

Recently, Ipreo Global Market Intelligence investigated backdating stock options, the new wave of scandals sweeping Corporate America, specifically focusing on institutional shareholders' reaction to these events. As a follow-up to our earlier study, our team examined the actual impact these scandals had on portfolio management decisions: whether institutional investors retreat from the companies under investigation, determine that these allegations have relatively little to do with a company's overall performance, or increase their propensity to buy these temporarily undervalued companies embroiled in scandal.

Our team researched a wide sampling of companies involved in backdating options scandals. The majority of the companies are technology-related, most likely due to the widespread use of options as compensation at startup companies and the tech sector's high valuation during the late 1990s tech bubble. However, it is also important to study the effects backdating options have on non-technology related companies in recent months. This study draws on conclusions from our previous investigation, while continuing to analyze the effects that shareholder reaction, stock price performance, heightened scrutiny and increased regulation have had on both tech and non-tech companies involved in the backdating options scandals.

Summary of the Backdating Options Scandal Study

In May 2005 University of Iowa professor Erik Lie produced a seminal study examining corporate backdating options scandals. While the study sparked initial interest, the issue did not gain the full attention of Wall Street until an article appeared on the front page of the *Wall Street Journal* on March 18th, 2006 – nearly a year later. The article, written by Charles Forelle and James Bandler, catapulted this issue to the forefront of business news. Cited in the news article, Lie's study reviewed close to 6,000 CEO stock option grants between 1992 and 2002, finding unusually high returns as a result of "convenient timing." The investment community's main point of concern focused on the possibility of deliberate consent from directors in allowing management to unfairly benefit from options timing.

The media played a significant role in the public's reaction to backdating scandals, specifically the speed and breadth of coverage that the internet and 24-hour news networks allow. Critics suggested that these scandals have received disproportionate coverage, depicting corporations as guilty before any formal illegality has been uncovered. As a result, shareholder activity has taken many forms in relation to corporate scrutiny. The initiation of proxy fights, lawsuits, and other aggressive involvement has helped fuel media attacks on companies. Regulation has also empowered the shareholder; rules aimed at greater transparency and easier dissemination of information have helped investors reinforce a sense of "ownership" in the company.

Findings from Companies Involved in the November Study

In the original study in early November 117 companies that were publicly under investigation or had admitted to wrongdoing were examined. Since then, new companies are coming under investigation on a daily basis. 135 companies are currently involved. The following is an updated summary of findings from the first study:

Sector Breakdown: 66% of the companies involved were technology-related companies, followed by healthcare and consumer cyclicals; at 10% each.

Market Capitalization: Companies with a market cap of \$250mm to \$2bn comprise just under half of the 117 companies involved in the backdating scandal, followed by companies with a market cap of \$2bn to \$10bn with 32%.

Departures: In the original study, 43 people from 21 companies either have been fired or have resigned as a result of an investigation into options. 13 companies had more than one person leave. To date, 54 people from 31 companies either have been fired or have resigned as a result of an investigation into options. 17 had more than one person leave. These departures affected various levels of management, not solely limited to the CEO and executives, as non-executives have lost their jobs as well.

Restating Earnings: 56% of the companies investigated, whether by an outside source or an internal probe, plan to restate earnings. So far, restated earnings total approximately \$2bn. Monster Worldwide Inc. is the most recent company to restate earnings, lowering net income by \$272mm.

Delistings: 63% of companies involved have received a delisting warning letter from either the NASDAQ or the NYSE. To date only 4 companies have delisted due to issues related to the backdating of options.

Impact on Stock Performance: In the first study, it did not appear that the backdating issue had a significant impact on stock price performance for the majority of companies during the investigation process. Micro-cap (market cap <\$250mm) stocks can be more volatile than more well-established companies. Additionally, rumors of wrongdoing and possible management departures can have a devastating effect on a company's stock price. Stock performance cannot be tied solely to backdating issues without considering broader market, sector, and individual company performance.

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Introduction of New Study – Summary

This follow-up study examines the institutional investment community's reaction to companies involved in the backdating options scandal. Overall, we did not find a dramatic sell-off in the majority of companies involved in the scandal. When compared to the Control Groups, which were created to represent the appropriate corresponding segment of the market, we found that there was not as much net buying activity on behalf of institutions compared to the respective Control Groups. On average, the number of institutional shareholders decreased following the disclosure of the event versus the Control Groups.

Companies involved in our study:

In order to determine the Study Groups, the original 117 companies under scrutiny for backdating options were examined. Even though the number of companies under scrutiny continues to grow, the new additions were not included since their news broke after the most recent available quarter of 13F portfolio filings (September 30, 2006).

Companies not considered in our follow-up study:

- disclosed their backdating investigations/issues the week before the filing quarter end
- market capitalization under \$250mm
- market capitalization above \$20bn
- delisted
- were either the subject of a merger or in the process of subsequently launching an offer to acquire another company during the study time frame

The remaining study companies were divided into Tech and Non-Tech Groups to ensure news and sector trends would not skew any of the results. The Tech Study Group was further split into three investment cap groups. The Control Groups mirrored the market cap ranges of the Study Groups and were analyzed for the quarters ending on 3/31/06, 6/30/06 and 9/30/06.

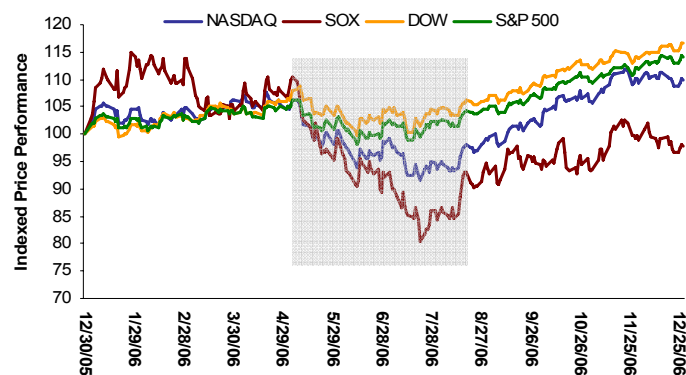
The complete list of companies used are listed in the Addendum.

Impact on Performance

Market Impact: In addition to solely focusing on the event playing a role in the shareholder activity, we also examined broader market news and sector news to see if it had an impact on either the study and/or control group's performance. Most companies disclosed options irregularities in the middle of the year, at the same time the market also experienced the most volatility, broader market trends could be attributed to a reaction to options backdating.

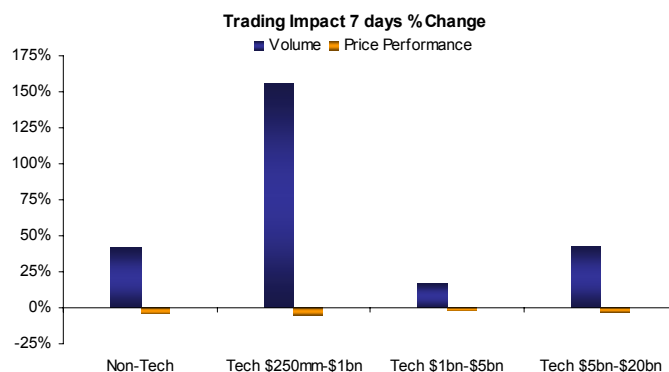
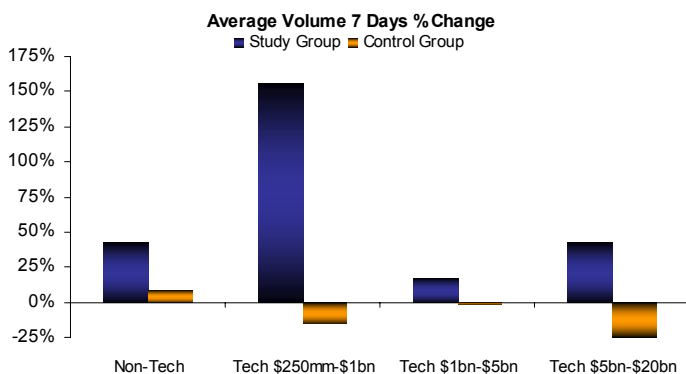
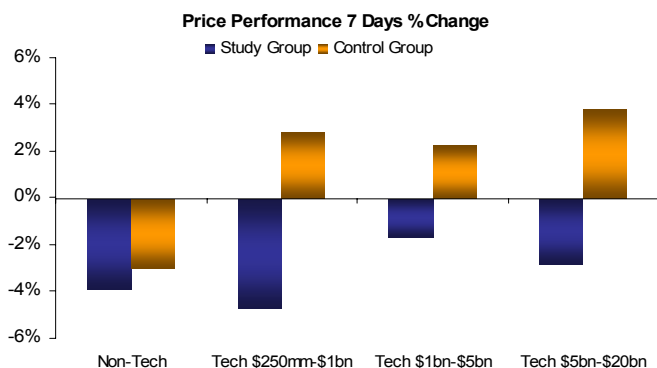
Broader Market ~ The first quarter of the year was marked by speculation of an end to the rate hikes and lower crude oil prices. In February, oil hit a low of \$57.65 on abundant inventory. As the year progressed, Iran's persistent threats to withhold oil supplies caused oil to hit \$75.17 on April 21st. Additionally, the housing market started to cool as existing home sales dropped 1.3% in June and 4.1% in July, a two year low. The markets were significantly down in July over concerns of turmoil in the Middle East, terrorist threats and oil reaching a record high of \$77.03 a barrel on July 14th. Markets rebounded in August as a ceasefire in the Middle East and a pause to economic tightening by the Federal Reserve at the August 8th FOMC meeting fueled a rally of 5.9% for the month. In September, oil prices eased on a mild hurricane season, inventory build-up and news that Iran was softening its stance on its nuclear program. Oil retreated to \$56.82 on October 20th after OPEC reduced output for the first time in more than two years. In the third quarter, the Dow returned to levels that have not been seen since January 2000 and in late December the Dow closed at record highs on an unchanged inflation reading and the Fed's decision to keep rates steady.

Technology Sector~ The technology sector started the year strong, the NASDAQ posted a 6.1% gain for the first quarter. Backdating options news, earnings disappointments and warnings weighed down the sector by mid year. In May, the NASDAQ closed 6.1% lower, amid inflation fears and heightened oil prices along with an earnings warning from Dell. The decline continued throughout the beginning of June as the index was impacted by negative economic news. The index finished the quarter down 7.2% despite the Fed signaling the end to rate hikes later in the month. July was also bleak, as the Mideast turmoil drove down the index along with weaker results from Yahoo, Intel and Amazon. However, the tech sector seems to have rebounded as strong earnings from Google and IBM in the fourth quarter sent the tech sector higher, on November 22nd the NASDAQ reached a 5 year high.



Price Performance and Trading Volume

We examined the price performance change, as well as trading volume activity, surrounding the first public disclosure related to backdating options issues. As expected, the intensity of the trading activity for companies under scrutiny peaked around the date of the first public disclosure. Trading volume was heaviest for companies in the \$250 mm-\$1bn market caps and Non-Tech companies, inversely correlating with price performance, as these groups saw a greater decrease in stock price during this period as well. Some of the most active companies included **Comverse Technologies, Ulticom, Safenet** and **msystems**.



When compared to the Control Groups, trends show the Study Groups had an increase in trading volume, which is expected given that there was a significant event taking place. Similarly, in terms of price performance, all companies in the Study Groups saw a decrease in their stock price across all market caps and sectors to a larger extent than what was experienced by the Control Groups, pointing to the market's initial negative reaction to the news.

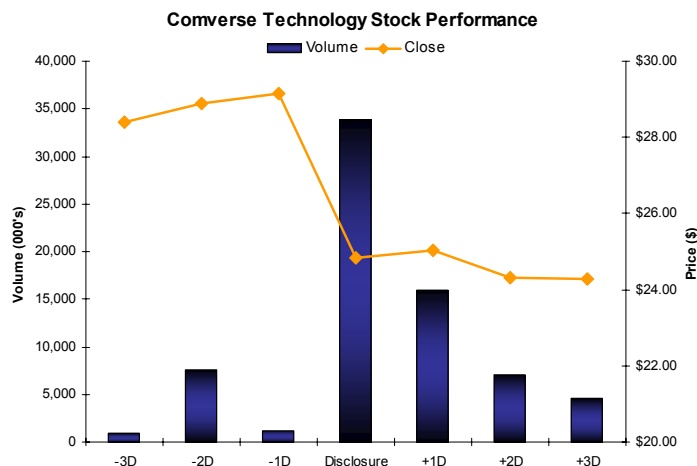
The small-cap and Non-Tech Groups saw one of the greatest fluctuations in both volume and stock price. The small-cap group on average showed a 156% increase in volume and a 4.7% decrease in stock price while the Non-Tech Group saw a 42% increase in volume with at 3.9% decrease in stock price. Given liquidity issues, small-cap companies are inherently more volatile regardless of whether there is positive or negative news. Therefore, we expected to see the largest jump in volume come from the small-cap companies. However, it appears that the investment community may have been surprised to see the Non-Tech Group involved in the tech heavy options scandal causing uncertainty and a bearish reaction to the stock as well.

Days and months following the disclosure of the event, all study groups experienced a bounce back in their stock price. It is likely that time helped investors better understand the situation and the magnitude of how it impacted its investment or perhaps it was a shift in the type of investors buying shares of these companies that helped the stocks rebound.

Company Spotlight

Comverse Technology's volume peaked on March 14th, increasing over 3,000% from three days prior. Simultaneously the stock price decreased significantly, dropping 12%. Three days after disclosure trading activity had resumed to prior levels.

On the day of disclosure Comverse announced the creation of a special committee to review stock option grants. The company stated that they would have to delay the complete release of their financial results until the investigation was complete, claiming that restatements might be required going back to 2001. That same day a Merrill Lynch analyst downgraded the company over concerns about the investigation, causing the stock to decline almost 15% in one day. The company has yet to file any financial results.



Impact on Institutional Shareholder Base

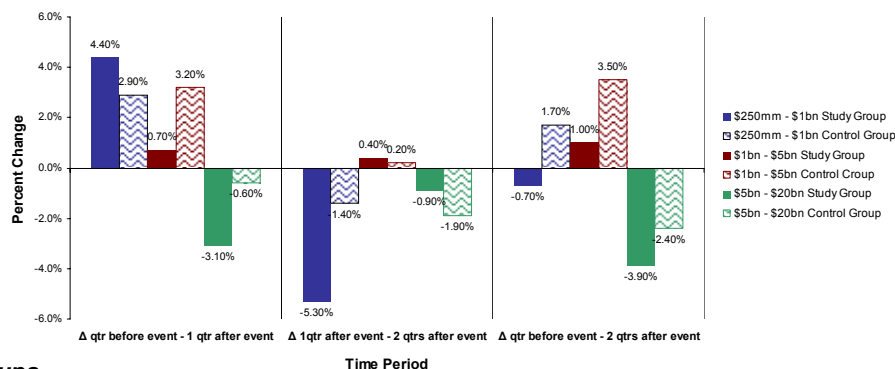
When analyzing our two study groups, Technology and Non-Tech, we examined the changes in the number of shares held by institutions, the number of institutional shareholders, share turnover, largest investor activity in the Study Groups versus the Control Groups and Top 5 Net Buyers/Sellers. We looked at quarterly filings for the quarter end before the public disclosure, the quarter end of the public disclosure and the subsequent quarterly filing (where applicable). We were interested to see if any institutions continued their selling activity once more information or announcements were made about the magnitude of the situation. Since this scandal has been in the public eye the past year, there is still a limited amount of data to examine. Therefore, we highlighted some of the activity below for the companies with three quarters surrounding the disclosure to examine.

Highlights: Technology Study Group Findings

Fifty-five companies were included in the Technology Study Group, of which, 36 had ownership data available for two quarters following the announcement of an options related investigation. Data for these 36 companies showing net share activity is represented in the graph below. Net share activity represents the change in the number of shares held by institutions, as represented in a company's 13F filing with the SEC. This does not take into effect short-term investors or non-filing hedge funds. While the Tech Group has been broken down into three market cap groups, there have been no prominent trends in relation to the percent change in institutional shares held among the different market cap classes and compared to the Control Groups.

| Companies in Study | | Market Cap Group | | |
|-----------------------------|---|------------------|-------------|--------------|
| | | \$250M - \$1B | \$1B - \$5B | \$5B - \$20B |
| Technology Study Group | All Companies | 12 | 24 | 19 |
| | Companies with 2 qtrs of data following event | 7 | 15 | 14 |
| | Companies with 1 qtr of data following event | 5 | 9 | 5 |
| Control Group All Companies | | 19 | 35 | 26 |

Institutional Net Share Activity (% Change)



Highlights by Study Groups

Small-Cap ~ The institutional community demonstrated mixed strategies as it related to its investment in small-cap companies. Among the mixed results within our Study Group were **Aspen Technology** and **SafeNet**; Aspen Technology experienced positive net changes in both shares held and number of institutional shareholders, while the opposite was true for SafeNet. Investment advisors and hedge funds alike were active in both buying and selling during the time period observed. While institutions such as **Putnam Investment Management**, **Waddell & Reed** and **Renaissance Fund Advisors** were some of the most active buyers of Aspen, it is not surprising that other institutions were looking to liquidate their positions throughout the Study Group as they limited their exposure and volatility to the stock entirely. The majority of selling of SafeNet corresponded to the same quarter that several executives left the company due to the options investigation. **Transamerica Investment Management**, **Ashford Capital Management** and **AIM Investment Corporation** were amongst the largest sellers of SafeNet during this time period.

Mid-Cap ~ The mid-cap group was the one market cap group that experienced a positive percent change in all three time frames examined. On average, the mid-cap companies in the Study Group saw an increase in institutional shares held. This study group was not immune to negative net share activity, however. Among the companies that experienced decreases in net share activity was **Rambus**; the company experienced a decrease of 18.2% in net share activity in the quarter before the event to the quarter after the event. The departure of Geoff Tate in August, the former CEO, appears to have led to an acceleration of selling activity. **Fidelity Management & Research**, one of Rambus' largest holders, was among those investors who liquidated a large portion of their position.

Large-Cap ~ Similar to the small-cap study group, large-cap companies experienced mixed results. Among the companies that had negative net activity was **KLA-Tencor**, who suffered one of the most dramatic decreases in net share activity over the time period observed. The number of institutional shareholders did not decrease dramatically, however significant holders liquidated most of their positions. Similar to SafeNet, departures at KLA-Tencor contributed to the sharp decrease in net shares held. **AllianceBernstein**, **Fidelity Management & Research**, **Capital Research and Management**, **Capital Guardian** and **Fisher Investments**, the five largest holders, each decreased their positions an average of 44% in the quarter before the event. While larger hedge funds, including **Renaissance Fund Advisors**, **Appaloosa Management** and **Andor Capital Management** were buyers based on 13F filings. Among all institutional investors, approximately 98mm shares were sold in the quarter of the event. We suspect most of these shares were bought by speculative investors (short-term investors, proprietary desks, small hedge funds, etc.).

Institutional Activity ~ Themes and Trends

Largest Buyers and Sellers

The investor activity chart breaks down the Tech Study and Control Groups by market cap. Each cap group is broken down into the top 10 institutions which increased their position and the top 10 institutions that decreased their position from the quarter end before the event to the quarter end after the event, on a net basis.

Once the top 10 buyers and sellers in the Study Group were identified, we then calculated their net activity in their respective Control Groups with the purpose of establishing any discernable patterns. Did they buy and sell across the board or was there greater activity in companies involved in the options scandal versus companies that were not involved? Across all market caps the top 10 institutional buyers bought more into the Study Group than their respective Control Groups. The case is similar for the top 10 institutional sellers which, on average, sold more of the study groups than their respective control groups. Neither the top 10 buyers or sellers were net buyers of the Control Groups.

| Investor Activity | | | | | | | | |
|--|---------------|-------------|----------|---|---------------|-------------|--|--|
| From Quarter Before Event to Quarter of Event | | | | | | | | |
| Top Institutions Small-Cap Tech Study Group | | | VS. | Their Activity in Small-Cap Tech Control Group | | | | |
| Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | | Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | | |
| Top 10 Buyers | 322.8 | 336.3 | -13.4 | -10.3 | 64.0 | -74.3 | | |
| Top 10 Sellers | -334.3 | 4.5 | -338.8 | -23.4 | 55.3 | -78.6 | | |
| Top Institutions Mid-Cap Tech Study Group | | | VS. | Their Activity in Mid-Cap Tech Control Group | | | | |
| Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | | Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | | |
| Top 10 Buyers | 1,177.8 | 1,347.1 | -169.3 | -406.2 | 504.2 | -910.5 | | |
| Top 10 Sellers | -1,643.9 | 438.2 | -2,082.1 | -1,438.3 | 556.6 | -1,994.9 | | |
| Top Institutions Large-Cap Tech Study Group | | | VS. | Their Activity in Large-Cap Tech Control Group | | | | |
| Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | | Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | | |
| Top 10 Buyers | 2,278.7 | 5,854.9 | -3,576.2 | -255.6 | 2,324.2 | -2,597.7 | | |
| Top 10 Sellers | -5,107.2 | 1,240.9 | -6,348.1 | -2,813.4 | 566.2 | -3,379.6 | | |

Top Buyers and Sellers - Highlights

| Top Buyers/Sellers | |
|---|--------------------------|
| From Quarter Before Event to Quarter of Event | |
| Across all Market Caps | |
| | Net Change (\$mm) |
| Top 5 Net Buyers | |
| T. Rowe Price Associates, Inc. | 841.9 |
| Private Capital Management, Inc. | 254.0 |
| J. & W. Seligman & Co., Inc. | 210.0 |
| Goldman Sachs Asset Management LP | 306.3 |
| AIM Management Group, Inc. | 262.1 |
| | Net Change (\$mm) |
| Top 5 Net Sellers | |
| AllianceBernstein LP | -1,689.8 |
| BlackRock Advisors, Inc. | -914.8 |
| Capital Guardian Trust Co. | -513.4 |
| Artisan Partners LP | -489.4 |
| ING Investment Management Co. | -308.6 |

Based on net activity, there were institutions that were sellers initially after an options related disclosure was announced and there were institutions that took advantage of the stock price pull back due to the disclosure and were a buyer. Four of the most prominent institutions, **AIM Management Group, OppenheimerFunds, BlackRock Advisors, and AllianceBernstein**, made major movements across the three market cap groups and continue their activity into the following quarter.

Buying into companies who are under scrutiny for backdating options is also a prevalent strategy as investors try to capitalize on a short-term weakness in the stock price. Overall the buying trends seem to be on a smaller scale compared to institutions who sold in the same quarter. Institutions such as **T. Rowe Price Associates, MFS Investment Management and Franklin Advisors** purchased \$48.1mm in the mid-cap group despite broadly selling an aggregate of \$331.5mm in the quarter before the event.

Eagle Asset Management sold a total of \$44.3mm in the mid-cap and large-cap groups before the announcement and continued to sell \$91.3 million in the period after the event. The opposite was true for **Neuberger Berman** who purchased \$42.6mm in the large-cap group in the period before the event and purchased an additional \$270.0mm in the period after. Situations in which shares come under pressure due to options scrutiny can provide an opportunity for Investors to can take advantage of a short-term weakness in the share price if they believe the company's strategy and fundamentals are still strong.

Hedge Funds such as **S.A.C. Capital Advisors** used similar long and short selling strategies. In the quarter leading up to an options announcement, S.A.C reduced its net position by \$126mm. However, in the quarter following the announcement, S.A.C. increased its net position by \$20mm. The type of movement taken by S.A.C. is similar to other hedge funds on a percentage basis. It appears as if each were trying to take advantage of the drop in stock price associated with an options announcement.

Share Turnover

On average, the turnover rate experienced by the companies in the study group appeared to have followed the same pattern as the rate of the companies in the control group. On a case by case basis certain companies experienced a significantly higher or lower turnover rate than average, or experienced a drastic rate change between quarters. **Openwave Systems**, a mid-cap company, saw a 77.2% turnover rate in between the quarter after event to 2 quarters after event while **Ulticom**, a small-cap company, saw a 13.8% turnover rate in the quarter before event to 1 quarter after event. **KLA-Tencor**, a large-cap company, saw the biggest change in their turnover rate between time periods, with a turnover of 40.1% from the quarter before event to 1 quarter after event to a turnover of 13.8% from the quarter after event to 2 quarters after event.

| | Shareholderbase Turnover (%) | | | | | |
|------------------------|---|---|---|---|---|---|
| | Average Institutional Activity | | | | | |
| | Small | | Mid | | Large | |
| | Quarter Before Event to 1 Quarter After Event | Quarter After Event to 2 Quarters After Event | Quarter Before Event to 1 Quarter After Event | Quarter After Event to 2 Quarters After Event | Quarter Before Event to 1 Quarter After Event | Quarter After Event to 2 Quarters After Event |
| Tech Study Group | 28.2% | 24.0% | 31.5% | 31.4% | 25.3% | 21.7% |
| vs. Tech Control Group | 30.2% | 26.0% | 31.9% | 30.3% | 22.8% | 21.9% |

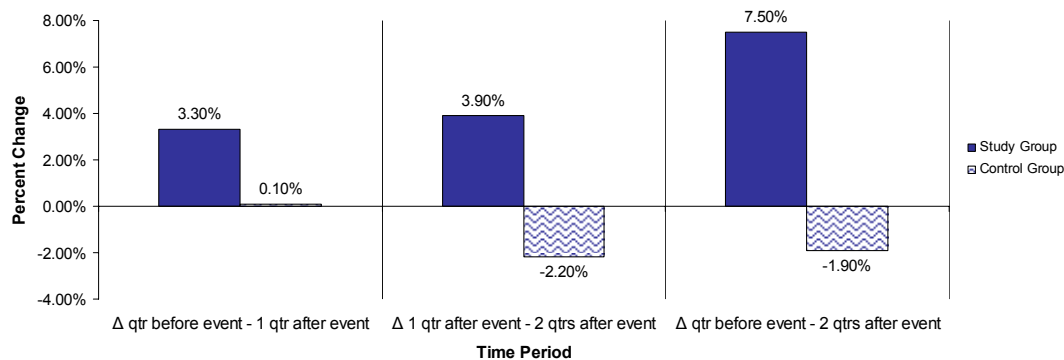
Non-Technology Study Findings- Highlights

Similar to the Tech companies, investors had mixed reactions in response to the Non-Tech companies involved in the options scandal. Overall group trends were not clear, however, there were individual outliers in our Study Group. Over the course of the time period observed, net share activity was positive, while the number of institutional shareholders decreased.

Nine of the 16 companies in the Non-Tech Study Group had ownership data available for two quarters following the disclosure of an investigation into backdating options. Net share activity for these 9 companies is represented below.

| Companies in Study | All Market Caps |
|---|-----------------|
| All Companies | 16 |
| Non- Tech Study Group | |
| Companies with 2 qtrs of data following event | 9 |
| Companies with 1 qtr of data following event | 7 |
| Control Group All Companies | 27 |

Institutional Net Share Activity (% Change)



Institutional Activity ~ Themes and Trends

Largest Buyers and Sellers

This investor activity chart breaks down the Non-Tech Study and Control Group into the top 10 institutions which increased or decreased their positions from the quarter end before the event to the quarter end after the event, on a net basis. Their net activity in the Control Group was then calculated with the purpose of establishing any patterns. As in the Tech Group, the top 10 buyers bought more of the Study Group than of the Control Groups, however, unlike the Tech Study group, the top 10 sellers sold more of the Study Group than of the Control Group. As previously mentioned, this might be the case because the investment community reacted bearishly to these stocks since they may have been surprised to see these non-tech companies involved in a mostly tech related scandal.

Top Buyers and Sellers- Highlights

Sepracor Inc. is one of the companies that experienced this contrast between its shareholder base and net share activity. Net shareholders were down 14.4% in the quarter before the event to the quarter after the event; however, net share activity soared 22.5% during this same time period. As institutions such as **Bellevue Asset Management**, **Swissfirst Asset Management**, and **Two Sigma Investments** liquidated their entire stake, many institutions increased their position. **Caxton Associates** was the largest buyer of Sepracor during the quarter that the company came under investigation. **T. Rowe Price Associates**, the largest institutional net buyer of the Tech Study Groups, was also one of the largest buyers of Sepracor during the quarter the company disclosed it was under investigation. T. Rowe Price Associates increased its position by 2.5mm shares during the quarter.

| Investor Activity | | | | | | | | |
|---|----------------|---------------|-------------|--|----------------|---------------|-------------|--|
| From Quarter Before Event to Quarter of Event | | | | | | | | |
| Top Institutions Non-Tech Study Group | | | VS. | Their Activity in Non-Tech Control Group | | | | |
| | Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | | Net Chg (\$mm) | Bought (\$mm) | Sold (\$mm) | |
| Top 10 Buyers | 1,640.2 | 1,764.9 | -124.7 | → | -45.8 | 327.0 | -372.7 | |
| Top 10 Sellers | -1,553.7 | 478.8 | -2,032.5 | → | -723.0 | 697.0 | -1,421.1 | |

Top Buyers and Sellers- Highlights (cont.)

| Top Buyer/Sellers From Quarter Before Event to Quarter of Event Across all Market Caps | |
|--|-------------------|
| | Net Change (\$mm) |
| Top 5 Net Buyers | |
| Caxton Associates LLC | 284.3 |
| Davis Advisers | 239.5 |
| Legg Mason Capital Management, Inc. | 169.3 |
| Capital Guardian Trust Co. | 164.6 |
| Lazard Asset Management LLC | 158.3 |
| Top 5 Net Sellers | |
| Fidelity Management & Research | -570.2 |
| Jennison Associates LLC | -164.4 |
| BlackRock Advisors, Inc. | -140.2 |
| Loomis, Sayles & Co. LP | -127.4 |
| Marsico Capital Management LLC | -120.5 |

Unlike the majority of companies that experienced an increase in net share activity and a decrease in total shareholders, **J2 Global** experienced the opposite. In each quarter following the announcement of its investigation, J2 Global saw a drop in its net share activity by 12.3% while its shareholder base increased 9.1%. A large institution such as **Goldman Sachs Asset Management** liquidated a large portion of their stake in J2 and was a large net seller of the Non-Tech Study Group, while actually being one of the largest net buyers of the Tech Study Group. An influx of institutions (including some notable activity by the hedge fund community) bought the shares sold by Goldman Sachs, as well as shares sold by **Wasatch Advisors** and **BlackRock Advisors**. **Canyon Capital Advisors** took one of the largest positions among investors buying into the company, and was also one of the overall top buyers during the quarter that the company came under investigation. **Magnetar Financial** was also among the top institutional investors to buy into J2 Global during this quarter. Investors continued to buy into the company in the subsequent quarter, as demonstrated by the presence of **Clearbridge Advisors**, **Contravisory Research & Management** and **Thales Fund Management**, all among the top institutions to buy into J2 Global.

Share Turnover

Unlike the Tech Group, the turnover rate experienced by companies in the Non-Tech Study Group was greater than the turnover experienced by the companies in the Non-Tech Control Groups.

Cyberonics, a healthcare company, experienced the greatest turnover rate with 42.0% from quarter before event to 1 quarter after event, while **Medarex**, also a healthcare company, experienced the lowest turnover rate of 13.9% from quarter after event to 2 quarters after event.

| Shareholderbase Turnover (%) | | |
|--------------------------------|---|---|
| Average Institutional Activity | | |
| | Quarter Before Event to 1 Quarter After Event | Quarter After Event to 2 Quarters After Event |
| Non- Tech Study Group | 24.8% | 24.1% |
| vs. | | |
| Non- Tech Control | 14.4% | 14.8% |

Conclusion: Impact on Institutional Ownership

All companies involved in the options backdating scandal experienced some sort of volatility in their shareholder base as evidenced by the increase in volume and the specific shareholder movements we observed. The Non-Tech Group and small-cap companies experienced the greatest activity. The Non-Tech Group because of investor uncertainty in seeing these companies involved in the tech heavy scandal, while the small-cap group because of the riskier nature of these less mature companies leading to less tolerance for scandals from shareholders. Furthermore, the volatility of the control group can be related to the possibility that the companies within the technology sector have been tainted by the options scrutiny. Despite the increased volatility and keeping in mind the influence of broader market trends, the net effect was not overwhelmingly positive or negative as investors did seem to employ different strategies depending on the situation. Overall, there were no clear group trends and assessing each unique scenario is necessary to determine how the shareholder base reacted. Analyzing how specific institutions reacted in similar past experiences is the best predictor of how they may react to other situations.

Corporations need to be fully aware of the perceptions and composition of their institutional investor base. A comprehensive identification and understanding of one's shareholders will help to understand stock movement and allow management to anticipate and alleviate the concerns of potential selling shareholders. Regardless of the situation, a proactive investor relations program which practices forthright communication is the best defense to such situations.

If your company was involved in this recent wave of corporate scrutiny or if you have been or expect to be the subject of a significant event that has/will impact your share price and shareholder base, Ipreo Global Market Intelligence can provide a thorough analysis of your institutional shareholder base and help position your investor targeting strategy to reflect your current situation.

Ipreo Global Market Intelligence (GMI) is an outsourced consultative service focused on providing research, analysis, market intelligence and data on the capital markets. Our team can provide valuable insight into the key factors and concerns that drive institutions' investment decisions through perception studies, as well as providing institutional ownership identification and ownership reaction analysis. These studies and analyses provide actionable intelligence to gauge investor sentiment about a particular company, issue or market moving event. For more information about this study or about analyses of a similar nature, please contact Nicole Maselli at 212.849.5100 or nicole.maselli@i-deal.com.

Addendum

Below are the companies that were used in our study. Listed in alphabetical order.

Technology Study Group

| <u>Company</u> | <u>Ticker</u> | <u>Micro Industry</u> | <u>Company</u> | <u>Ticker</u> | <u>Micro Industry</u> |
|------------------------------|---------------|------------------------------|-------------------------------|---------------|------------------------------|
| Activision | ATVI | Software & Programming | McAfee Inc. | MFE | Software & Programming |
| Affiliated Computer Services | ACS | Computer Services | Mercury Interactive | MERQ | Software & Programming |
| Altera | ALTR | Semiconductors | Mips Technologies | MIPS | Computer Hardware |
| American Tower | AMT | Communication Services | Novell | NOVL | Software & Programming |
| Analog Devices | ADI | Semiconductors | Novellus Systems | NVLS | Semiconductors |
| Applied Micro Circuits | AMCC | Semiconductors | Nvidia | NVDA | Semiconductors |
| Aspen Technology | AZPN | Software & Programming | Openwave Systems | OPWV | Software & Programming |
| Asyst Technologies | ASYT | Semiconductors | Power Integrations | POWI | Computer Hardware |
| Atmel | ATML | Semiconductors | Progress Software | PRGS | Software & Programming |
| Autodesk | ADSK | Software & Programming | Quest Software | QSFT | Software & Programming |
| BEA Systems | BEAS | Software & Programming | Rambus | RMBS | Semiconductors |
| Broadcom | BRCM | Semiconductors | SafeNet | SFNT | Communications Equip. |
| Brooks Automation | BRKS | Computer Hardware | Sanmina-SCI | SANM | Electronic Instr. & Controls |
| CNET Networks | CNET | Computer Services | Sapient | SAPE | Computer Services |
| Computer Sciences | CSC | Computer Services | Semtech | SMTC | Semiconductors |
| Converse Technology | CMVT | Communications Equip. | Sonus Networks | SONS | Communications Equip. |
| Electronic Arts | ERTS | Software & Programming | Sycamore Networks | SCMR | Communications Equip. |
| F5 Networks | FFIV | Computer Networks | Take-Two Interactive Software | TTWO | Software & Programming |
| Foundry Networks | FDRY | Communications Equip. | THQ | THQI | Software & Programming |
| Intuit | INTU | Software & Programming | Trident Microsystems | TRID | Semiconductors |
| Jabil Circuit | JBL | Electronic Instr. & Controls | Ulticom | ULCM | Software & Programming |
| Juniper Networks | JNPR | Communications | Verint | VRNT | Software & Programming |
| KLA-Tencor | KLAC | Semiconductor | VeriSign | VRSN | Software & Programming |
| L-3 Communication Holdings | LLL | Communications Equip. | Western Digital | WDC | Computer Storage Devices |
| Linear Technology | LLTC | Semiconductor | Wind River | WIND | Software & Programming |
| Macrovision | MVSN | Software & Programming | Witness Systems | WITS | Software & Programming |
| Marvell Technology Group | MRVL | Semiconductors | Zoran | ZRAN | Semiconductors |
| Maxim Integrated Products | MXIM | Semiconductors | | | |

Technology Control Group

| <u>Company</u> | <u>Ticker</u> | <u>Micro Industry</u> | <u>Company</u> | <u>Ticker</u> | <u>Micro Industry</u> |
|--|---------------|--------------------------|-------------------------------------|---------------|-------------------------------|
| Actel Corp | ACTL | Semiconductors | International Rectifier Corp. | IRF | Semiconductors |
| Adtran Inc. | ADTN | Communications Equip. | Intersil Corp. | ISIL | Semiconductors |
| Agere Systems Inc. | AGR | Semiconductors | Inter-Tel Inc | INTL | Communications Equip. |
| Agilent Technologies Inc. | A | Electronic Technology | Itron Inc. | ITRI | Communications Equip. |
| Akamai Technologies Inc. | AKAM | Technology Services | JDA Software Group Inc | JDAS | Software & Programming |
| Alliance Data Systems Corp. | ADS | Technology Services | JDS Uniphase Corp. | JDSU | Communications Equip. |
| Amdocs Ltd. | DOX | Technology Services | Keane Inc | KEA | Software & Programming |
| American Power Conversion Corp. | APCC | Producer Manufacturing | Lam Research Corp. | LRCX | Electronic Technology |
| Amphenol Corp. | APH | Electronic Technology | Lexmark International Inc. | LXK | Electronic Technology |
| Ansoft Corp | ANST | Software & Programming | MEMC Electronic Materials Inc. | WFR | Electronic Technology |
| Ansys Inc. | ANSS | Software & Programming | Micrel Inc | MCRL | Semiconductors |
| Applied Biosystems Group - Applera Corp. | ABI | Health Technology | Microchip Technology Inc. | MCHP | Electronic Technology |
| Arris Group Inc. | ARRS | Communications Equip. | Microsemi Corp. | MSCC | Semiconductors |
| Avaya Inc. | AV | Electronic Technology | National Instruments Corp. | NATI | Computer Peripherals |
| Avid Technology Inc. | AVID | Computer Peripherals | National Semiconductor Corp. | NSM | Electronic Technology |
| Blackboard Inc | BBBB | Software & Programming | NCR Corp. | NCR | Electronic Technology |
| BMC Software Inc. | BMC | Technology Services | NetLogic Microsystems Inc | NETL | Semiconductors |
| Broadwing Corp. | BWNG | Computer Networks | Network Appliance Inc. | NTAP | Electronic Technology |
| Cadence Design Systems Inc. | CDNS | Electronic Technology | OmniVision Technologies Inc | OVTI | Semiconductors |
| Citrix Systems Inc. | CTXS | Technology Services | Packeteer Inc | PKTR | Computer Networks |
| Cognizant Technology Solutions Corp. | CTSH | Technology Services | Palm Inc. | PALM | Computer Hardware |
| Convergys Corp. | CVG | Computer Networks | PDF Solutions Inc | PDFS | Semiconductors |
| Cooper Industries Inc. | CBE | Producer Manufacturing | Pericom Semiconductor Corp | PSEM | Semiconductors |
| Cree Inc. | CREE | Semiconductors | Photronics Inc | PLAB | Semiconductors |
| Cymer Inc. | CYMI | Semiconductors | PLX Technology Inc | PLXT | Semiconductors |
| Cypress Semiconductor Corp. | CY | Semiconductors | QLogic Corp. | QLGC | Semiconductors |
| Digital River Inc. | DRIV | Software & Programming | Rockwell Automation Inc. | ROK | Electronic Technology |
| Electronic Data Systems Corp. | EDS | Technology Services | Silicon Laboratories Inc. | SLAB | Semiconductors |
| EPIQ Systems Inc | EPIQ | Software & Programming | SiRF Technology Holdings Inc. | SIRF | Communications Equip. |
| Exar Corp | EXAR | Semiconductors | SPSS Inc | SPSS | Software & Programming |
| Fairchild Semiconductor Intl. | FCS | Semiconductors | Stratasys Inc | SSYS | Computer Peripherals |
| Fiserv Inc. | FISV | Technology Services | Sybase Inc. | SY | Software & Programming |
| FormFactor Inc. | FORM | Semiconductors | Sykes Enterprises | SYKE | Computer Networks |
| Garmin Ltd. | GRMN | Electronic Technology | Symbol Technologies Inc. | SBL | Computer Peripherals |
| Harris Corp. | HRS | Electronic Technology | Synopsys Inc. | SNPS | Software & Programming |
| Hyperion Solutions Corp. | HYSL | Software & Programming | Tech Data Corp. | TECD | Computer Hardware |
| Imation Corp. | IMN | Computer Storage Devices | Teradyne Inc. | TER | Semiconductors |
| Ingram Micro Inc. | IM | Computer Hardware | Total System Services Inc. | TSS | Technology Services |
| Integrated Device Technology Inc. | IDTI | Semiconductors | Transaction Systems Architects Inc. | TSAI | Software & Programming |
| InterDigital Communications Corp. | IDCC | Communications Equip. | Varian Inc. | VARI | Scientific & Technical Instr. |

Addendum (con't)

Non-Technology Study Group

| <u>Company</u> | <u>Ticker</u> | <u>Micro Industry</u> |
|----------------------------|---------------|-----------------------|
| Apollo Group | APOL | Consumer Cyclical |
| ArthroCare | ARTC | Healthcare |
| Barnes & Noble | BKS | Consumer Cyclical |
| CEC Entertainment | CEC | Consumer Cyclical |
| Ceradyne | CRDN | Industrials |
| Cheesecake Factory | CAKE | Consumer Cyclical |
| Corinthian Colleges | COCO | Consumer Cyclical |
| Cyberonics | CYBX | Healthcare |
| Delta Petroleum | DPTR | Energy |
| Engineered Support Systems | DRS | Industrials |
| Equinix | EQIX | Consumer Cyclical |
| J2 Global | JCOM | Consumer Cyclical |
| KB Home | KBH | Industrials |
| Medarex | MEDX | Healthcare |
| Monster Worldwide | MNST | Consumer Cyclical |
| Sepracor | SEPR | Healthcare |

Non-Technology Control Group

| <u>Company</u> | <u>Ticker</u> | <u>Micro Industry</u> |
|------------------------------------|---------------|------------------------------|
| Align Technology Inc. | ALGN | Medical Equipment & Supplies |
| Alkermes Inc. | ALKS | Biotechnology & Drugs |
| Applebee's International Inc. | APPB | Restaurants |
| Armor Holdings Inc. | AH | Aerospace & Defense |
| Borders Group Inc. | BGP | Retail (Specialty) |
| Cabot Oil & Gas Corp. | COG | Oil & Gas Operations |
| Career Education Corp. | CECO | Schools |
| Cephalon Inc. | CEPH | Biotechnology & Drugs |
| Denbury Resources Inc. | DNR | Oil & Gas Operations |
| DeVry Inc. | DV | Schools |
| EDO Corp. | EDO | Aerospace & Defense |
| Foster Wheeler Ltd. | FWLT | Construction Services |
| ITT Educational Services Inc. | ESI | Schools |
| Jo-Ann Stores Inc. | JAS | Retail (Specialty) |
| Kyphon Inc. | KYPH | Medical Equipment & Supplies |
| Lamar Advertising Co. (Cl A) | LAMR | Advertising |
| Laureate Education Inc. | LAUR | Schools |
| Orbital Sciences Corp. | ORB | Aerospace & Defense |
| PDL BioPharma Inc. | PDLI | Biotechnology & Drugs |
| Pier 1 Imports Inc. | PIR | Retail (Specialty) |
| Premiere Global Services Inc. | PGI | Communications Services |
| RCN Corp. | RCNI | Communications Services |
| Ruby Tuesday Inc. | RI | Restaurants |
| Taro Pharmaceutical Industries Ltd | TARO | Biotechnology & Drugs |
| Toll Brothers Inc. | TOL | Construction Services |
| UTStarcom Inc. | UTSI | Communications Services |
| ValueClick Inc. | VCLK | Advertising |