jul-1999	ATG	60.4%	16.8%	0.0%	1	74.1%	115.6%	-19.8%	82.6%
20-Jul-1999	Be Inc	36.3%	16.0%	0.0%	0	34.6%	-16.2%	-31.5%	-
20-Jul-1999	MP3.COM Inc	68.6%	18.7%	0.0%	0	76.2%	43.2%	-	-
21-Jul-1999	Scientific Learning Corp	65.2%	20.5%	0.6%	0	58.6%	-10.9%	36.7%	74.8%
21-Jul-1999	Voyager.Net Inc	68.1%	28.6%	0.0%	0	240.4%	-	-	-
22-Jul-1999	Tanning Technology Corp	39.7%	19.3%	8.8%	0	-77.0%	-109.8%	-220.7%	-320.5%
28-Jul-1999	Packeteer Inc	54.0%	14.7%	0.0%	0	85.0%	92.4%	91.6%	105.4%
28-Jul-1999	American National Can Group	45.5%	-	-	0	31.7%	-	-	-
29-Jul-1999	N2H2 Inc	44.0%	23.6%	0.0%	0	90.8%	31.9%	-39.1%	48.9%
29-Jul-1999	NetIQ Corp	35.2%	20.4%	1.3%	1	86.2%	100.9%	103.3%	111.9%
29-Jul-1999	Aironet Wireless Communication	12.3%	25.0%	-	-	-	-	-	-
30-Jul-1999	WatchGuard Technologies Inc	72.7%	18.9%	0.9%	1	70.2%	93.5%	84.7%	93.8%
30-Jul-1999	Net2Phone Inc	77.2%	11.6%	0.4%	1	-7.9%	42.8%	26.6%	-10.7%
2-Aug-1999	BigStar Entertainment Inc	37.4%	27.0%	1.2%	0	70.8%	6.6%	32.0%	-
2-Aug-1999	SplitRock Services Inc	56.8%	15.7%	0.0%	0	-47.9%	-	-	-
3-Aug-1999	Fairchild Semiconductor Intl	53.6%	34.6%	-	1	-	124.9%	-4.7%	-4.4%
4-Aug-1999	Pivotal Corp	55.6%	18.0%	-0.3%	1	-361.9%	-81.5%	-269.9%	-1281.6%
4-Aug-1999	Mission Critical Software Inc	44.6%	23.1%	0.0%	1	179.3%	-	-	-
5-Aug-1999	Cobalt Group Inc	63.7%	31.3%	0.0%	0	57.1%	49.5%	-	-
5-Aug-1999	Interactive Pictures Corp	11.3%	25.2%	-	-	-	-	-	-
6-Aug-1999	Datalink Corp	54.8%	30.8%	0.5%	0	-6.6%	-32.7%	-66.1%	-126.2%
10-Aug-1999	Braun Consulting Inc	75.2%	24.2%	-0.6%	1	-18.3%	-119.2%	-91.8%	-259.5%
12-Aug-1999	NetScout Systems Inc	50.1%	11.5%	6.4%	0	-36.0%	-65.5%	-98.7%	-98.6%
12-Aug-1999	Quest Software Inc	82.3%	11.5%	0.0%	1	-76.7%	-88.6%	-85.7%	-76.9%
18-Aug-1999	NovaMed Eyecare Inc	40.4%	21.8%	0.0%	0	-0.8%	16.5%	-4.9%	-3.7%
18-Aug-1999	Netro Corp	49.7%	11.1%	0.0%	1	58.8%	93.5%	73.1%	69.9%
18-Aug-1999	Wink Communications Inc	30.9%	17.2%	-	0	-	53.6%	-20.0%	-
19-Aug-1999	MyPoints.com Inc	31.0%	20.1%	0.0%	1	-40.9%	0.7%	-	-
20-Aug-1999	Lionbridge Technologies Inc	74.8%	20.9%	0.2%	0	-733.3%	-244.4%	-733.7%	359.1%
26-Aug-1999	ImageX.com Inc	38.0%	18.3%	-0.2%	1	84.7%	91.4%	88.3%	84.5%
15-Sep-1999	Leisure Time Casino's &Resorts	59.4%	9.0%	0.0%	0	200.3%	-782.4%	-	-
15-Sep-1999	NetSilicon Inc	60.4%	39.6%	0.0%	0	475.0%	152.4%	-	-
15-Sep-1999	Garden.com Inc	51.6%	23.3%	0.0%	0	-235.7%	-294.4%	-	-
22-Sep-1999	Interactive Intelligence Inc	72.4%	19.8%	0.5%	0	77.3%	88.6%	84.8%	92.5%
22-Sep-1999	Broadbase Software Inc	47.0%	11.3%	0.0%	1	59.0%	93.4%	-	-
22-Sep-1999	Cybergold Inc	64.1%	24.6%	0.0%	0	80.9%	-	-	-
23-Sep-1999	Jore Corp	65.4%	20.0%	0.0%	0	-48.6%	-118.4%	-	-
23-Sep-1999	Alteon Websystems Inc	37.6%	10.5%	0.0%	1	48.0%	97.3%	-	-
24-Sep-1999	Interspeed Inc	4.5%	18.3%	-	0	88.3%	53.2%	-	-
27-Sep-1999	Medscape Inc	29.4%	15.3%	0.0%	0	35.7%	-	-	-
28-Sep-1999	FTD.COM INC	57.6%	-	-	0	79.8%	-	110.1%	-
29-Sep-1999	NetSolve Inc	58.2%	23.1%	0.0%	0	-43.0%	-20.3%	-24.8%	-19.8%
29-Sep-1999	Telemate Net Software Inc	41.7%	41.4%	0.0%	0	83.6%	-50.6%	-	-
30-Sep-1999	Digital Insight Corp	41.4%	24.6%	0.0%	1	80.4%	81.1%	96.9%	116.4%
1-Oct-1999	Daleen Technologies Inc	55.5%	21.9%	4.9%	0	94.4%	74.2%	-27.5%	66.7%
1-Oct-1999	Vixel Corp	37.9%	18.0%	5.9%	0	63.5%	46.3%	23.9%	38.5%
4-Oct-1999	Altigen Communications Inc	3.9%	25.0%	-1.0%	0	-49.9%	25.6%	-76.5%	-9.8%
4-Oct-1999	XM Satellite Radio Hldgs Inc	1.2%	-	-	-	-	37.8%	-73.9%	-181.1%
5-Oct-1999	Breakaway Solutions Inc	71.5%	11.8%	0.0%	0	17.2%	-341.3%	-	-
6-Oct-1999	SmartDisk Corp	54.4%	19.6%	2.7%	0	114.6%	98.5%	36.6%	-44.2%
7-Oct-1999	TriZetto Group Inc	37.0%	21.3%	-	1	-503.4%	-793.2%	83.8%	469.9%
8-Oct-1999	Vitaminshoppe.com Inc	77.4%	22.2%	0.0%	0	88.7%	68.9%	-	-
8-Oct-1999	Jupiter Communications Inc	26.9%	21.6%	0.0%	0	98.9%	-	-	-
14-Oct-1999	iGo Corp	45.2%	24.7%	0.0%	0	29.0%	-20.9%	-158.9%	-
14-Oct-1999	Women.com Networks	16.2%	13.8%	-	0	-	-21.3%	-	-
14-Oct-1999	ReSourcePhoenix.com	11.0%	88.4%	0.0%	0	77.8%	-	-	-
14-Oct-1999	QuickLogic Corp	6.5%	18.0%	-	1	-	-	-	-
15-Oct-1999	Cysive Inc	74.2%	25.6%	0.0%	1	-159.6%	-121.2%	-153.3%	-156.4%
18-Oct-1999	PCTEL Inc	27.1%	28.3%	0.0%	1	-33.3%	-66.9%	-256.5%	-66.1%
18-Oct-1999	World Wrestling Federation	98.3%	1.7%	-	0	-	-50.9%	-75.1%	-79.9%
19-Oct-1999	Crossroads Systems Inc	48.6%	14.6%	0.0%	0	92.8%	50.6%	43.5%	57.2%
20-Oct-1999	Charlotte Russe Holding Inc	6.8%	16.9%	1.2%	1	41.4%	54.7%	29.0%	17.4%
22-Oct-1999	MCK Communications Inc	62.6%	18.9%	0.0%	1	-2514.1%	-3926.3%	-12602.5%	-3197.9%
26-Oct-1999	JNI Corp	3.6%	12.2%	0.0%	1	-58.6%	-7.5%	-153.9%	-221.6%
26-Oct-1999	ECtel Ltd	77.5%	22.5%	0.0%	0	-55.2%	-49.2%	-50.1%	-42.2%
26-Oct-1999	Viador Inc	19.3%	23.1%	0.0%	0	69.0%	12.3%	-552.8%	-
26-Oct-1999	PentaStar Communications Inc	46.2%	32.6%	-	-	-	-	-	-
27-Oct-1999	Predictive Systems Inc	67.0%	15.7%	0.0%	1	97.5%	56.1%	-2127.4%	-2418.6%
27-Oct-1999	Data Return Corp	64.7%	14.1%	0.0%	0	80.9%	25.7%	-	-
28-Oct-1999	Gaiam Inc	78.4%	18.1%	-	1	25.6%	59.3%	57.3%	85.3%
29-Oct-1999	Cavion Technologies Inc	30.9%	40.1%	-	0	-	-	-	-
3-Nov-1999	Pac-West Telecom Inc	50.3%	33.3%	4.1%	0	-8.2%	-44.0%	-60.3%	8.4%
3-Nov-1999	Be Free Inc	62.6%	20.0%	0.0%	1	74.5%	89.6%	82.6%	-
9-Nov-1999	Next Level Communications Inc	82.4%	10.4%	2.2%	1	-12.9%	67.2%	28.1%	48.3%

9-Nov-1999	Data Critical Corp	27.5%	33.7%	0.0%	0	88.6%	73.0%	-	-
10-Nov-1999	Edison Schools Inc	75.2%	16.5%	0.5%	1	-83.8%	63.7%	87.1%	99.8%
10-Nov-1999	SonicWALL Inc	66.4%	17.0%	0.0%	1	107.0%	107.6%	113.5%	101.6%
11-Nov-1999	Finisar Corp	66.5%	15.3%	0.0%	1	-96.1%	-100.9%	-136.0%	-127.8%
12-Nov-1999	Rudolph Technologies Inc	65.8%	33.5%	2.9%	1	123.9%	169.1%	133.1%	104.0%
12-Nov-1999	Immersion Corp	22.1%	25.1%	0.0%	0	79.9%	-19.4%	-50.5%	-7.1%
12-Nov-1999	CVC Inc	60.5%	24.6%	0.0%	0	12.6%	-	-	-
12-Nov-1999	Netcreations Inc	78.1%	21.9%	0.0%	0	-85.9%	-	-	-
16-Nov-1999	Quintus Corp	55.0%	13.5%	0.0%	0	84.0%	-	-	-
17-Nov-1999	iManage Inc	45.5%	16.7%	0.0%	0	76.9%	63.3%	20.4%	58.7%
17-Nov-1999	Alaska Commun Sys Grp Inc	70.6%	28.8%	-	-	-	-	-	-
18-Nov-1999	Intelli-Check Inc	42.0%	13.4%	-1.0%	0	90.4%	86.7%	84.8%	67.5%
22-Nov-1999	Deltathree.com Inc	70.9%	24.6%	4.1%	0	-31.6%	-130.7%	-138.0%	-2.7%
22-Nov-1999	Management Network Group Inc	83.2%	16.7%	0.0%	1	-76.8%	-83.9%	-91.7%	-106.7%
22-Nov-1999	Getthere.Com Inc	38.0%	15.3%	0.0%	0	63.5%	-	-	-
23-Nov-1999	Official Payments Corp	30.7%	16.8%	0.0%	0	-1.9%	-208.2%	-100.7%	-
23-Nov-1999	PNV Inc	50.6%	33.5%	0.0%	0	-264.5%	-389.2%	-	-
23-Nov-1999	SmarterKids.com Inc	37.1%	21.1%	0.0%	0	30.4%	-19.1%	-	-
1-Dec-1999	Metalink Ltd	60.7%	24.7%	0.0%	1	75.8%	82.7%	-16.3%	-53.4%
1-Dec-1999	McAfee.com Corp	85.6%	14.4%	-	0	64.3%	70.3%	109.4%	-
2-Dec-1999	Digimarc Corp	24.9%	32.3%	0.0%	0	97.6%	87.2%	85.0%	99.9%
8-Dec-1999	NetRatings Inc	83.3%	8.5%	0.0%	0	97.0%	95.2%	95.8%	96.3%
8-Dec-1999	Preview Systems Inc	28.8%	23.5%	0.0%	0	75.8%	53.7%	-	-
8-Dec-1999	Andover.net Inc	50.5%	25.4%	0.0%	0	60.9%	-	-	-
9-Dec-1999	Interop National Radio Sales	32.6%	35.1%	1.4%	0	-115.8%	-68.5%	-66.6%	-86.0%
9-Dec-1999	MedicaLogic Inc/Medscape Inc	33.2%	18.8%	0.0%	0	41.4%	66.9%	-1.8%	-
10-Dec-1999	Plastic Surgery Co	36.1%	27.8%	-	0	90.4%	101.6%	-	-
10-Dec-1999	MotherNature.com Inc	24.4%	26.9%	0.0%	0	-57.4%	-	-	-
13-Dec-1999	Tritel Inc	83.9%	3.6%	-	0	-156.2%	-	-	-
14-Dec-1999	Optio Software Inc	56.3%	23.6%	13.5%	0	-64.5%	-167.1%	-103.4%	-249.2%
14-Dec-1999	eCollege.com	52.0%	34.0%	17.9%	0	27.7%	-5.9%	34.2%	85.7%
15-Dec-1999	Xpedior Inc	82.6%	17.1%	-	0	-	-	-	-
16-Dec-1999	Truetime Inc	42.5%	7.4%	4.3%	0	9.6%	-70.9%	-132.5%	-
17-Dec-1999	C-bridge Internet Solutions	20.9%	21.4%	0.0%	0	96.4%	97.4%	-	-
17-Dec-1999	Ondisplay Inc	59.0%	18.5%	0.0%	0	85.9%	-	-	-
24-Jan-2000	Regent Communications Inc	39.0%	45.8%	0.7%	0	13.4%	2.7%	50.7%	45.7%
27-Jan-2000	NATCO Group Inc	51.4%	45.1%	0.0%	0	43.0%	1.8%	-33.0%	-40.1%
2-Feb-2000	Centra Software Inc	44.4%	21.6%	0.0%	0	65.2%	73.0%	62.6%	85.3%
3-Feb-2000	Antigenics Inc	9.7%	13.4%	-	1	38.7%	-25.7%	-78.9%	-37.2%
8-Feb-2000	Landacorp Inc	66.6%	26.6%	0.3%	0	59.9%	-6.9%	72.4%	141.7%
8-Feb-2000	FASTNET Corp	43.5%	27.9%	0.0%	0	-65.3%	44.5%	88.6%	-
9-Feb-2000	Witness Systems Inc	53.0%	17.6%	-	0	-	100.6%	125.1%	133.2%
9-Feb-2000	Delano Technology Corp	54.7%	16.6%	0.0%	1	-761.1%	-	-	-
10-Feb-2000	VIA NET.WORKS Inc	18.5%	26.9%	2.8%	0	3.9%	-290.7%	-196.5%	-144.8%
10-Feb-2000	Fargo Electronics Inc	45.6%	42.4%	0.3%	0	-29.7%	-19.1%	-1.7%	-18.3%
15-Feb-2000	Vantagemed Corp	23.3%	41.8%	0.0%	0	-101.3%	-140.6%	-247.4%	-44.4%
15-Feb-2000	Jeremy's Microbatch Ice Creams	62.8%	32.9%	-	-	-	-	-	-
16-Feb-2000	Eloquent Inc	59.7%	25.2%	0.0%	0	-4.1%	-7.9%	-	-
17-Feb-2000	Apropos Tech Inc	69.6%	24.2%	3.9%	0	76.8%	38.2%	33.0%	87.8%
22-Feb-2000	Nextel Partners Inc	68.1%	9.9%	0.0%	0	-57.4%	-9.5%	90.0%	266.6%
24-Feb-2000	Interzil Holding Corp	16.6%	59.3%	5.7%	1	7.5%	-55.9%	-60.7%	-57.0%
29-Feb-2000	net.Genesis Corp	40.1%	20.4%	0.0%	0	63.8%	-	-	-
2-Mar-2000	Switchboard Inc	1.9%	-11.8%	-	0	70.5%	34.6%	88.1%	106.5%
2-Mar-2000	Prime Response Inc	79.1%	17.3%	-	0	-	-	-	-
9-Mar-2000	Selectica Inc	55.2%	18.3%	0.5%	0	-97.0%	-4.3%	-0.7%	45.2%
15-Mar-2000	PSi Technologies Inc	37.2%	27.4%	0.2%	0	-37.5%	-74.2%	-72.9%	-58.9%
16-Mar-2000	Uproar Inc	28.3%	9.0%	-	0	-	-	-	-
22-Mar-2000	Partsbases.com Inc	66.1%	24.7%	0.0%	0	62.2%	82.2%	-	-
22-Mar-2000	inSilicon Corp	2.5%	24.2%	0.0%	0	111.6%	-10.2%	-	-
22-Mar-2000	Blaze Software Inc	42.0%	18.4%	-	-	-	-	-	-
27-Mar-2000	Websense Inc	4.6%	20.7%	0.0%	0	82.8%	100.9%	115.9%	121.7%
27-Mar-2000	Moldflow Corp	60.9%	33.0%	0.0%	1	-73.0%	-66.2%	-92.0%	-86.6%
27-Mar-2000	Allos Therapeutics Inc	28.5%	20.6%	-	-	79.4%	69.4%	61.8%	50.1%
4-Apr-2000	Krispy Kreme Doughnuts Inc	41.7%	25.0%	0.0%	1	11.3%	24.3%	25.9%	16.9%
4-Apr-2000	Oratec Interventions Inc	27.2%	18.8%	0.0%	0	114.9%	-	-	-
6-Apr-2000	LivePerson Inc	48.8%	13.3%	-0.3%	0	-73.4%	-26.4%	106.4%	121.5%
10-Apr-2000	Nova Measuring Instruments	12.8%	22.9%	13.5%	0	120.5%	-711.5%	-509.9%	-126.0%
11-Apr-2000	HealthStream Inc	42.7%	31.5%	1.0%	0	-30.6%	-72.7%	-10.3%	80.7%
19-Apr-2000	Embarcadero Technologies Inc	64.5%	16.7%	0.0%	0	-87.0%	-95.4%	-67.7%	-71.4%
19-Apr-2000	PEC Solutions Inc	83.4%	11.9%	0.0%	1	-53.6%	-62.0%	-50.6%	-61.7%
20-Apr-2000	Rockford Corp	54.4%	33.7%	9.0%	0	-13.1%	-40.2%	-50.6%	-105.1%
3-May-2000	Crown Media Holdings Inc	14.6%	26.3%	0.0%	0	58.2%	76.8%	73.3%	84.6%
17-May-2000	US Unwired Inc	20.7%	47.2%	1.1%	0	-309.9%	-116.5%	-153.7%	258.2%
18-May-2000	Nogatech Inc	17.2%	38.1%	-	-	-	-	-	-
19-May-2000	coolsavings.com inc	33.1%	8.3%	-0.2%	0	-130.3%	-68.8%	100.1%	134.9%
1-Jun-2000	CrossWorlds Software Inc	47.2%	21.9%	0.0%	0	64.0%	-	-	-
7-Jun-2000	Ubiquitel Inc	12.0%	20.0%	-	0	-	-	-	-
14-Jun-2000	August Technology Corp	58.8%	25.8%	0.0%	0	657.1%	-453.3%	-2525.1%	-210.0%
14-Jun-2000	Oscia Inc(Great Lakes Chem)	93.8%	6.2%	0.0%	0	174.1%	229.2%	-	-
15-Jun-2000	Echapman Inc	65.4%	8.7%	-	0	-	-	-	-
16-Jun-2000	Dendreon Corp	47.0%	23.6%	0.0%	1	77.1%	59.0%	45.7%	78.0%
22-Jun-2000	ClickSoftware Ltd	51.5%	15.8%	0.0%	0	18.5%	24.8%	4.6%	122.8%
23-Jun-2000	Qualstar Corp	54.2%	20.5%	1.6%	0	-34.7%	-56.3%	-85.8%	-98.1%
23-Jun-2000	Charles River Laboratories	10.9%	41.4%	2.6%	1	31.6%	39.6%	37.7%	40.2%
23-Jun-2000	Manufacturers Services Ltd	60.8%	34.9%	0.0%	0	-23.1%	92.5%	26.6%	-

27-Jun-2000	BusyBox.com Inc	35.5%	30.7%	-	-	-	-	-	-
28-Jun-2000	Accord Networks Ltd	7.8%	24.3%	-	-	-	-	-	-
12-Jul-2000	Sunrise Telecom Inc	65.8%	6.9%	105.2%	0	-41.6%	-84.4%	-103.4%	-98.8%
13-Jul-2000	I-Many Inc	41.9%	22.6%	1.2%	0	-20.6%	76.0%	62.3%	-83.0%
13-Jul-2000	Pain Therapeutics Inc	41.0%	19.4%	-	0	49.4%	49.2%	37.0%	44.8%
14-Jul-2000	Omnivision Technologies Inc	10.9%	23.2%	0.0%	0	-59.2%	-126.7%	9.6%	62.8%
18-Jul-2000	Transgenomic Inc	54.4%	23.1%	0.0%	0	64.4%	75.5%	31.4%	17.3%
19-Jul-2000	Vascular Solutions Inc	45.4%	27.5%	0.0%	0	71.2%	46.3%	23.4%	-8.7%
19-Jul-2000	Argonaut Technologies Inc	5.8%	26.6%	0.0%	0	70.3%	38.5%	62.6%	78.8%
25-Jul-2000	Interland Inc	32.1%	15.7%	0.0%	1	-32.2%	-	-	-
26-Jul-2000	Rita Medical Systems Inc	32.7%	26.4%	0.0%	0	41.4%	19.4%	-12.1%	4.7%
26-Jul-2000	Applied Molecular Evolution	40.6%	19.9%	0.0%	0	69.4%	66.1%	59.2%	-
27-Jul-2000	Discovery Partners	65.4%	21.0%	0.0%	0	108.4%	105.3%	95.3%	140.8%
28-Jul-2000	Camtek Ltd	74.2%	25.6%	1.7%	0	76.6%	-102.5%	-263.1%	-113.9%
28-Jul-2000	Arena Pharmaceuticals Inc	43.4%	27.2%	-	1	94.1%	96.1%	89.7%	83.8%
31-Jul-2000	Convergent Group Corp	43.7%	16.8%	-	-	-	-	-	-
1-Aug-2000	SpeechWorks International Inc	36.1%	18.3%	0.0%	0	70.8%	48.9%	37.7%	-
2-Aug-2000	eRoomSystem Technologies Inc	23.5%	42.4%	-5.3%	0	16.8%	49.2%	47.7%	97.1%
2-Aug-2000	California Pizza Kitchen Inc	66.0%	26.3%	0.6%	1	6.5%	-1.6%	7.7%	4.3%
2-Aug-2000	Entravision Commun Corp	24.2%	40.2%	0.0%	0	141.4%	152.5%	162.2%	164.2%
2-Aug-2000	Deltagen Inc	67.6%	24.3%	0.0%	0	86.6%	77.3%	62.0%	-
2-Aug-2000	SignalSoft Corp	33.2%	19.0%	0.0%	0	62.6%	23.3%	-	-
3-Aug-2000	Innovative Solns & Support Inc	52.9%	24.2%	3.4%	0	-68.2%	-72.4%	-81.4%	-77.5%
3-Aug-2000	3-Dimensional Pharmaceuticals	44.7%	23.7%	0.0%	0	92.9%	88.4%	-	-
4-Aug-2000	Lantronix Inc	80.0%	16.5%	-0.3%	1	-47.2%	-118.5%	-215.2%	-216.9%
7-Aug-2000	Advanced Power Technology Inc	57.5%	42.5%	0.0%	0	-39.8%	-85.1%	-102.6%	-88.4%
7-Aug-2000	America Online Latin America	40.1%	19.9%	-	0	-	-	-	-
8-Aug-2000	TeleCommunication Systems Inc	42.8%	47.2%	0.0%	0	-147.6%	-299.3%	-195.7%	-97.2%
8-Aug-2000	Repeater Technologies Inc	37.4%	20.1%	0.0%	0	37.0%	-	-	-
9-Aug-2000	Millennium Cell Inc	19.5%	13.7%	-	-	61.2%	24.4%	17.3%	15.5%
9-Aug-2000	RadView Software Ltd	75.0%	21.1%	0.6%	0	-38.5%	-346.6%	-154.7%	-315.6%
9-Aug-2000	Esperion Therapeutics Inc	52.5%	24.9%	-	-	76.8%	75.6%	60.9%	76.8%
9-Aug-2000	Tvia Inc	19.9%	16.4%	5.5%	0	62.0%	16.3%	13.6%	58.0%
9-Aug-2000	AtheroGenics Inc	42.2%	25.6%	3.9%	0	58.8%	51.2%	-15.5%	41.9%
10-Aug-2000	American Med Sys Holdings Inc	77.1%	22.1%	0.5%	1	-12.6%	96.8%	165.9%	174.5%
10-Aug-2000	Orient-Express Hotels Ltd	7.7%	-	-	0	6.2%	-26.4%	-41.4%	-51.5%
11-Aug-2000	CompuGen Ltd	53.5%	19.2%	0.0%	0	69.9%	60.8%	66.4%	63.9%
15-Aug-2000	Lexar Media Inc	45.9%	10.9%	2.8%	0	-44.3%	-138.4%	124.9%	138.2%
16-Aug-2000	O2Wireless Solutions Inc	37.2%	27.9%	0.0%	0	112.7%	-310.6%	-	-
17-Aug-2000	Avistar Communications Corp	73.8%	9.2%	0.4%	0	71.1%	10.5%	-52.7%	-122.6%
18-Aug-2000	Viasource Communications Inc	43.4%	13.8%	0.0%	0	-90.9%	-	-	-
21-Sep-2000	TTM Technologies Inc	69.7%	21.2%	0.6%	1	144.1%	43.7%	-68.2%	-17.3%
21-Sep-2000	INRANGE Technologies Corp	1.5%	-15.4%	-	0	-54.5%	-84.0%	-94.4%	-
29-Sep-2000	Genomica Corp	27.3%	28.3%	0.0%	0	80.2%	-	-	-
2-Oct-2000	InforMax Inc	60.0%	17.6%	0.0%	0	54.7%	9.7%	-	-
11-Oct-2000	Introgen Therapeutics Inc	34.6%	19.0%	-0.5%	0	-92.7%	-52.0%	-490.2%	-237.6%
12-Oct-2000	Synplicity Inc	65.3%	18.0%	0.0%	0	93.8%	103.5%	102.2%	105.1%
17-Oct-2000	IXIA	23.2%	10.4%	0.0%	0	-69.5%	-81.2%	-89.4%	-85.3%
26-Oct-2000	Dexx Energy Inc	0.4%	94.9%	0.0%	0	310.7%	-	-	-
1-Nov-2000	Energy Partners Ltd	17.2%	-10.3%	-	0	415.5%	421.9%	199.9%	384.7%
1-Nov-2000	Evergreen Solar Inc	46.3%	26.0%	0.0%	0	36.1%	-70.1%	-113.3%	-64.3%
10-Nov-2000	Computer Access Technology	76.4%	22.0%	0.0%	0	-80.3%	-119.4%	-129.1%	-99.4%
13-Nov-2000	Adolor Corp	20.5%	22.4%	0.0%	0	90.2%	82.8%	78.2%	86.7%
16-Nov-2000	Beacon Power Corp	35.8%	22.2%	0.0%	0	94.8%	87.2%	87.6%	85.7%
20-Nov-2000	Alliance Fiber Optic Products	57.6%	12.9%	0.0%	0	-15.4%	-162.5%	-287.6%	-123.0%
20-Nov-2000	iMagicTV	1.8%	18.0%	0.0%	0	71.2%	39.3%	-	-
7-Dec-2000	Specialty Laboratories Inc	74.9%	23.2%	0.0%	0	-16.1%	-8.9%	-127.9%	-106.6%
7-Dec-2000	Harvard Bioscience Inc	68.7%	26.0%	0.0%	0	-89.7%	-52.3%	-33.0%	7.0%
8-Dec-2000	Garmin Ltd	50.3%	7.3%	16.1%	0	-14.9%	-24.7%	-23.1%	-17.7%
25-Jan-2001	Align Technology Inc	37.9%	21.4%	1.6%	0	31.0%	47.2%	92.8%	113.3%
25-Jan-2001	Peet's Coffee & Tea Inc	26.9%	40.9%	0.6%	1	95.2%	39.5%	65.1%	66.9%
9-Feb-2001	Aquacell Technologies Inc	45.9%	15.2%	0.6%	0	57.0%	42.0%	20.5%	16.5%
15-Feb-2001	Riverstone Networks Inc	4.9%	9.4%	0.0%	0	99.1%	-6.7%	-	-
6-Mar-2001	Seattle Genetics Inc	43.5%	24.6%	0.0%	0	-12.7%	-40.9%	17.4%	6.8%
6-Mar-2001	Stelmar Shipping Ltd	0.5%	50.0%	0.0%	1	-14.9%	-16.6%	-19.4%	-
8-Mar-2001	Encore Acquisition Co	71.6%	26.6%	1.6%	0	40.8%	48.6%	68.5%	36.3%
2-May-2001	Briazz Inc	27.7%	32.0%	2.7%	0	19.3%	-249.5%	-246.9%	-
14-May-2001	Kinder Morgan Mgmt LLC	34.4%	65.6%	-	-	-	-	-	-
17-May-2001	Tellium Inc	27.7%	8.3%	0.0%	0	-15.5%	-286.2%	-	-
22-May-2001	Smith & Wollensky Rntnt Grp	3.8%	50.6%	1.3%	0	-32.1%	-21.9%	81.1%	121.2%
7-Jun-2001	Alliance Data Systems Corp	83.0%	17.0%	1.5%	1	22.2%	42.2%	56.4%	65.3%
18-Jun-2001	Princeton Review Inc	43.3%	26.8%	0.4%	0	68.3%	122.5%	152.6%	93.1%
26-Jun-2001	Galyan's Trading Co Inc	36.8%	36.2%	0.0%	0	-9.5%	-4.6%	-48.3%	-
12-Jul-2001	Wright Medical Group Inc	64.4%	25.4%	-	1	-	49.9%	57.6%	80.6%
19-Jul-2001	Natus Medical Inc	31.6%	31.3%	0.0%	0	-171.4%	-243.1%	-138.8%	-48.8%
23-Jul-2001	MedCath Corp	65.0%	32.6%	0.0%	1	2.5%	25.5%	-9.6%	12.0%
26-Jul-2001	Alliance Imaging Inc	75.1%	19.1%	0.5%	0	7.1%	19.3%	21.0%	22.7%
30-Jul-2001	HPL Technologies Inc	67.1%	22.9%	0.0%	0	-143.7%	-187.8%	-163.7%	-158.0%
7-Aug-2001	Omnicell Inc	39.4%	27.6%	0.0%	0	109.2%	94.7%	144.8%	148.1%
9-Aug-2001	Mykrolis Corp	82.3%	17.7%	1.2%	0	-117.9%	-124.1%	-90.3%	-47.4%
3-Oct-2001	Given Imaging Ltd	67.2%	19.3%	-	0	19.7%	16.4%	49.8%	109.8%
14-Nov-2001	DJ Orthopedics Inc	49.9%	48.9%	1.5%	0	-30.4%	-54.0%	-33.7%	-0.2%
14-Nov-2001	Bam Entertainment Inc	55.7%	36.1%	1.6%	0	109.3%	29.7%	-369.5%	-
11-Dec-2001	NetScreen Technologies Inc	47.2%	13.7%	0.0%	0	12.2%	96.6%	112.8%	-
28-Jan-2002	Synaptics Inc	4.3%	21.8%	0.0%	0	87.9%	33.2%	78.5%	88.5%

7-Feb-2002 ManTech International Corp	100.0%	0.0%	0.0%	-	-37.0%	-16.0%	-44.5%	-7.9%
14-Feb-2002 Paypal Inc	46.2%	8.9%	-	-	-	-	-	-
26-Mar-2002 MedSource Technologies Inc	13.1%	32.1%	0.0%	0	13.2%	33.5%	-	-
8-May-2002 Regal Entertainment Group	73.2%	13.3%	4.1%	0	179.8%	221.1%	187.0%	180.5%
22-May-2002 Altiris Inc	64.5%	24.8%	0.0%	1	113.6%	138.0%	160.2%	129.6%
23-May-2002 Eon Labs Inc	77.1%	22.9%	0.0%	0	15.9%	27.5%	53.2%	-
29-May-2002 Overstock.com Inc	52.9%	14.1%	0.0%	1	92.9%	74.5%	99.4%	93.8%
4-Jun-2002 Veridian Corp	21.8%	51.0%	0.0%	0	-17.9%	-	-	-
18-Jun-2002 Printcafe Software Inc	14.4%	35.1%	0.0%	0	93.5%	-	-	-
20-Jun-2002 CTI Molecular Imaging Inc	42.1%	26.7%	0.0%	0	-22.1%	1.4%	5.5%	-
21-Oct-2002 Natural Gas Services Group Inc	28.2%	30.0%	0.8%	0	12.4%	39.3%	31.5%	35.6%

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EDUCATION

- 2006-2010** **The Pennsylvania State University** - University Park, PA
Schreyer Honors College
The Smeal College of Business
Bachelor of Science in Finance
Honors Thesis: The Impact of Earnings Management and Ownership Stake
Changes at the IPO on Post-IPO Operating Performance
Thesis Advisor: Professor Laura Field
Honors Advisor: Professor Jim Miles

WORK EXPERIENCE

- 2007-present** **Sushi Tokyo Inc.** - Lansdale, PA
Sales and Marketing Director
 - Established a sushi business, wrote a strategic business plan, negotiated to obtain contracts, and achieved the total revenue of \$450,000 by the third year of operation
- 2009** **PNC Financial Services Group** - Pittsburgh, PA
Asset-Backed Securities Intern
 - Prepared transaction memorandums, performed model audits, completed prospective client research, and created pitchbooks for client presentations
- 2008** **PNC Financial Services Group** - Pittsburgh, PA
Global Treasury Management Intern
 - Created market reports on India, South Korea, and Vietnam for Key Asia Market Seminar and developed revenue opportunity reports and product marketing materials
- 2007** **Merrill Lynch & Co., Inc.**- Elkins Park, PA
Global Private Client Intern
 - Trained in Merrill Lynch wealth allocation processes and performed market and prospective client research

COMPETITION EXPERIENCE

- 2008** **Smeal IdeaPitch Competition** - University Park, PA
3rd Place at Penn State
 - Presented a strategic business plan to venture capitalists and MBA Fund directors
- 2008** **J&J Team Case Competition** - New Brunswick, NJ
1st Place at Penn State, 3rd Place at the national
 - Developed a DCF model, Sensitivity, and S.W.O.T. analyses for a recommendation to the board

LEADERSHIP

- 2006-2010** **Korean Students for Christ (KSFC) - University Park, PA**
President ('09), Vice President ('08), and General Manager ('07)
- Re-organized the club structure to maximize the efficiency of task executions and general member involvement for a club of more than 240 members
- 2007** **Business Consulting Group - University Park, PA**
Director of Corporate Relations and Treasurer
- Coordinated professional development events, managed the club's budget, and directed real world consulting projects

HONORS

- 2010** **George Leland Leffler Scholarship**
▪ Honors an outstanding graduating senior in Finance
- 2010** **The Alumni Board Sponsorship Award**
▪ Honors an outstanding Smeal graduating senior with demonstrated leadership and outstanding scholarship
- 2010** **Penn State Capital Campaign Honors Education Representative**
▪ Featured in a video that promotes the seven year fundraising campaign with the goal of raising \$1.3 billion
- 2009** **Beta Gamma Sigma**
- 2009** **The William Orr Dingwall Korean Ancestry Grant**
- 2008** **Penn State President Sparks Award**
▪ Awarded to a sophomore with the first three semester GPA of 4.0
- 2007** **President's Freshman Award**
▪ Awarded to a freshman with the first semester GPA of 4.0
- 2006-2010** **Penn State Academic Excellence Scholarship**
- 2006-2010** **Dean's list – Seven semesters**

INTERESTS

Athletics: Second degree black belt in Tae Kwon Do

Languages: Fluent in Korean and working toward fluency in Chinese

Financial Modeling: DCF, comparable company and transaction, accretion/dilution, and leveraged buyout analyses

Hobbies: Piano, guitar, and cooking