Financial Restatements and Market Reactions

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Introduction

An ever-increasing number of financial restatements were filed during each of the past six years, reaching a record 1,876 in 2006.1 Previous research into the stock price action of companies announcing financial restatements in the pre-Sarbanes-Oxley era revealed significant declines in share prices. Our research of restatements filed in 2006 confirms such negative reactions to restatements as a whole, but also found that not all restatements are regarded alike. Different types of restatement issues (e.g., FAS 95 Cash Flow Statements, Revenue Recognition, Executive Compensation, Stock-Options Backdating, etc.) induced different market responses. Likewise, the type of SEC filing used to make the announcement also induced different market responses. A more extreme drop in stock values arose when observing restatement notifications contained in event filings (8Ks and press releases) as opposed to periodic reports (10Ks, 10KAs, 10Qs, 20Fs, 40Fs, etc.).

For example, we found that restatements dealing with operational or integrity issues had the biggest impact on stock performance.2 Of particular interest, as shown in Figure A, our research revealed that those companies which restated due to errors in revenue recognition continued their pre-announcement trends of losing value even 50 days after the announcement. On average, companies that file revenue recognition restatements experience a 6% pre-announcement loss followed by continued declines. During the period 50 days after the restatement, the average company lost an additional 4% while the market rose about 1%.

In contrast, as shown below in Figure B, restatements caused by a cash flow issue experienced a post-announcement rebound with subsequent price increases comparable to the overall market. This aggregate presentation of cash flow restatements, however, fails to reveal a more interesting aspect of these restatements. As shown in Figure B, when cash flow restatements were divided into those restatements announced in an event filing versus a periodic filing, an acute difference emerged. The periodic filing restatements experienced a drop in stock value before the announcement and rebounded dramatically thereafter while the event filing restatements experienced a flat performance before the announcement followed by a drop in value and subsequent flat performance.

On average, companies that file revenue recognition restatements experience persistent declines. During the period 50 days after the restatement announcement, the average company lost an additional 4% in share price while the market, in comparison, rose about 1%.

The market tends to respond to a cash flow restatement differently if it is announced in a periodic filing as opposed to a run-of-the-mill event filing. A periodic filing announcement begins to recover while an event filing does not.

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1 As reported by Audit Analytics® in the 2007 report “Financial Restatements: A Six Year Comparison.”
2 Examples of operational restatements include revenue recognition, inventory, liabilities, and the like. Examples of integrity restatements include certain options backdating and any restatement where irregularities are identified.
Financial Restatements and Market Reactions

Executive Summary

Our research findings are summarized as follows:

1. Overall, our review of all financial restatements for 2006 found that in relation to standard indices, financial restatement notifications\(^3\) continued to be associated with relatively sharp declines in share prices prior to notification with continued declines thereafter. This finding was consistent with pre-Sarbanes Oxley restatement studies. (See Figure 1 on page 6.)

2. When these restatements were further divided into two groups, those that announced in an event filing and those in a periodic filing,\(^4\) the group that used a periodic filing did not experience substantial negative effects after the announcement. (See Figure 2 on page 7.) Restatements that were first reported in periodic filings (sometimes referred to as “stealth restatements”) experienced more of a decline prior to first notification, but increased thereafter (although not as well as the market).

3. Revenue recognition restatements, in comparison to standard indices, experienced sharp share price declines in the 50 days prior to a first notification with continued declines during the 50 days after a first notification. Revenue recognition restatements continue to indicate to investors persistent devaluations of company share values. (See Figure 3 on page 8.) When these restatements were further divided into groups of those that announced in an event filing and those in a periodic filing, the group that used an event filing displayed a dramatic drop (over 10%) while the group that used a periodic filing, although erratic, was relatively flat in its performance (overall loss of 2%). (See Figure 4 on page 9.)

4. In general, cash flow restatements (FAS 95) experienced declines prior to first notification followed by a limited period of declines afterward. The post-announcement declines rebound within the subsequent 50 days after the announcement to negate the losses incurred after the announcement. (See Figure 5 on page 10.) When the cash flow restatements were separated by announcement type (periodic filings versus event filings), the subset of periodic filings did not experience substantial negative effects. (See Figure 6 on page 11.) In general, cash flow restatements seem to be treated with less concern than operating and integrity implicating restatements. Nevertheless, cash flow restatements are examined for implications on cash flow projections, with more concern given to changes in operating cash flows versus financing cash flows.

5. Executive compensation and the related options backdating restatements experienced sharp declines prior to first notification with short term continued losses after first notification. Thereafter, for the next 50 days, the stocks trend upward in an erratic fashion to follow the prevailing rise of the market indices, but do so at a slower pace (flatter slope). (See Figure 7 on page 12 and Figure 8 on page 13). The subset group containing only options backdating issues appears to better track the market rise (experience a comparable slope) after experiencing the initial loss after announcement. (See Figure 9 on page 14.)

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\(^3\) Frequently, although not primarily, associated with event related disclosures, such as press releases and 8K filings.

\(^4\) An event filing refers to an 8K (or press release) and a periodic filing refers to filings required on a periodic basis (quarterly or yearly): a 10K, 10KA, 10Q, 20F, 40F, etc.
Executive Summary (continued)

6. When restatements from Russell 3000 companies (large caps) were compared to the remaining restatements, the data shows that the larger companies experienced stock value losses before and after the announcement, but the losses were less than those experienced by the smaller companies. (See Figure 10 on page 15.) In addition, Russell 3000 companies perform better after the post-announcement loss. Both the large and small companies track the upward trend of the market after incurring the post-announcement loss, but the stock value of the large companies subsequently grew at the same rate as the market (experience the same slope) while the upward trend of the smaller companies was sluggish (slightly flatter slope).

7. The large pre-announcement declines in share values were common. (See Figure 1 on page 6.) In the sample of all restatements, executive compensation, and stock-options backdating, approximately two-thirds of all stocks underperformed the market in the pre-announcement period. (See Figure 11 on page 16.) The existence of a large number of stocks that underperformed the market prior to the announcement may suggest that the market responded to negative factors pressuring a particular industry sector (and thereby created an environment for restatements) and/or the market recognized early indicators of company difficulties.

About the Audit Analytics® Restatement Database

The Audit Analytics® financial restatement database includes data from all electronic filings of SEC registrants since January 1, 2001 and includes more than 7,500 public company financial restatements and/or non-reliance filings (big and small, foreign and domestic) that have taken place. Restatement records originate from one of two sources: event filings or periodic reports. Our methodology is designed to identify so-called stealth restatements (those contained in a periodic filing) by utilizing several manual and automated review procedures.

After beginning a record that identifies a restatement cause or issue, we subsequently attach filings that address or add information to that original record, in essence creating a history for it. Generally, we consider such a history of filings to be one restatement. In certain circumstances, however, a company clearly identifies a completely new issue in a subsequent filing, and therefore this new issue is treated as a new restatement. For example, if a company files an 8K indicating a revenue recognition problem, but then files an ensuing 10K/A that discloses not only a revenue recognition issue, but also a Cash Flow Statement (FAS 95) issue, then a separate and second record is created to track that newly disclosed restatement issue as a distinct restatement. We do not, however, identify the revenue recognition issue in the second restatement so as not to double count the restatement issues in this process. Generally, the intent is to err on the side of combining new disclosures (such as a change in period or amounts) in restatements unless it is clear that the issues are different.

The database employs a taxonomy (issue classifications) of more than 40 different accounting error categories (e.g., Cash Flow Statement (FAS 95), Tax (FAS 109), Revenue Recognition, Intangible Assets, Option Backdating, etc.) determined by individual review of each restatement. The relational nature of the database allows the researcher to introduce and compare financial restatement search results into other data sets such as legal exposures, director and officer changes, auditor changes, auditor fees, internal controls assessments and financial metrics.
Purpose

The general purpose of this analysis is to quantify, for those companies that filed a restatement in 2006, the stock price movements during the period occurring 50 days before and 50 days after the announcement of the restatement. This analysis is further refined to identify and display distinct variations in stock price movements when certain categories of restatements are grouped by similar characteristics, such as (1) a particular issue implicated by the restatement, (2) the type of filing used to announce the restatement and (3) the size of the company restating its financial statement.

Acknowledgments

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Methodology

This Restatement Briefing Paper was compiled from data searched, categorized and extracted from the Audit Analytics restatement database. The scope of the research is to review 2006 restatements by identifying those companies with a “Zero Day” within the 2006 calendar year. The Zero Day is defined as the last full trading day before a company announced a restatement in an event filing or a periodic report. The initial download extracted all restatement with a Zero Day between January 1, 2006 and December 31, 2006, resulting in a sample size of 1,799 restatement announcements. After matching each restating company’s ticker and/or CIK to the closing stock price, the resultant dataset was filtered by stock price at fifty days before the Zero Day. To minimize the effect of penny stocks, the results excluded all companies whose stock price at fifty days before the Zero Day was less than one dollar per share. Furthermore, incomplete stock price data resulted in the removal of additional filings. Consequently, stocks delisted from its stock exchange during this announcement period are excluded from the sample. After eliminating incomplete stock price information and penny stocks, the sample contained 784 restatement announcements. Announcements not considered ‘adverse’ were eliminated from the sample set resulting in a final data set of 674 restatements.5

For each restatement, the stock price movement is calculated daily for the period 50 days before and after the Zero Day (101 days total). In addition, for comparison purposes, the market’s overall performance is calculated in the same manner during the same time window. The performance of the market is represented by analyzing three well-established market indices: the S&P 500, Russell 3000 and DJ Wilshire 5000. The value of each index is determined on the Zero Day and the percentage of movement, based on its Zero-Date value, is calculated daily for the period 50 days before and after the Zero Day. This study provides interesting presentations and observations, but is not intended to emulate classic event study methodologies.6

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5 The 674 restatements were filed by a total of 613 companies.
6 The purpose of this brief is to present general observations of occurrences before and after the announcement of a restatement. The paper is not intended to be an academically rigorous event study. For instance, the brief did not determine if a restatement announcement also contained other information of a positive or negative nature. As a result, if concurrent information was revealed in an announcement, the restatement event was not isolated. Furthermore, the observations in this brief do not address stock price volatility of the restated companies in relation to the market. The sample sizes in the study, however, are substantial and the brief hopes to reveal observations and distinctions that may merit further analysis.
Graphical Presentation

The results of the analysis are displayed graphically to provide a visual 101-day timeline and comparison of stock movements of those companies that filed a restatement against the stock price movements of the market as a whole. As explained in the Methodology section, each restatement event is analyzed separately and, therefore, has its own particular (1) Zero Day, (2) relative stock price percentage changes and (3) relative concurrent market value percentage changes. By subsequently anchoring all restatement occurrences to the same Zero Day (shown as day “0”) and mathematically superimposing all the data, the graph presents a composite line of stock price movement for both the restated companies and corresponding market index. This aggregate presentation is not date specific, but displays an alignment of events 50 days before and after the Zero Day for every restatement contained in the sample. Since the lines represent the value of the stock price or market value as a percentage of its corresponding value on the Zero Day, an equivalent slope in both the stock price line and market index line, even if the lines are offset, indicates the same performance (same percentage increase) for that period of time.

In order to provide more information about the pre-announcement and post-announcement periods of stock performance shown in the line graphs, the last two graphs display bar charts. One bar chart focuses on the pre-announcement period and the last chart focuses on the post-announcement period. These bar charts show the percentage of restatement events that accompanied a stock price performance better than the market and stock price performance worse than the market.

Expanded Findings and Graphs

The following 12 figures and discussions provide a more detailed review of the results obtained from the 2006 restatement research. Figures 1 through 10, inclusive, display graphs that present a 101-day timeline of stock price changes (percent changes) 50 days before and after the announcement of certain types of restatements. These graphs also contain, for comparison purposes, the corresponding price changes experienced by three market indexes: the S&P 500, Russell 3000 and DJ Wilshire 5000. (In most graphs, these three lines will overlap and appear as one.) The last two figures present graphs that quantify a restatement category’s stock performance the period 50 days before announcement and the period 50 days after announcement.
Figure 1. All Calendar Year 2006 Restatements

The graph above provides the average market response to a restatement filed in 2006. The “All Restatement” line indicates the average share price movement (percentage change of price as compared to the price on the Zero Day) of all 674 restatements filed.

As shown above, the average share price movement of the 674 restatements revealed a 5% share price decline in the period prior to the Zero Day and an additional post-announcement decline of 1%. After the initial post-announcement decline, the share price began to rise, but lagged the market. After 50 days, the average restating company recovered from its post-announcement loss, but the market rose about 2% during the same period.
The graph above displays the sample of 674 restatements divided into the group of 418 restatements first announced in an event filing and the group of 256 restatements first announced in a periodic filing. The first announcements attributed to periodic filings experienced a greater loss before the Zero Day, but almost no loss thereafter. In contrast, event filing announcements experienced a smaller pre-announcement decline followed by a sharp post-announcement decline that nearly created a total loss equivalent to the periodic filing announcements. After the initial post-announcement decline, the stock prices of both types of announcements display an upward trend of about the same slope (same percentage increase), but at a slope not as steep as the overall market.

Restatements first disclosed in periodic filings (not the normal process) did not experience a post-announcement decline, possibly because the appropriate price adjustment occurred prior to the restatement. One theory as to why such restatements experience greater pre-announcement losses is that typically there is a greater period of time that elapses between internal knowledge of an impending restatement and the actual announcement. SEC rules allow companies that identify the need for a restatement within 2 weeks of submitting a periodic report to include it in that report as opposed to filing a separate 8K. One might expect that at times when a periodic filing date is near, but more than 2 weeks away, a company that strongly suspects the need for a restatement may be inclined to take longer to make an official determination regarding the need for a restatement while the 2-week period approaches.

An event filing refers to an 8K (or press release) and a periodic filing refers to filings required on a periodic basis (quarterly or yearly): a 10K, 10KA, 10Q, 20F, 40F, etc.
The sample of 674 restatements consisted of 85 restatements that identified an error in revenue recognition. As shown in the graph above, with revenue recognition restatements, the share prices began to decline 20 to 30 days prior to the Zero Day followed by a sharp drop in value in the period during the 5 days surrounding the Zero Day. After the sharp drop, the average share price continued to decline over the remaining 50-day period despite the fact that the overall market trend was positive. The average total loss, from about 40 days prior to 50 days after the restatement, was about 10%. During the 50 days after the announcement, the restated companies lost about 4% while the market rose about 1%. These 2006 revenue recognition results appear consistent with the findings of Jenkins and Hribar, who reviewed changes for restatements filed between 1997 and mid 2002. This type of persistent decline in stock value was not observed in restatements as a whole or in other categories reviewed in this analysis.

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To obtain a further understanding of stock price movements during and after the day of a Revenue Recognition restatement announcement, such announcements were separated into two groups: event filing announcements and periodic filing announcements. Of the 85 Revenue Recognition restatements, 57 were announced in event filings and 28 in periodic filings. As the above graph shows, the two announcements display very different stock price movements and most of the price drop associated with Revenue Recognition restatements was attributable to those announced in event filings. Prior to the Zero Day, the event filings movement looks similar to the average of all Revenue Recognition announcements, but their share price lost 1-2% more than the average. In addition, immediately after the Zero Day, the sharp decline in prices continued lower than the average, dropping to -3% instead of -1.5%.

The line for periodic filing announcements displays a completely different type of stock price response. In the week before the Zero Day, the periodic filings lost approximately 2% of their value and reached a minimum the day before the Zero Day. After the announcement, the periodic filings rebounded, but over the remainder of the 50 days declined and negated virtually all the post-announcement rebound. One possible reason for the difference in market performance of event versus periodic disclosures is that, generally, if a company has a revenue recognition issue that is significant they will go through the normal “8K” filing process even if they were allowed to announce it in a periodic filing. This reason would cause a disproportionately high number of minor revenue recognition restatements to be in the periodic filing sample.
As shown above, the average stock price related to FAS 95 Cash Flow Statement restatements (105 total) declined during the pre-announcement period in a manner similar to, but not to the same degree, as the average of all restatements. Unlike Revenue Recognition restatements, the Cash Flow restatements did not experience a large drop in price immediately before the announcement. Furthermore, the steep price drop immediately after the announcement was relatively small. When observing the price changes during the 50-day period after the announcement, Cash Flow restatements continued the same downward trend experienced before the announcement for another 2 or 3 weeks, but then rebounds so as to perform as well as the market for that 50-day period (the post-announcement period). This graph implies that the market responds to restatements that implicate technical issues in a markedly different manner compared to restatements that implicate integrity issues.
To obtain a further understanding of stock price movements during and after the day of a Cash Flow restatement announcement, such announcements were separated into two groups: event filing announcements and periodic filing announcements. Of the 105 Cash Flow restatements, 51 were announced in event filings and 54 in periodic filings. As the above graph shows, the two announcements display very different stock price movements, with losses incurred on opposite sides of the Zero Day.

Periodic filings experience sharp declines in the pre-announcement period followed by sharp gains in the post-announcement period. Periodic filings outperform the market in the post-announcement period with gains of 3% higher than the market during the 50-day post-announcement period. In contrast, event filings trade in a relatively flat range in the pre-announcement period, but experience a decline after the announcement. In the two weeks following the announcement, event filings lose 2% of their value then continue trading in a flat range. It is difficult to speculate as to why these filing types seem to experience the share price movements displayed, particularly the movement of share prices above the indices for periodic filings. One possibility is that those companies that reported a positive restatement (i.e. moving cash flow from financing or investment categories to operating cash flow – as opposed to the opposite direction) were more likely to include theses restatements in their periodic filings. This theory may explain the increase in share price values above the indices since valuation models utilizing the cash flow statement reflect higher levels of cash flow in response.
A sample of 160 Executive Compensation restatements revealed some trends similar to those seen in other restatement types. Restatements associated with Executive Compensation experienced a large decline in the days leading up to the restatement notification. However, the post-announcement price movement was relatively stable, while still underperforming the market. After the announcement, the average share underperformed the market, but it did not continue to lose value. Of note here is the large and consistent decline in price prior to the notification date, which may be partially attributable to the options backdating issues. With respect to options backdating issues, the public became aware of some companies involved in the practice before a restatement was filed. In addition, since the practice was more prevalent in certain industries, such as high tech, speculation regarding the matter was not uncommon.
To obtain a further understanding of stock price movements during and after the day of an Executive Compensation restatement announcement, such announcements were separated into two groups: event filing announcements and periodic filing announcements. Of the 160 Executive Compensation restatements, 127 were announced in event filings and 33 in periodic filings. Unlike the previous graphs that separate periodic filings from event filings (see Fig. 2, 4, & 6), the above graph does not show a substantial difference in the way the market responded. It appears that the method of disclosure did not have any additional impact on share price. Both filing types experienced large declines prior to the announcement with relatively flat trading after the announcement.
While Stock-Based Options Backdating restatements are a subcategory of Executive Compensation restatements, they are important enough to warrant individual investigation because they possibly implicate management integrity issues. The sample of 95 options backdating restatements closely tracked the trend seen in the pre-announcement period of Executive Compensation restatements, but performed better after the announcement. The average stock price consistently declined in the pre-announcement period and lost 12% of its value leading up to the announcement date. However, the post-announcement graph indicates that the stock price increases following the announcement date. During the post-announcement period, the stock price consistently approaches the index line then recedes, but the overall trend mirrors the market.
To observe any difference between large cap companies and the market as a whole, a sample was created consisting of those restatements filed by companies listed in the Russell 3000. Of the original sample of 674 restatements, 295 were filed by companies listed in the Russell 3000 Index. The results of the analysis of these 295 restatements are graphed above with the original sample of restatements (Figure 1) and the Russell 3000 index. As shown above, the Russell 3000 restatements lost less in stock price during the pre-announcement period and gained more after the Zero Day loss. The Russell 3000 restatements lost approximately 2% less than the average of all the restatements in the pre-announcement period. During the 50-day post-announcement period, the Russell 3000 restatements experienced price gains comparable to the overall market (based on the Russell 3000) while the average of all restatements failed to rise at the same rate as the market.
As shown in Figure 1 on page 6, when viewing the average stock performance of companies before and after a restatement announcement, a steady loss in stock values occurred prior to the announcement. Such a graph gives the average drop in stock price, but does not indicate what percentage of companies performed well (despite the restatement) and what percentage performed poorly (thus bringing down the entire average). The chart above provides more information about this pre-announcement period by quantifying what percentage of companies outperformed the market during the 50-day period and how many underperformed (based on the S&P 500 index). As shown in the All Restatements column of the chart, when a company was to announce a restatement, 36.4% of the time the stock performed better than the market during the pre-announcement period. Therefore, the remaining 63.6% of occurrences accompanied such poor performances that the average reflected an overall loss in stock values. While the prior line graphs display an average underperformance for all the restatement categories, the graph above shows that a substantial percentage of companies (over 30%) outperformed the market for each of the restatement categories analyzed.

Pre-announcement declines one or two days prior to the announcement are traditionally attributed to information leakage regarding an impending restatement. (See Jenkins, N.T. and Hribar, P. (2004). “The Effect of Accounting Restatements on Earnings Revisions and the Estimated Cost of Capital.” Review of Accounting Studies 9, 337-356.) Our data also suggests this possibility, but we have not tested this hypothesis with a controlled sample.
The prior line graphs, among other information, provide data on the average performance of company stock subsequent to the announcement of certain types of restatements. Such a graph gives the average drop in stock price, but does not indicate what percentage of companies performed well (despite the restatement) and what percentage performed poorly (thus bringing down the entire average). The chart above provides more information about this post-announcement period by quantifying what percentage of companies outperformed the market during the 50-day period and how many underperformed (based on the S&P 500 index). As shown in the All Restatements column of the chart, when a company was to announce a restatement, 35.6% of the time the stock performed better than the market during the pre-announcement period. Therefore, the remaining 64.4% of occurrences accompanied such poor performances that the average reflected an overall underperformance of stock values. While the prior line graphs frequently display an average underperformance for the restatement categories after the announcement of a restatement, the graph above shows that a substantial percentage of companies (about 30% or higher) outperformed the market for each of the restatement categories analyzed. When comparing the above results with those seen in Figure 11, one can observe the restatement types that experienced significant changes in their trends. Prior to the announcement, one-third of executive compensation and stock-options backdating stocks underperformed the market. However, after the announcement, the number underperforming the market was only slightly above fifty percent.
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