

# Section 404 of Sarbanes-Oxley Act: An Analysis of External and Internal Responses

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# **SECTION 404 OF SARBANES-OXLEY ACT: AN ANALYSIS OF EXTERNAL AND INTERNAL RESPONSES**

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## **Introduction**

Exhaustive research has been done on the effects of the Sarbanes-Oxley Act (SOX) since its passage in July 2002. Researchers such as Rittenberg and Miller (Rittenberg, 2005) found improvements in information technology controls and anti-fraud processes. Wagner and Dittmar (Wagner, 2006) found extensive SOX benefits related to improvements in internal control from reduced human error and improved documentation. This paper adds to the body of prior research by identifying and analyzing collateral internal and external reactions to material weaknesses reported following SOX. Specifically, the authors identify and analyze five external outcomes and four internal responses related to companies which have reported material weaknesses in internal control pursuant to SOX. These external measures are:

- 1) Changes in corporate mortality. Specifically, did the company go out of business, delist, or disappear via merger/acquisition following announcement of a material weaknesses in internal control.
- 2) Change in risk related to stock ownership in companies reporting material weaknesses in internal control as measured by the stock's Beta coefficient.
- 3) Level of institutional ownership of company stock in companies reporting material weaknesses in internal control.
- 4) Stock market (price) reaction beyond the initial reaction to announcement of material weaknesses in internal control.
- 5) Insider decisions to buy or sell company stock following announcement of a weakness in internal control.

This paper also augments the established body of knowledge on stock reversals. Such reversals reflect the ability of a firm's stock to rebound following disclosure of bad news. De Bondt and Thaler found that the stock market tends to overreact to bad news. In periods following

disclosure of bad news, De Bondt and Thaler found affected stocks tend to outperform their peers for several years. (De Bondt, 1985) Cox and Peterson's research reached a different conclusion. They found that the recovery in a firm's stock price following announced bad news existed for only a very short period and stocks of companies reporting bad news tend to underperform their peers in later years. (Cox, 1994) The authors herein have assembled a portfolio of stocks that have disclosed bad news (weakness in internal control pursuant to SOX). Hence, the authors' analysis also expands the established body of knowledge on stock reversals.

Additionally, this research analyzes internal collateral effects related to corporate governance. Specifically, the authors analyze the incidence of four governance changes in companies which reported material weaknesses in internal control pursuant to SOX. The corporate changes examined:

- 1) Change in corporate chief executive officer (CEO)
- 2) Change in corporate chief financial officer (CFO).
- 3) Change in external auditor.
- 4) Reporting of material weakness in internal control in years subsequent to initial weakness reporting year.

### **SOX Background**

With the dawn of a new millennium came a seemingly endless stream of announcements of corporate malfeasance. Companies like WorldCom, Enron, and Adelphia, in many cases, corporate pillars in their communities were "outed" for their fraudulent accounting practices. Americans investors lost billions of dollars, retirees saw entire pension plans reduced to nothing, and employees of fraudulent firms lost thousands of jobs. Even Arthur Andersen, the world's

largest and, at the time, most respected certified public auditing firm decomposed in the process. In response to the ensuing public outcry, in 2002, Congress passed the Sarbanes Oxley Act “to protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the securities laws, and for other purposes.” (U.S. House of Representatives, 2002) Congress intended SOX implementation to restore investor confidence. The act focuses on changes in specific corporate governance procedures including the following:

- 1) SOX required audit committees of boards of publicly traded companies to have members with financial expertise and that the audit committee should report directly to the Board (and not management).
- 2) A governmental agency, The Public Company Accounting Oversight Board or PCAOB, was set up to “audit the auditors”.
- 3) The possibility of financial penalties and jail time for CEOs and CFOs in companies preparing fraudulent financial statements.
- 4) SOX called for additional funding for SEC enforcement and, learning from the Enron case, limited both loans to officers and the establishment of special purpose entities.
- 5) Internal controls became the lynchpin in improvement of the accuracy of financial reports. SOX required extensive documentation, review, and testing of corporate internal control systems and mechanisms and procedures.

SOX is not without its detractors. Additional costs associated with the implementation of SOX created considerable corporate angst. Practitioners and academics disagree as to whether SOX benefits exceeded SOX costs. Estimates of the annual expenditures related to SOX compliance varied from \$5.8 billion (Bellman, 2005) to \$6.1 billion. (Rahn, 2005) Stuart acknowledges the existence of several difficult to quantify costs related to SOX: 1) the cost of actions taken in

response to executive's fear of personal liability, and 2) the potential unwillingness of corporate management to engage in innovative yet risky projects. (Stuart, 2003) One analysis of the SOX related fallout, completed two years following enactment, found that the provisions of SOX "were seriously misconceived as they are not likely to improve audit quality or otherwise enhance firm performance and benefit investors as Congress intended." (Romano, 2004)

### **Investor Response to SOX**

The stock market reaction to passage and implementation of SOX has been analyzed from several perspectives. Beneish reached the most benign conclusions finding no market response to disclosures of weakness in internal control. (Beneish, 2007) In a review of numerous event studies, Ribstein concluded that stock market reaction to SOX has been mixed but generally negative. (Ribstein, 2005) Separately, Leone found that the stock prices of companies reporting material weaknesses in internal control experienced losses in value for periods of 1, 7, 30, and 60 days after reporting. (Leone, 2005) Hammersley found negative market reaction in the three day window around disclosure of the weakness. (Hammersley, 2007) Ockree's research found there to be a moderate short term negative stock price reaction for companies reporting material weaknesses in internal control (like Leone). The firms in the Ockree study, however, outperformed the market in a longer following period. Additionally, Ockree detected a sizeable Beta coefficient differential for this set of firms, two year prior to the announcement of the SOX problem. (Ockree, 2007) Baker extended Ockree's research with similar conclusions on market performance and Beta. (Baker, 2007) Chhaochharia and Grinstein found that SOX, in its entirety, generated a positive effect on shareholder value. (Chhaochharia, 2005) Jain and Rezaee found that the benefits of SOX exceeded compliance costs, using stock prices as a proxy. (Jain, 2005) Finally, Li, Pincus, and Rego analyzed stock market reactions in the time period

proximate to passage of SOX legislation. They found positive abnormal stock returns related to SOX events including the release of the House-Senate Conference report on the SOX legislation. (Li, 2006)

### **The SOX Material Weakness Portfolio**

In “Section 404 of Sarbanes-Oxley Act: Did the Stock Market Anticipate It?” Ockree analyzed the initial 114 companies that disclosed material weaknesses in internal control. This first period of SOX mandated disclosure began January 1, 2005 and ended May 31, 2005. As previously stated, Ockree found a moderate short term negative stock price reaction to companies reporting material weaknesses in internal control followed by a period in which companies with material weaknesses out-performing the market; in addition to a marked increase in the Beta coefficients for those same companies which could be detected two years prior to announcement of their initial material weakness disclosure. (Ockree, 2007)

In “Disclosure of Internal Control Weaknesses and Long-Term Stock Returns” Baker analyzed these same initial SOX reporting companies for one year periods after disclosure of material weakness in internal control. He found greater stock market returns for the material weakness portfolio than for their peers for the first year following the initial announcement of material weakness. The average Beta coefficient for these companies also increased during this period indicating perceived higher risk. Baker’s research analyzed multiple time periods as the companies reported weaknesses on different days creating multiple one year trailing periods, with the last period ending on May 31, 2006. Baker also eliminated 11 of Ockree’s 114 companies from the portfolio as these firms shares were no longer publicly traded, having either

delisted or disappeared via merger or acquisition. (Baker, 2007) The remaining 103 companies of the initial material weakness firms are the starting point of this paper's analysis.

For this paper, data was gathered as of April 30, 2008 for all remaining companies from Ockree's original material weakness population. The date April 30, 2008 represents the most current date that all relevant financial data was available for analysis. Of the 103 publicly traded companies analyzed by Baker, an additional 18 companies were eliminated from the population by April 30, 2008, leaving 85 companies in the population. This resulted from additional stock delistings and/or companies disappearing due to merger and acquisition activity. Doyle provided a possible explanation of this shrinkage in the portfolio as he found reporting of material weaknesses in internal control more likely for firms that are smaller, less profitable, more complex, growing rapidly, or undergoing restructuring. These findings are consistent with firms which may be struggling with their financial reporting controls in the face of a lack of resources; complex accounting issues; within the context of a rapidly changing business environment. (Doyle, 2007) (Note: Although not included in this analysis, two additional companies disappeared from the population immediately after we completed our analysis at April 30, 2008. Of the original 114 companies reporting material weaknesses, 31 (27%) were no longer publicly traded three years later.)

### **Corporate Mortality: Analysis of Delistings and Mergers and Acquisitions on the Portfolio**

One of the anticipated and often cited negative byproducts of the passage of SOX was the expectation that companies, facing high SOX related compliance costs, would deregister with the SEC (go dark) and delist from the stock exchange. (Marosi, 2005) Leuz, Triantis, and Wang evaluated delisting firms and found a significant negative abnormal return at the announcement

and filing of deregistration. This negative return was more prominent for firms that deregistered after the passage of the Sarbanes-Oxley Act. The Leuz findings are consistent with the premise that deregistrations could be triggered by negative changes in a firm's prospects. The research also supported the conjecture that deregistrations could have other than benign motivations when governance structures are weak and agency problems are present. (Leuz, 2006)

Minimal research has been published on causal links between material weaknesses in internal control and mergers and acquisitions. Ashbaugh-Skaife, Collins, and Kinney found firms with internal control deficiencies more apt to be involved in mergers and acquisitions. (Ashbaugh-Skaife, 2006) It is important to note that this paper's study horizon included an era of accelerated merger activity for all companies, largely fueled by the private equity boom of 2005-2007. (Schrum, 2007) Therefore, logically, one would expect a similar increase in merger and acquisition activity in the material weakness portfolio. That proposition is not directly examined herein. Specific analysis of the interaction of increases in private equity investment, availability of companies with material weakness in internal control, and an increase in merger/acquisition is an area requiring additional study.

During the time horizon of this study, the portfolio of companies with material weaknesses in internal control shrank by nine percent per year through either corporate delisting or through companies being acquired/merged. As a point of comparison, less than four percent of all publicly traded companies were involved in mergers in 2005, the first year of the most recent private equity driven merger frenzy. (SDC Platinum, 2008) Additionally, between 1998 and 2004, an average, of only 81 companies per year delisted by filing Form 15 with the SEC to

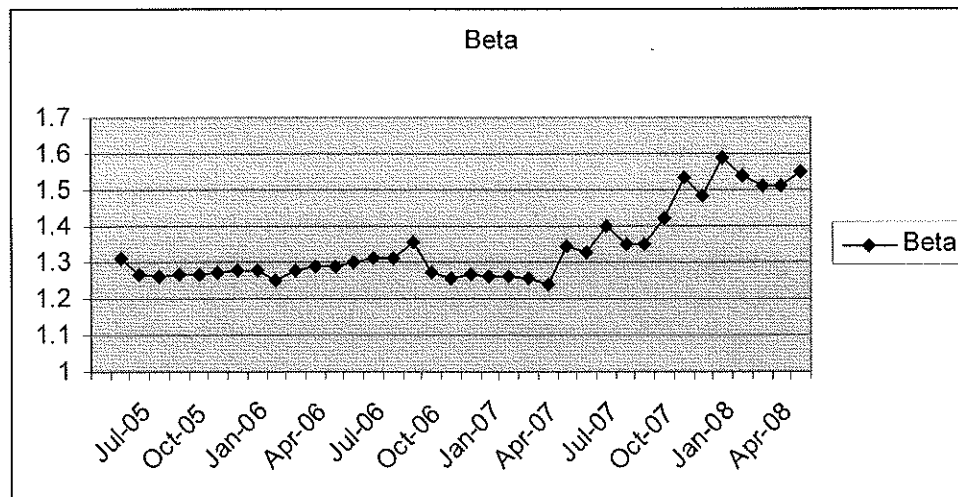
discontinue required reporting. (Leuz, 2006) Therefore, the nine percent per year reduction in the portfolio of material weakness companies during the study horizon via delisting and merger appears elevated by comparison.

### Beta Coefficient

Analysts commonly rely on the Beta coefficient of a company's stock as an indicator of risk for that stock relative to other investment opportunities. An investment portfolio with a Beta coefficient of 1.00 generally indicates an average risk level. Betas above 1.00 reflect more risk than average while stocks with Betas below 1.00 are considered less risky than average. To assess the level of risk associated with the stocks in the material weakness portfolio, the average Beta coefficient of the 85 company portfolio was calculated. At the end of May, 2005, the average Beta for portfolio stocks equaled 1.31. The average Beta coefficient at the end of April 2008 was 1.55. The average Beta for the 85 companies was calculated for each monthly period ending April 2008. Chart 1 graphically displays the results of these calculations below.

(Compustat, 2008)

Chart 1



The average observed Beta indicates that portfolio companies were more risky than the market in general and that risk increased during the time frame of this study. However, a stock's Beta

coefficient is only one means to measure risk. Other factors may have at least a contributing effect. Fama and French found factors such as the firm's use of leverage and the size of a firm's market equity to affect Beta coefficients. The ratio of earnings to price and the ratio of book equity to market equity are also part of the relationship of a firm's risk and its return to shareholders. (Fama, 1992) However, Lintner, in his research, found Beta to be the foremost indicator of risk. (Lintner, 1965) An analysis of these other risk related factors is beyond the scope of this paper.

### **Institutional Ownership**

The composition of a publicly traded corporation's shareholder base also generally relates to the level of risk associated with ownership of the stock. The average institutional ownership percentage of the U.S. stock market is 48% with individuals holding the remaining 52%. (Compustat, 2008) Stocks with larger institutional shareholder bases generally represent companies more receptive to risk taking. (Wright, 1996) The 77% average institutional ownership percentage of companies in the material weakness portfolio calculated as of December 31, 2007 dramatically exceeds the average of all publicly traded companies and, like the Beta coefficient calculated above, reflects the elevated risk imbedded in the material weakness stocks. (Compustat, 2008)

### **Stock Price Change**

The change in the market value of the material weakness companies' common shares was determined by creating a portfolio consisting of one share of stock for each of the 85 companies. Daily closing stock price data were obtained for companies on May 31, 2005. This was the date of the last initial reported material weakness in internal control. (Ockree, 2007) The closing stock prices for the same companies were also obtained as of April 30, 2008. The change in

stock price was then calculated for the portfolio for this period. (BigCharts, 2008) After adjusting return data for stock splits, the average return for stocks in this portfolio over this nearly three year period was 1.68%.

Russell 3000 returns during this same period were used as a benchmark for comparison of annual returns. Ockree determined the Russell 3000 appropriate because the make up of the portfolio contained both large and small cap companies (similar to the Russell Index) and both the Russell 3000 and the portfolio had comparable average market capitalizations. Ockree's material weakness portfolio included companies with market capitalization ranging from \$40 million to in excess of \$300 billion at May 31, 2005. The average market capitalization for the Russell 3000 was approximately \$4.8 billion and its median market capitalization was approximately \$944.7 million at May 31, 2005. The portfolio's average market capitalization was \$4.852 billion and the median market capitalization was \$733 million. (Ockree, 2007,) Baker also followed Ockree's lead and used the Russell 3000 as a benchmark. (Baker, 2007) The actual increase in the Russell 3000 return for the period of May 31, 2005 to April 30, 2008 of 17.28% exceeds the increased return on the portfolio by 15.6%. (Exhibit 1) (Russell, 2008) Given, the higher than average risk in the portfolio stocks as measured by the Beta coefficient and as evidenced by the large institutional holdings of the portfolio stocks, this finding was not anticipated. Traditional economic thought has found that investors require a higher level of return in exchange for bearing a higher level of risk. In the case of the material weakness portfolio, returns were dramatically below the chosen benchmark while risk escalated. The risk/return results were also contrary to the findings of Ockree and Baker. (Ockree, 2007) (Baker, 2007)

The findings herein also fail to support stock reversal expectations of De Bondt and Thaler. (De Bondt, 1985) The portfolio did not sustain the improvements in stock price noted by Ockree and Baker. (Baker, 2007) (Ockree, 2007) The portfolio's poor performance aligns with Cox and Peterson's research which concluded that market gains after announcement of bad news is short lived. (Cox, 1994)

### **Survivorship Bias**

The comparison of the returns of 85 companies in the portfolio to the Russell 3000 excluded the 18 companies in Baker's research whose stocks no longer trade. Therefore, the current study reflects a survivorship bias. As an additional test, the actual weighted average returns for those 18 stocks eliminated from the portfolio were calculated from May 31, 2005 to their last day of trading. A weighted average calculation of a benchmark using the Russell 3000 was also calculated.

On a weighted average basis, the average return for the 18 companies which were eliminated from the portfolio was 1.53% over an average period of 1.73 years. (The average period of time between May 31, 2005 and the date of the company's stock's last trade date.) The weighted average return for the Russell 3000 for the same period of time was .99%. If the difference in returns between the 18 eliminated companies and the benchmark Russell 3000 had been significant, there would have been a valid concern regarding the survivorship bias in the remaining 85 company portfolio. However, the authors posit that the 18 companies appear to be "market performers", similar to benchmark companies. The remaining 85 companies comprise a valid population for study and are not significantly tainted by a survivorship bias.

### **Insider Buying and Selling**

The number of insiders buying and selling company stock for each firm during the most recent year, 2007, was also analyzed. Stock purchases and sales of the 10 largest insiders were also identified. During this period, there were 3.0 times as many inside sellers as inside buyers in the material weakness portfolio. In the overall stock market, there were 1.6 times as many inside sellers as there were inside buyers. (Exhibit 2) The amount of stock purchased or sold during this period also varied widely between the portfolio and the stock market in general. For the material weakness portfolio, the average block size of insider shares sold was 8.6 times larger than the average block size of insider shares purchased. For the stock market in general, the average number of insider shares sold exceeded the insider share purchases by only 1.7 times. (Exhibit 3) (Compustat, 2008) This findings of above average number of sales (versus purchases) by insiders coupled with the larger than average number of shares sold is viewed by the market as symptomatic of a lack of confidence of insiders in a company's future and is consistent with the findings of poor stock price performance.

### **Change in CEO**

In addition to the above analysis of the external reaction to material weakness in internal control, this paper also identifies four apparent internal responses or issues possibly related to the initial announcement of material weakness in internal control: 1) Change in CEO, 2) Change in CFO, 3) Change of external auditor, and, 4) a repeat reporting of material weaknesses in internal control. The first potential "internal firm reaction" to reported weaknesses examined here is change of CEO. For this analysis, portfolio company 10-Ks were reviewed for filing years 2006, 2007, and 2008 in order to determine which companies in our 85 company portfolio changed CEOs after 2005 (the year the initial material weakness was disclosed). (Edgar, 2008) Of course, CEO's are changed for multiple reasons. But portfolio firms exhibit a higher CEO

change rate than firms in general for both 2006 and 2007, although the difference is much smaller in 2007. (Exhibit 4) Crist Associates reports in 2006 an 11.2% rate of change in CEOs in their sample of 658 Fortune 500 and S & P 500 companies. (Crist Associates, 2006) The material weakness portfolio for that same year reported a change rate of 15.7%. Therefore, portfolio firms' CEO change rate exceeded the general change rate by about 40% in 2006. For 2007 Challenger, et al, report a 10.8% CEO change rate for firms as a whole. (using the approximately 12,600 publicly traded firms as the denominator, (Grothe, 2007)) compared to 11.2% for portfolio firms. Table 1, below, depicts the percentage of the portfolio companies which changed CEOs in the indicated year. (Challenger, 2008)

### **Change in CFO**

Next, this study addresses company retention decisions related to CFOs following announcement of the material weakness. For this analysis, company 10-Ks were reviewed for filing years 2006, 2007, and 2008 to determine which companies in our 85 company portfolio changed CFOs after 2005. (Edgar, 2008) Table 1, below, shows the percentage of portfolio's companies which changed CFOs in the indicated year. The primary responsibilities of CFOs include assurance that appropriate internal controls are in place and functional. Therefore, one might expect material weakness shortcoming to be laid at the feet of CFOs and a consequently expect a higher rate of CFO turnover in the material weakness portfolio. Crist, for 2006, reported 16.3% CFO turnover for the 658 Fortune 500 and S & P 500 firms in their statistics. Portfolio firms reported 23.5% CFO turnover for the same year. (Exhibit 5) Portfolio firms replaced CFOs at a clip 44% higher than Crist's sample. McCann reports that CFO turnover was 10.6% for Fortune 100 firms for the first half of 2008. (McCann, 2008) Therefore, portfolio firm CFO turnover through July 2008 exceeded the Fortune 1000 turnover rate in the first half of 2008 by 62%. A small part of

this difference may be attributable to the one month of additional data collected for portfolio firms but the anticipated actual comparative difference should be insignificant.

### **Change in External Auditors**

The third internal response analyzed pertains to a portfolio firm's decision to retain its external auditors following announcement of the material weakness. As a point of reference, the article "Analyzing Auditor Changes" in the CPA Journal reported that in the four years following the Arthur Andersen failure in 2002, 51.9% of public companies changed auditors. More specifically, in 2005, 12% of public companies changed auditors. This rate declined in 2006, to 10.4%. (Grothe, 2007) (Comparative auditor change information was not available for 2007 and 2008.) Portfolio firm 10-Ks were reviewed for filing years 2006, 2007, and 2008 in order to identify which companies in our 85 company portfolio changed external auditors after 2005. (Edgar, 2008) 14.6% of portfolio firms changed auditors in 2006 while Grothe, Weirich reported only 10.4% auditor change in the population of publicly reported firms. (Exhibit 6) Table 1, below, indicates the percentage of portfolio companies changing external auditors in 2006, 2007, and 2008. Part of the auditor change percentage may be attributable to changes in management (e.g. CEO and CFO changes reported above). A portion of these changes may also be categorized as resulting from PCAOB and SOX requirements. Both of these causes were listed as reported reasons for auditor changes in the general population of publicly reported firms in Grothe, Weirich. (Grothe, 2007)

### **Material Weakness in Subsequent Years**

Finally this study examines portfolio company success in eliminating material weaknesses in internal control in years following the announcement of the initial material weakness. For this analysis, company 10-Ks were reviewed for filing years 2006, 2007, and 2008 to determine

which companies in the 85 company portfolio continued to disclose material weakness in internal control after the initial disclosure in 2005. Table 1, below, lists the percentage of portfolio companies which disclosed material weakness in internal control in the indicated year following initial disclosure. (Edgar, 2008)

The decrease in the overall percentage of companies in the portfolio reporting material weakness in internal control is expected. Given, that 100% of the portfolio firms reported initial material weaknesses in internal control in 2005, it would be unexpected to find no improvement in this area. Data clearly indicate that portfolio companies have largely taken steps to improve internal control. Companies assuredly have benefited from guidance and interpretation of SOX provided in 2007 by the Public Company Accounting Oversight Board. This guidance issued in the form of Auditing Standard No. 5 became available only after companies required initial filing of internal control evaluation in their first post-SOX 10k's (PCAOB, 2008). Huge incentives existed for corporate executives to take reparative steps in the area of internal control. And, initial reporting on material weaknesses by external auditors should have led to the identification of internal control areas in need of change or improvement.

In absolute terms, portfolio companies still lag behind the stock market in general in compliance with the internal control requirements of SOX. (Exhibit 7) In 2005, 10.0% of American companies reported material weakness in internal control. In 2006, 8.8% of American companies reported material weakness. In contrast, continued material weakness in portfolio companies as depicted in Table 1 below remains in excess of these stock average levels. (Glass

Lewis, 2007) Therefore, the high level of continued non-compliance in this studies portfolio seems to indicate either continued issues with corporate governance or the management in place.

**Table 1**

<b>Sample Firm Data (n = 85)</b>				
<b>Year</b>	<b>CEO Change</b>	<b>CFO Change</b>	<b>External Auditor Change</b>	<b>Continued Material Weakness†</b>
<b>2006</b>	<b>15.69%</b>	<b>23.53%</b>	<b>14.71%</b>	<b>18.63%</b>
<b>2007</b>	<b>18.95%</b>	<b>20.00%</b>	<b>4.21%</b>	<b>16.84%</b>
<b>2008***</b>	<b>9.20%</b>	<b>17.24%</b>	<b>4.6%</b>	<b>5.75%</b>
<b>*** through July 28, 2008</b>				

### **Conclusion**

The research findings in the analysis of a portfolio of companies which first reported internal weaknesses in internal control pursuant to SOX are noteworthy and robust.

- 1) When compared to the universe of all publicly traded companies, the portfolio had a marked increase in merger and acquisition activity and/or delisting from the respective stock market. Potential reasons for this increased mortality including the desire to eliminate disclosures required of publicly traded companies or general business failure are areas requiring additional study.
- 2) Risk, as measured by the average Beta coefficient of stocks in the portfolio, was above average at the time the initial material weaknesses were disclosed. During periods following this reporting, this average Beta coefficient continued to increase for those companies which did not delist or which were not acquired by another company.
- 3) Portfolio company stock is also more likely than the average publicly traded company to be held by institutional shareholders. Taking into consideration the higher Beta

coefficient of the portfolio stocks, this finding is consistent with prior research linking institutional shareholders to greater appetites for risk.

- 4) The stock market return of stocks in the portfolio was dramatically below a Russell 3000 benchmark for the approximately three year period following announcement of the material weakness. Additional analysis of the effect of a survivorship bias associated with the portfolio during this period found no significant tainting of the portfolio.
- 5) An analysis of the purchases and sales of company stock by the ten largest insiders following announcement of material weakness was completed. Findings included a larger propensity for insiders to be sellers rather than buyers when compared to the market in general. Additionally, within the portfolio, the average stock sale was 8.6 times the size of the average stock purchase. This compares unfavorably to a ratio of 1.7 times in the market in general.
- 6) It was anticipated that management (CEO) changes may follow disclosure of material weaknesses. The level of turnover of CEOs following announcement of the material weakness was analyzed and observed to be elevated. When compared to historical levels, observed portfolio CEO annual turnover rates were 1.4 to 2.1 times historical benchmarks.
- 7) Given CFOs are most likely to have responsibility for maintenance of adequate internal control procedures, it was anticipated that CFO changes may follow disclosure of material weaknesses. Like the observed CEO turnover rates, CFO turnover rates were also found to be elevated following disclosure of material weakness when compared to industry benchmarks.

- 8) Another board of director reaction to a finding of material weakness in internal control was anticipated to change external auditors. Analysis of portfolio companies in years following disclosure found a dramatic increase in the percentage of companies changing auditors in the first year after disclosure. However, in the second year following disclosure, portfolio companies were much less likely to change external auditors than the market in general.
- 9) The earliest companies reporting material weaknesses made substantial strides in improving internal control. The percentage of portfolio companies reporting material weakness in internal control dropped to 18.63% in the second year and 16.84% in the third year of reporting. Although still higher than the market in general, the improvement was deemed significant.

The final chapter has not been written on the Sarbanes Oxley Act. Analyses of outcomes related to its enactment are ongoing. Clarity of how it is to be applied increases and angst related to its enforcement subsides as it is better understood. This paper's analysis of distinct outcomes related to the act advances this understanding and adds to the body of knowledge thereto.

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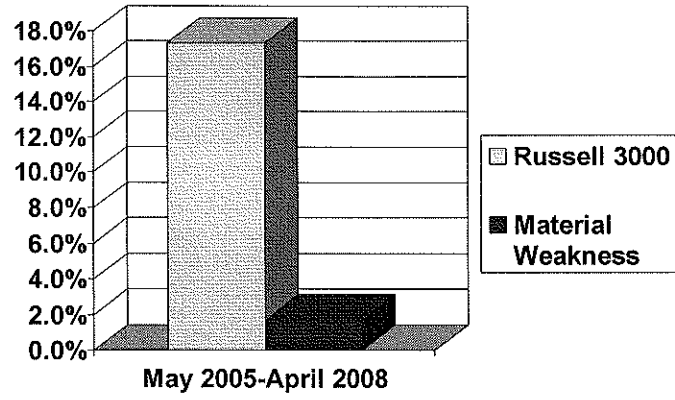
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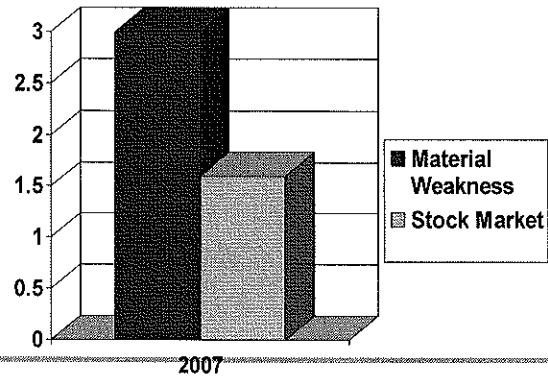
Exhibit 1

# Stock Price Change



## Insider Stock Buying and Selling

- Ratio of insider stock sellers to insider stock buyers.



# Insider Stock Buying and Selling

- Ratio of size of average insider stock sale to size of insider stock purchase.

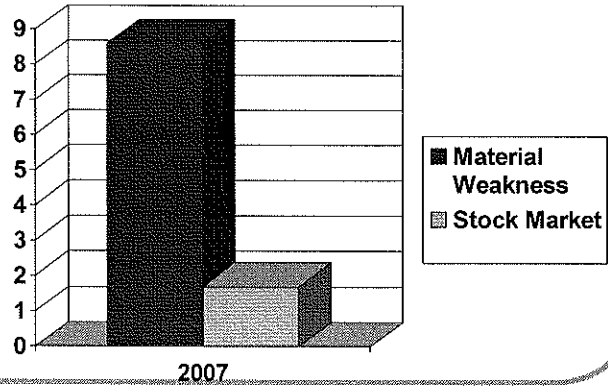
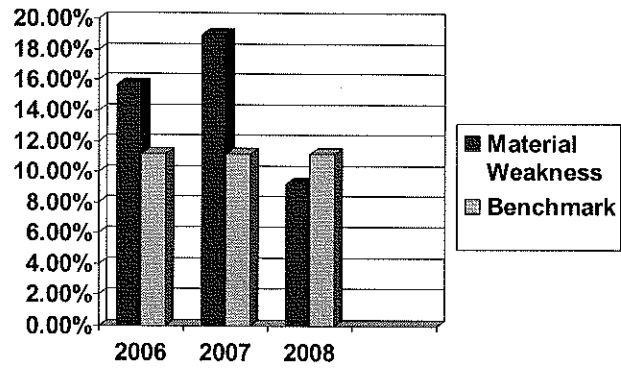


Exhibit 4

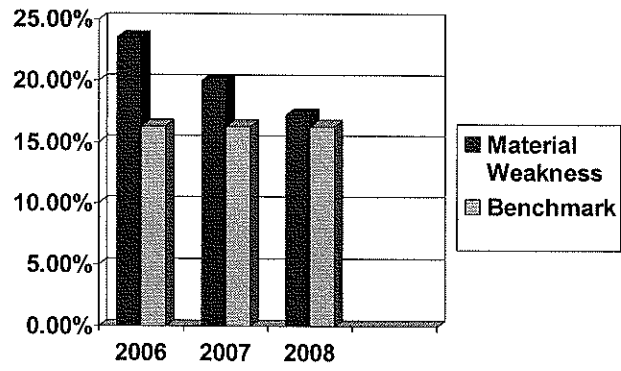
## Change in CEO



- 2008 data through July 28, 2008.

Exhibit 5

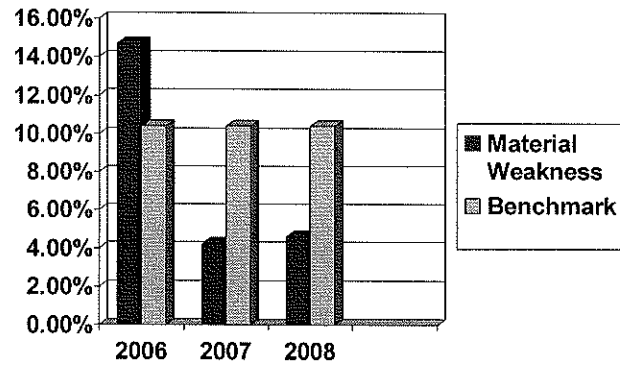
## Change in CFO



• 2008 data through July 28, 2008.

Exhibit 6

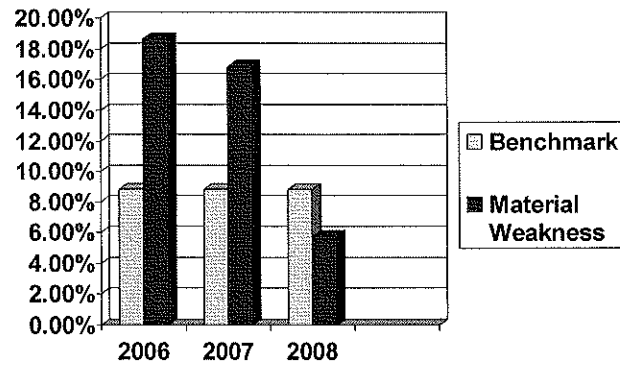
## Change in External Auditors



• 2008 data through July 28, 2008.

Exhibit 7

## Material Weakness in Subsequent Years



- 2008 data through July 28, 2008.