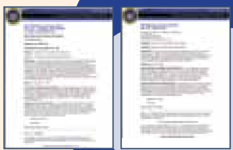
CENTER FOR AUDIT QUALITY

FINANCIAL RESTATEMENT

Trends in the United States: **2003–2012**

Professor Susan Scholz
University of Kansas

Events Affecting Restatement Activity



1999

REGULATORY CLARIFICATION
SEC issues SAB 99: Materiality and SAB 101: Revenue Recognition

2000

ECONOMIC EVENT
Recession begins

2001

ACCOUNTING EVENT
Enron restatement

2002

ACCOUNTING EVENT
Worldcom restatement

SOX EVENTS
SOX enacted, Section 302 reporting commences

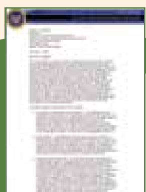
2003

SOX EVENTS
Filing deadlines accelerate for all accelerated filers

2004

REGULATORY CLARIFICATION
SEC introduces non-reliance reporting on Form 8-K Item 4.02

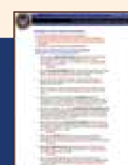
2005



ACCOUNTING EVENT
Lease accounting restatements following SEC lease accounting letter

SOX EVENTS
First Section 404(a)&(b) ICFR reports issued by larger companies for years ending after November 15, 2004

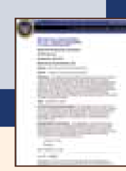
2006



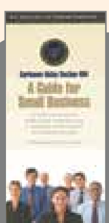
ACCOUNTING EVENT
Stock-option backdating restatements

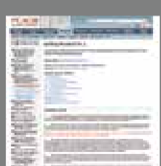
SOX & ICFR EVENT
First ICFR reports issued by larger foreign filers

REGULATORY CLARIFICATION
SEC issues SAB 108: Quantifying Errors



2007





SOX EVENTS
Section 404(a) ICFR reports issued by smaller companies / PCAOB issues AS No.5

REGULATORY CLARIFICATION
SEC issues interpretive guidance for management's ICFR assessments

ECONOMIC EVENT
Recession begins

2008

ECONOMIC EVENT
Financial market crash

2009

REGULATORY CLARIFICATION
FASB issues ASU No. 2009-12 Fair Value Measurement and Disclosures

ECONOMIC EVENT
Recession ends

CENTER FOR AUDIT QUALITY

FINANCIAL RESTATEMENT

Trends in the United States: **2003–2012**

Professor Susan Scholz
University of Kansas

Funding for the research project described in this report was provided by the Center for Audit Quality. However, the views expressed in this study and its content are those of the author alone and not those of the Center for Audit Quality.

About the Center for Audit Quality

The Center for Audit Quality is an autonomous, nonpartisan, nonprofit group dedicated to enhancing investor confidence and public trust in the global capital markets by:

- Fostering high quality performance by public company auditors;
- Convening and collaborating with other stakeholders to advance the discussion of critical issues requiring action and intervention;
- Advocating policies and standards that promote public company auditors' objectivity, effectiveness, and responsiveness to dynamic market conditions.

CENTER FOR AUDIT QUALITY
Serving Investors, Public Company Auditors & the Markets
Affiliated with the American Institute of CPAs

On behalf of the Center for Audit Quality (CAQ), I am pleased to present this report, *Financial Restatement Trends in the United States: 2003–2012.*

Analysis of the trends in and characteristics of restatements of public company financial statements provides useful information for all stakeholders in the capital markets. Preparers, auditors, and investors benefit from information on the types of restatements, the accounting issues that resulted in the need for a restatement, and the severity of those issues.

This study, authored by Professor Susan Scholz of the University of Kansas, focuses on the decade following the implementation of the Sarbanes-Oxley Act of 2002. It examines developments in the number and seriousness of restatements over this period and chronicles key policy changes that may have had an impact on restatements. Professor Scholz conducted a similar study, covering the period 1997–2006, for the Department of the Treasury's Advisory Committee on the Auditing Profession in 2008.

The results of the analysis in the present study are encouraging. The number of restatements has declined significantly since its peak in 2006, while the number of accounting issues underlying each restatement reported has also decreased, and the percentage of restatements that involve revenue reporting has leveled off to 10 percent of restatement volume for the last several years.

Reissuance restatements—meaning those reported in Item 4.02 of a Form 8-K—have decreased in both number and as a percentage of all restatements over the eight years since the SEC required issuers to report reissuance restatements on the Form 8-K.

While it is not the primary focus of this study, some descriptive statistics are also provided on internal control over financial reporting (ICFR) and reissuance restatements. With certain exceptions, all public companies are required to annually assess the effectiveness of ICFR and report the results, and of those, companies with more than $75 million in public float are required to include an auditor's report on ICFR. Professor Scholz' analysis suggests that management and the auditor appropriately assessed the effectiveness of ICFR in the overwhelming majority of cases.

We are grateful to Professor Scholz for her careful and thorough analysis. In an environment where business and accounting issues have become increasingly complex, it is reassuring to observe a downward trend in the number and severity of restatements filed by issuers.

Sincerely,

Cynthia M. Fornelli

Cindy Fornelli
Executive Director
Center for Audit Quality

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Executive Summary

The Center for Audit Quality commissioned this study to investigate restatement trends and activity from 2003 to 2012. This decade begins soon after the Sarbanes-Oxley Act (SOX) passed in July 2002 and includes the implementation of SOX, the financial crash of 2008, and the subsequent recessionary and recovery years. The purpose is to understand changes in the nature of restatements and characteristics of restatement companies over this period.

An important development during this time was the introduction by the U.S. Securities and Exchange Commission (SEC) of Form 8-K Item 4.02 to report certain restatements. Since late 2004, a requirement has been in place that if a restatement renders a company's overall financial statements unreliable, the company must disclose the restatement on Form 8-K Item 4.02. As demonstrated in this study, these "4.02" restatements are generally more serious than other restatements ("non-4.02" restatements), and the study specifically considers 4.02 restatements throughout the analyses.[1]

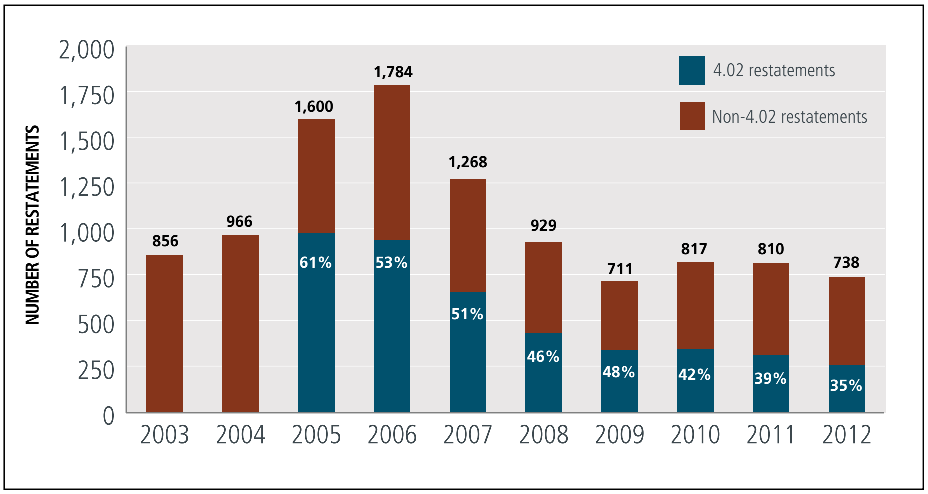
The study includes 4,246 restatements announced on Item 4.02 from 2005 to 2012, plus 6,233 non-4.02 restatements, announced either before Item 4.02 was created or in other filings, for a total of 10,479 restatements publicly disclosed by U.S. and foreign filers registered with the SEC over the decade. This executive summary discusses the broad findings.

A. Restatement Trends and Severity

The number of restatement announcements peaked at 1,784 in 2006, soon after implementation of SOX Section 404 internal control reporting, and subsequently declined rapidly. By 2009, 711 restatements were announced, and the number remained near that level through 2012. Importantly, the overall severity of restatements decreased along with the number. For example:

- The decline in the total number of restatements is mainly attributable to a precipitous drop in the number of 4.02 restatements. As shown in **Figure 1**, nearly 1,000 4.02 restatements were announced in 2005, but by 2012 there were only 255—nearly a 75% decline. Furthermore, the percentage of 4.02 restatements declined from 61% in 2005 to 35% in 2012.

Figure 1: Number of Restatements Announced Per Year



- In later years, restatements involve fewer accounting issues, as the average number of accounting issues underlying each restatement declined steadily after 2005. Multiple issues are reported for 70% of restatements in 2005, but for only 28% of 2012 restatements.

- Fewer restatements in later years involve issues that investors tend to view as more serious, such as revenue recognition and accounting for on-going business expenses. Restatements involving these core earnings accounts decreased from 65% of restatements announced in 2005 to 41% in 2012.

- Restatement periods are shorter in later years. The average time period corrected by a restatement declined from an average of more than two years in 2005 to less than a year and a half in 2012. There is a corresponding increase in the proportion of restatements that affect only quarterly, but not annual, results.

- In later years, fewer restatements reduce previously reported income. The percentage of restatements that decrease income dropped from 61% in 2005 to 36% in 2012. There was a corresponding increase in the percentage of restatements that did not affect income (such as disclosure and cash flow statement errors); the percentage of restatements that increased reported income remained steady.[2]

- Fraud was identified as a factor in relatively few restatements: only 2% across the decade. However, as discussed in the section on Restatement Severity in Chapter 2, because fraud identification relies on publicly available information, including SEC Accounting and Auditing Enforcement Actions (AAERs), as well as information in company filings, not all intentional misstatements may be identified.

B. Characteristics of Restatement Companies

Size and Profitability of Restatement Companies

As the decade progressed, restatement companies tended to be smaller, and throughout the decade most restatement companies were unprofitable.[3] Specifically:

- Restatement companies were similar in size to the average public company from 2003 to 2006. Later, restatement companies were markedly smaller, except in 2012 when a relatively high percentage of restatements were announced by large financial institutions.

- 4.02 restatements tended to be announced by smaller companies rather than larger companies in recent years. The average size of 4.02 restatement companies trended downward from $7.9 billion in total assets in 2006 to $1.3 billion in 2011.[4]

- About half of all restatement companies reported a net loss prior to announcing the restatement. Furthermore, the losses are fairly large. The average return on assets for restating companies with losses is -55%.[5]

Restatements by Foreign Registrants

Foreign registrants announced 15% of the restatements over the decade. However, the percentage varies by year and some characteristics of foreign restatement companies differ from U.S. restatement companies.

- Foreign filers were responsible for 12% of restatements in 2003, increasing to 20% in 2011 and returning to earlier rates in 2012.

- Foreign restatement companies appear to consist primarily of some very large companies and financial institutions plus a group of very small companies. The average foreign restatement company is nearly four times as large as the average U.S. restatement company, but the median foreign restatement company is only half as large as the median U.S. restatement company. Along these lines, 30% of foreign restatement companies trade on the NYSE and 53% trade over-the counter.

Restatement Activity Across Industries

Across the decade, restatement activity was fairly consistent across industries. For example:

- Overall, the Computer and Software industry accounted for more restatement companies than any other (18%), followed closely by Financial, Banking & Insurance (16%) and Energy, Mining & Chemicals (14%). Computer & Software and Financial, Banking & Insurance rank among the top three industries each year.

- Restatement severity did not vary meaningfully across industries. Expense-related restatements are most common in every industry, and the proportion of 4.02 restatements is similar across industries.

- Among foreign restatement companies, those from the Energy, Mining, & Chemical industry are most common; this is mainly due to a high rate of restatements by mining companies.

C. Stock Price Reaction to Restatement Announcements

Over the decade, the average stock price reaction to restatements was -1.5%, measured as the percent change in the stock price at the time of the announcement, adjusted for the overall market return.[6] These reactions vary by year and nature of the restatement.

- Those restatements disclosed in 8-Ks have more negative announcement reactions. For example, reactions to 4.02 restatements average -2.3%, compared to -0.6% for non-4.02 restatements. Reactions to restatements involving revenue and fraud average -4.0% and -6.8%, respectively.
- The most negative reactions to restatement announcements were during the recession years of 2008 and 2009, which averaged -2.0% and -2.5%, respectively. Reactions were also more negative in 2012 (-1.95%) due to several revenue restatements that elicited returns of -8% or more.
- Overall, restatement announcement reactions over the decade are comparable to those reported since 2001 and are much less negative than the -10% averages reported in the late 1990s.

D. Internal Control Opinions and Restatement Announcements

The study also provides some preliminary information about internal control over financial reporting (ICFR) opinions around the time of restatement announcements and suggests several areas for future research.

Endnotes

1. The first full year of 4.02 reporting was 2005.The creation of Item 4.02, the criteria for 4.02 disclosures, and the diverse nature of non-4.02 restatements is discussed in *Chapter 1, Section A, Definition of a Restatement Event*.

2. As discussed further in *Chapter 2, Section C, Restatement Severity*, this result is based on a smaller sample because income effect data are not available for all restatements.

3. Size comparisons are based on total assets, and restatement companies are compared to companies included in Standard & Poor's Compustat database. As discussed further in *Chapter 3, Section B, Restatement Company Exchange and Financial Characteristics*, this analysis is based on a smaller sample because asset and income data are not available for all restatement companies.

4. Restatements by large banks increased the average size of 4.02 restatement companies in 2012. Excluding financial institutions, the average size of 4.02 restatement companies is similar in 2011 and 2012.

5. Return on assets (ROA) is net income divided by total assets.

6. On average, stock price reactions are statistically negative each year except 2003 (p-values < .10).The reaction is calculated as the percentage change in price over a two-day window (the restatement announcement date and the following day) adjusted for contemporaneous overall market returns. Further explanation of how returns are calculated is provided in *Chapter 4, Restatement Announcement Market Reactions*.

1 Purpose and Scope

The Center for Audit Quality commissioned this study to analyze public company restatements filed with the U.S. Securities and Exchange Commission (SEC) from 2003 to 2012. The purpose is to understand characteristics and consequences of financial statement restatements involving departures from generally accepted accounting principles (GAAP) during the decade following passage of the Sarbanes-Oxley Act (SOX) on July 30, 2002.

An important focus is the change in restatement activity and the severity of such restatements as various facets of SOX and related rule-making were implemented. The study analyzes restatement characteristics, including the underlying accounting issues, in each year and over the ten-year period. It also describes the companies making restatements, including foreign and domestic filers, and industry trends. In terms of consequences, the study examines the stock market reaction at the time that restatements are announced.

A. Definition of a Restatement Event

This study defines "restatements" as corrections of errors in public company GAAP financial statements filed with the SEC. The study covers a range of restatements, including those made because previously filed financial reports have been deemed unreliable. As defined in an SEC final rule, issued in August 2004, this occurs if the company or its auditors conclude that "the company's previously issued financial statements … no longer should be relied upon because of an error in such financial statements…" The rule also mandates that companies report such a restatement on Form 8-K and created Form 8-K Item 4.02 specifically for disclosure of these restatements.[7] Because the prior financial statements are unreliable, these restatements are eventually accomplished by filing corrected reports on Form 10-K/A and/or Form 10-Q/A.[8] In practice, such restatements are now commonly called "Big R" restatements. In this study, they are referred to as "4.02" restatements.

The study also includes corrections of errors that are not reported on Form 8-K Item 4.02 ("non-4.02" restatements). A common example of non-4.02 restatements are those mandated by the SEC's *Staff Accounting Bulletin No.108* (SAB 108), issued in September 2006. SAB 108 requires that companies consider the cumulative effect of multiple-year errors to determine whether a restatement is necessary. If a series of errors results in a cumulative error that is material, prior results must be restated, even if the effect on any one period is immaterial. Furthermore, SAB 108 specifies that the resulting restatements may be made in subsequent, regularly scheduled financial statements (10-Ks and 10-Qs) rather than in amended filings.[9] Other restatements where prior reports are not deemed unreliable include many disclosure, financial statement classification, and cash flow statement errors, but may be attributable to any accounting issue.[10]

Determining whether an error is sufficiently material to warrant restatement requires significant professional judgment. An error must be evaluated in light of materiality guidance in the SEC's SAB No.99: Materiality, which mandates both quantitative and qualitative considerations. In addition, materiality assessments must be contextual and may include factors not specifically included in SAB 99. Additional SEC guidance in SAB No.108 specifies that evaluation of error materiality must include both the effect of the error on the current income statement (the "rollover" approach), and the effect of prior years' carryover effects on the balance sheet (the "iron curtain" approach).

The study specifically appreciates the distinction between 4.02 and non-4.02 restatements, and the characteristics of the two groups are considered separately in several analyses. However, it is important to note that this distinction has evolved over the years of the study. The SEC regulations were issued in part to address diversity in practice and to provide a clear demarcation between 4.02 and non-4.02 restatements. Importantly, there is no way to clearly identify 4.02 restatements prior to initiation of Form 8-K Item 4.02, so 2005 is the first full year this information is available.

The restatement data for this study were obtained from Audit Analytics (AA). AA attempts to include all restatements, whether disclosed on Form 8-K, amended filings on Form 10-K/A or Form 10-Q/A, scheduled filings on Form 10-K or Form 10-Q, the analogous forms for small businesses and foreign filers, or other requisite forms. AA attempts to include only restatements to correct misstated financial statements, whether due to unintentional errors or irregularities, but to exclude other financial statement changes. For example, some companies use the term "restatement" when reporting events such as adopting new accounting standards. AA attempts to eliminate these restatements, as they are not corrections of financial statements filed with the SEC that were subsequently found to involve inaccurate accounting or disclosures.

Because foreign registrants represent a meaningful number of restating companies in recent years, the analysis includes restatements by foreign companies to correct errors in financial statements filed with the SEC in accordance with either U.S. GAAP or International Financial Reporting Standards (IFRS) as promulgated by the International Accounting Standards Board (IASB). However, U.S. and foreign companies are also compared and contrasted in some analyses because of differences in regulatory environments and reporting standards.

For purposes of this study, a restatement event begins with the disclosure of an accounting problem or potential accounting problem discovered in a previously filed SEC report and concludes with the filing of the amended results. The study focuses on discovery of misstated results, so the restatement year used in the analyses is determined by the calendar year in which the restatement is disclosed.[11]

When there is a time lag between the initial disclosure and an amended filing, the sequence of events between these dates varies greatly. It may include a lengthy investigation and a series of updates by company management, or simply a speedy filing of the amended results. In some cases, investigations expand the scope of the initially reported problems and increase the number of reporting periods to be restated. In these cases, this study attempts to combine all periods finally restated and all accounting issues involved to create one restatement event. Rarely, companies discover additional misstatements *after* their revised results are filed with the SEC. A restatement of a re-filed report is considered a separate restatement event. However, if a company provides expected revision amounts that differ from final amended results, the additional changes are not considered a separate event.

B. Sample and Data Availability

The analysis focuses on restatements announced from January 1, 2003 through December 31, 2012, the ten-year period subsequent to passage of SOX. The initial analysis of time trends and underlying accounting issues is based on 4,246 Item 4.02 restatements and 6,233 non-4.02 restatements, a total of 10,479, that are recorded in the AA database over this decade and obtained in January 2013.[12]

Based on an analysis of SEC Central Index Key (CIK) codes, these 10,479 restatements were made by 6,799 unique filers, with 2,407 filers reported to have multiple restatements. The number of restatements for filers with multiple restatements ranges from two restatements for 1,554 filers to ten restatements for one filer. In subsequent sections, these restatements are used to analyze restatement trends across the sample period. They are also used to analyze restatement characteristics and restatement companies' industry membership.

Many of these restatements are announced by entities such as trusts, asset backed securities, holding companies, shells, or by operating corporations that do not appear in the databases from which financial statement data and stock price data are obtained. For example, basic financial data (assets, revenue, and net income) are available for 6,535 (62%) of the 10,479 restatements, and so this subset of restatements is used to analyze restatement company characteristics including size and profitability. Stock price data are available only for companies trading on major exchanges, so 4,175 (40%) of the 10,479 restatements are used to study the market reaction to restatement announcements. In addition, the internal control over financial reporting (ICFR) analysis considers only companies that issued ICFR assessments pertaining to the restatement period. For each of the analyses using subsets of the total number of restatements, the study provides a description of restatement entities that are excluded due to missing data.

Endnotes

7. See the SEC's *Final Rule: Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date*, at **http://www.sec.gov/rules/final/33-8400.html**. Form 8-K Item 4.02 is titled "Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review."

8. Filing Form 8-K Item 4.02 signals to investors that previously filed financial statements should no longer be relied upon and filing the 10-K/A or 10-Q/A indicates that corrected financial statements are available. Most companies file forms 10-K/A or 10-Q/A to replace the unreliable reports. However, there are analogous forms with different names for small companies and foreign filers. Foreign restatement companies filing Form 20-F annual reports do not have a reporting requirement analogous to Item 4.02 disclosures, so the incidence of non-reliance restatements is not known for this set of restatements, which comprise about 5% of all restatements in the study.

9. See SEC, *Staff Accounting Bulletin No. 108* at **http://www.sec.gov/interps/account/sab108.htm**.

10. See *Chapter 2, Section B, Accounting Issues Underlying Restatements*, for additional analysis of restatement issues.

11. For example, if a company's financial statements were misstated for the year ended December 31, 2009 plus the three quarters ended September 30, 2010, and the need for a restatement to correct these errors was announced in January 2011, then the restatement year for purposes of this analysis would be 2011—regardless of when restated results were finally filed.

12. The total number of restatements reported by AA as of January 2013 over this period is 10,711. The difference of 232 (2%) is because AA defines a restatement slightly differently than this study. If the accounting issues underlying a restatement change from the initial announcement to the filing of amended results, AA includes both the announcement and the amended filing as a restatement. That is, AA focuses on accounts restated, while this study focuses on corrections of specific misstated periods. To address this definitional difference, restatements that correct financial periods ending on the same date and announced within six months of each other (185 days) are assumed to be duplicates and are eliminated from this study because they are likely not unique restatement events. These duplicate restatements are distributed fairly evenly across years. This process does not eliminate any restating company from the analysis; it only reduces the number of times a company appears.

2 Restatement Trends and Characteristics

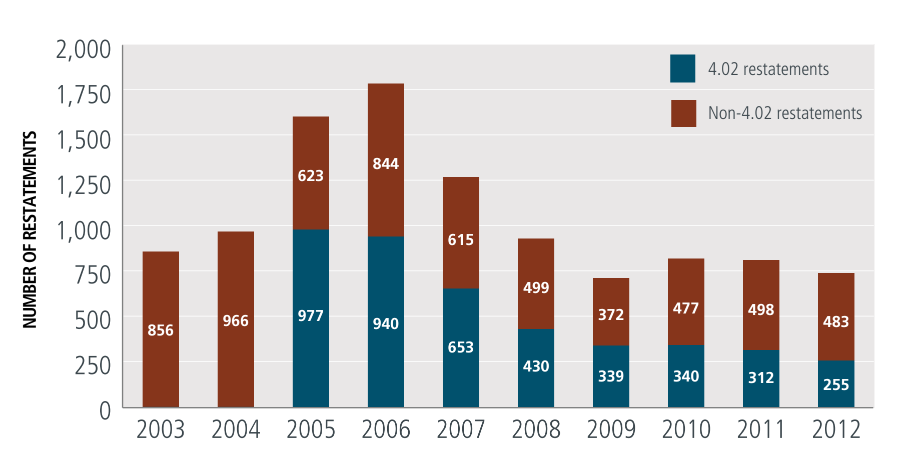
Definition of a restatement announcement: In this study, the term "restatement announcement" is used to indicate the initial public revelation of the need for a restatement. Restatement announcements include Form 8-K Item 4.02 restatement reports, earnings announcements or other press releases that disclose restatements, and regularly scheduled filings that present restated results.

A. Restatement Trends and Related Events

The number of 4.02 and non-4.02 restatements announced each year is shown in **Figure 2**, and the year-to-year percentage changes are given in the table below. Overall, this figure illustrates the previously documented increase in restatement activity following passage of SOX. Restatements were particularly numerous in 2005 and 2006; both types of restatements reached their highest points in these years.

The first full year of 4.02 reporting was 2005, when 977 such restatements were announced.[13] After 2005, the number of 4.02's decreased or remained steady each year, and by 2012, there were 255—a 74% drop. Non-4.02's decreased unevenly and less precipitously, from a high of 844 in 2006 to 483 in 2012—a 43% decline. Together, these patterns resulted in the total number of restatements decreasing more than 20% per year from 2007 through 2009. Although there was a slight increase in 2010, due mainly to non-4.02 restatements, the total number of restatements remained below 2008 levels through the end of the decade—levels not seen since 2002.

Figure 2: Number of 4.02 and Non-4.02 Restatement Announcements (N=10,479)



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
4.02 restatements	n/a	n/a	977	940	653	430	339	340	312	255	4,246
Percent change			n/a	-4%	-31%	-34%	-21%	0%	-8%	-18%	
Non-4.02 restatements	856	966	623	844	615	499	372	477	498	483	6,233
Percent change			n/a	35%	-27%	-19%	-25%	28%	4%	-3%	
Total	856	966	1,600	1,784	1,268	929	711	817	810	738	10,479
Percent change		13%	66%	12%	-29%	-27%	-23%	15%	-1%	-9%	

Major Financial Reporting and Market Developments

A brief history of financial reporting and market developments over this time provides context for understanding some of the trends.

- The number of restatements increased rapidly in the years prior to passage of SOX in July 2002. Restatements more than doubled from 2000 to 2001—when about 500 were announced—then increased more than 30% from 2001 to 2002 and again from 2002 to 2003.[14] While years prior to SOX are not the focus of this study, events during this time that may have contributed to changes in restatement frequencies include:
  - > The SEC issued *Staff Accounting Bulletin: No. 99* (SAB 99) in August 1999. It emphasized that materiality considerations should include qualitative as well as quantitative factors.[15] To the degree SAB 99 expanded the number of misstatements deemed material, the number of restatements would have increased.
  - > The SEC issued SAB 101 in December 1999. SAB 101 clarified a series of recurring revenue recognition issues, prompting a possible reduction in the number of revenue restatements in later years.[16]
  - > There was a significant downturn in the U.S. economy beginning in March 2000 with the end of the technology bubble. The major market indices did not begin to recover until early 2003. The occurrence and discovery of misstatements have tended to be associated with economic downturns.[17]
- Following significant restatements by Enron Corporation, Adelphia Communications Corp., and Worldcom in late 2001 and early 2002, SOX was enacted on July 30, 2002. SOX increased attention on financial reporting quality and established the Public Company Accounting Oversight Board (PCAOB) as the public company audit regulator with an inspection process and enforcement authority. SOX and related PCAOB rule-making affected restatement activity in several ways, discussed in points below.
- SOX Section 302 requires corporate officers to provide formal assurance that disclosure controls and procedures are adequate and that financial statements are fairly presented. Combined with SOX Section 404 reporting, discussed below, the focus on internal control attestation and reporting appears to have increased restatements announced during the period of 2003 to 2005.
- Beginning with financial statements for fiscal years ending on or after December 15, 2003, annual reporting deadlines for larger companies (accelerated filers and large accelerated filers) were reduced from 90 days to 75 days, resulting in less time for companies to complete their financial reporting and for auditors to complete the related audits. Shorter filing deadlines may have contributed to more restatements in subsequent years. However, an additional decrease in 2006 to 60 days for large accelerated filers' time to file does not appear to have increased the likelihood of restatement.[18]
- In August 2004, the SEC issued a final rule that clarified circumstances in which a restatement should be reported in Form 8-K and that established Form 8-K Item 4.02 as the venue for disclosing that previously issued financial statements should no longer be relied upon.[19] While this guidance likely did not affect the overall number of restatements, the establishment of Item 4.02 permits clearer identification of errors that undermine the reliability of the overall financial statements.
- Beginning with financial statements for fiscal years ending on or after November 15, 2004, SOX Section 404(a) requires U.S. accelerated filers to document, test, and report on the effectiveness of ICFR. Section 404(b) requires auditors to attest to management's ICFR assertions. Efforts to implement these requirements began as early as 2003, intensifying in 2004, and culminating in the first ICFR reports filed in early 2005. Implementation of ICFR processes sometimes identified the need for restatements.
- The SEC's February 2, 2005 letter clarifying GAAP for lease accounting added to restatements announced in 2005. About 16% of restatements announced this year include lease issues, compared to 6% or less in any other year.
- Restatements to correct options-backdating were a factor in about 7% of restatements announced in 2006.
- In September 2006 the SEC issued SAB 108. SAB 108 requires consideration of the cumulative effect of prior years' errors in determining the need for adjustments of current balances and specifies that prior years' results may require restatement even when the effect on any one year is immaterial. By mandating consideration of the cumulative effect of relatively small errors, SAB 108 likely increased the number of non-4.02 restatements.[20]
- In 2007, smaller, non-accelerated filer companies were required to begin issuing SOX Section 404(a) reports, although they are not required to provide auditor attestation (Section 404(b) reports). Foreign filers were also required to begin providing ICFR reports about this time.
- Also in 2007, the PCAOB issued *Auditing Standard No. 5*, clarifying requirements for auditing internal controls. It applied to audits of financial statements for fiscal years ended on or after November 15, 2007. About the same time, the SEC issued guidance related to management's assessment of internal control, which allowed a "top-down, risk-based evaluation of internal control over financial reporting."[21]

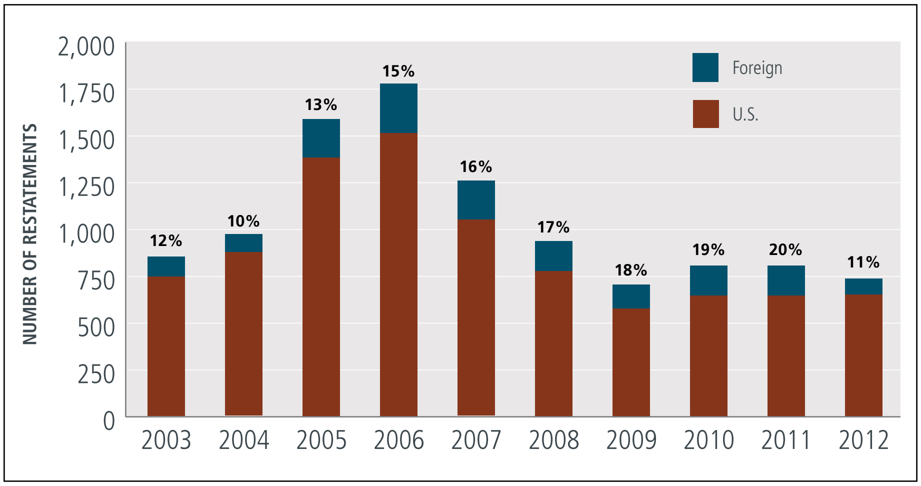
- The U.S. economy entered a recession in late 2007, followed by the financial crash in 2008. As mentioned previously, the occurrence and discovery of misstatements are associated with economic downturns. The occurrence increases because of pressure on earnings and discovery increases because of increased scrutiny.

Appendix A provides a summary of these actions and activities categorized as accounting, SOX & ICFR, regulatory clarification, or economic events.

U.S. and Foreign Restatement Company Trends

Overall, 15% of all restatements were announced by foreign companies (1,563 of 10,479). These restatements were made by 1,009 unique filers, or 15% of all unique restatement companies (1,009 of 6,799). As shown in **Figure 3**, from 2003 to 2005, foreign registrants accounted for a relatively smaller proportion of each year's total restatements. However, the percentage trended higher in later years, increasing steadily to 20% in 2011 before decreasing again to 11% in 2012. There are several possible explanations for this trend, including increased scrutiny of foreign registrants by the SEC's Division of Corporation Finance due to increased use of IFRS, and SEC concern about reverse merger activity by foreign filers.[22]

Figure 3: Percentage of Total Restatements Made by Foreign Filers (N=10,479)



B. Accounting Issues Underlying Restatements

This analysis relies on restatement company disclosures of underlying accounting issues as coded by AA. Ascertaining the accounting issue or issues underlying a restatement can be complex. Some companies describe errors by account (e.g., revenue is overstated) and others by the origin of the error (e.g., improper accounting for acquisitions). It is often unclear how the latter descriptions tie to specific financial statement elements, and thus it is not possible to consistently code by specific account.

AA codes accounting issues using more than 40 categories and sub-categories. Some categories indicate reasons for errors (expense recording, reserve estimates), others indicate problems with specific accounts (revenue recognition, depreciation expense), broad financial statement elements (cash flow statement, balance sheet classifications, comprehensive income), or accounting for specific activities (acquisitions, re-organizations). This study combines AA's categories into related groups for analysis. Appendix B provides a taxonomy of the categories analyzed in this study and how they correspond to AA coding.

Accounting Issue Classifications

For purposes of this study, accounting issues are analyzed in three general groups: business activities, financial statement presentation, accounting for subsidiaries and atypical transactions. The groups are summarized as follows:

- ***Business activities***
  - REVENUE restatements are due to improperly recorded revenue.
  - EXPENSE restatements include misstatements of general operating expenses due to problems estimating and recording accruals and reserves, improper capitalization and depreciation, and accounting for specific expenses including leases, pensions, and employee stock compensation.
  - TAX REPORTING restatements include errors in the financial reporting of income taxes.
  - INVESTING restatements are due to improper accounting for property and equipment, intangibles, investments, and gains and losses on related transactions.
  - FINANCING restatements are due to issues accounting for debt and derivatives.

- ***Financial statement presentation.*** This group includes restatements that typically do not affect net income. They correct errors related to balance sheet and income statement classification, the statement of cash flows, earnings per share, comprehensive income, and footnote information.

- ***Accounting for subsidiaries and atypical activities.*** This group includes improper accounting for events such as acquisitions and restructurings. It also includes corrections to consolidation accounting, accounting for variable interest entities, joint ventures, and subsidiaries.

Some AA categories do not fit neatly into any one group. In addition, the issues underlying about 1% of restatements are unknown, usually because the company does not adequately specify the issue in its disclosures. Finally, many restatements correct multiple errors across several financial statement elements. It is possible that one issue triggers the restatement decision, and other misstatements are identified and corrected during the investigation. It may be that a portion of these subsequently identified corrections would not have individually warranted restatement. However, it is often not possible to confidently identify the driving issue, and it certainly is not feasible for such a large number of restatements. The analysis should be considered with these caveats in mind.

Number of Accounting Issues Per Restatement

As mentioned previously, many restatements involve multiple issues. Summing the number of accounting issues identified for each restatement, half of all restatements report more than one issue, and on average there are 1.8 issues per restatement. Two restatements note as many as 13 accounting issues. **Figure 4** presents trends for restatements involving one, two or three, and four or more accounting issues over the decade.

The highest percentage of multiple-issue restatements (70%) is in 2005—the first year of SOX Section 404 reporting. This is also the year with the highest average number of issues (2.3), and the individual restatements with the most issues (13). After 2005, the average number of issues declines steadily. By 2012, 72% of all restatements are attributed to a single issue, and the per restatement average drops to 1.4.[23]

Foreign registrants account for 15% of all restatement companies; based on Audit Analytics audit opinion data, they represent 12% of companies filing audit reports over the study period.

Figure 4: Number of Accounting Issues Per Restatement (N=10,479)

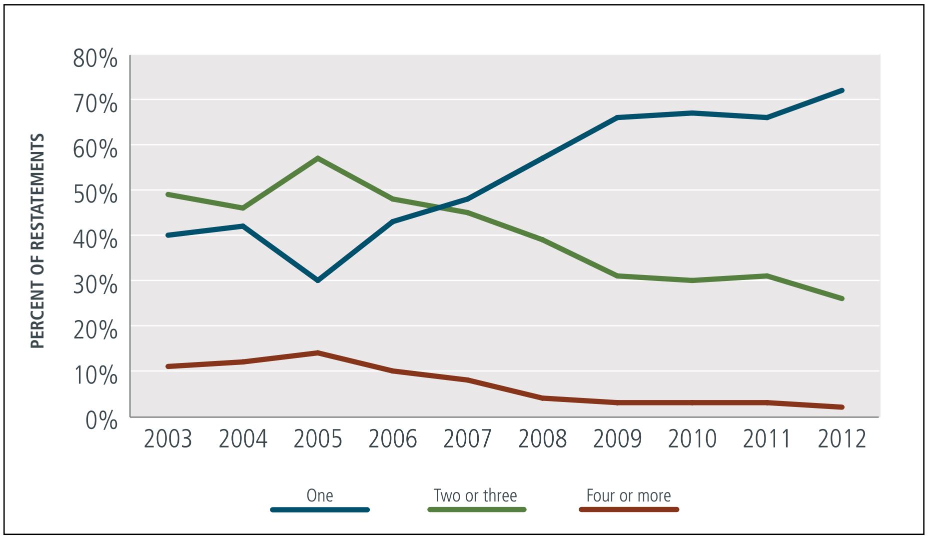
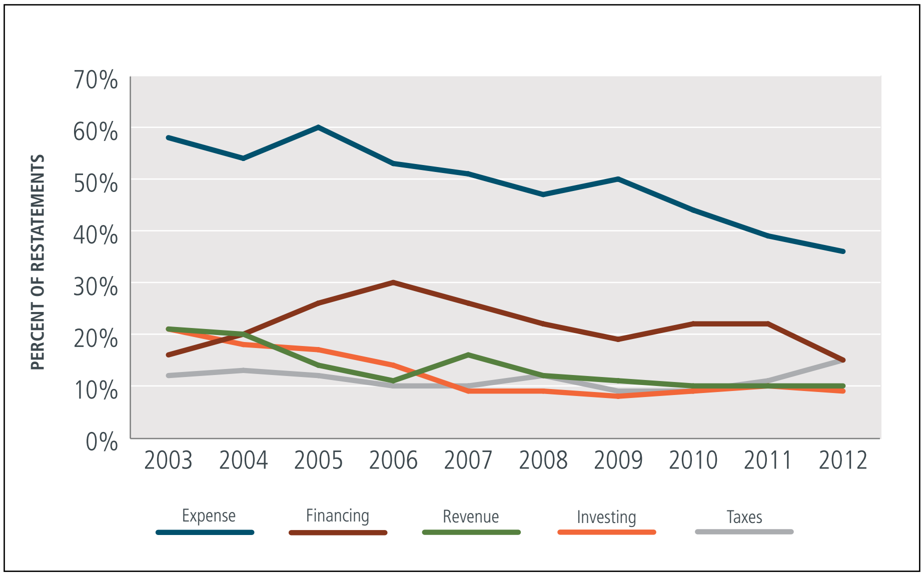


Figure 5: Trends in Operating, Investing, and Financing Issues (N=10,479)



Accounting Issue Trends

First, each accounting issue is analyzed in terms of the percentage of restatements in which it appears. Because many restatements correct multiple issues, the number of underlying accounting issues analyzed in this section exceeds the total number of restatements. In later sections, each restatement is analyzed only once based on its most serious issue.

The analysis begins with restatements involving accounting for typical business activities: revenue, expenses, tax reporting, investing, and financing activities. **Figure 5** shows trends, and **Table 1** provides additional detail, which is discussed below. Clearly, problems with these accounts are very common among restatement companies. On average, at least one such issue appears in 81% of all restatements, although the percentage has declined from 86% to 71% over the decade. Expense issues are most common, which is not surprising given the difficulty in estimating some types of reserves and accruals. Financing issues, including problems recording convertible and beneficial debt features are a distant second. Problems with revenue reporting, investing activities, and tax reporting follow. Each of these categories is discussed in more detail next.

REVENUE: Overall, 14% of restatements involved revenue reporting. Over the decade, the percentage declined from a high of 21% in 2003 to 10% by 2012. This continues a downward trend that began in 2000, after the technology bubble ended and the SEC issued SAB 101 to clarify revenue recognition practices. This downward trend is good news for investors—who are typically more concerned about revenue restatements than restatements of other accounts—and for companies, because they are more likely to be sued over revenue restatements.[24]

EXPENSES: Expense accounting problems are clearly most prevalent; an expense-related issue is present in 50% of all restatements, reaching a high of 60% in 2005, when many lease restatements were announced and the first SOX 404 reports were issued. The percentage decreases afterward, but expense issues were still identified in 36% of all restatements at the end of the decade, more than any other type of accounting issue.

With respect to the number of accounting issues per restatement, the pattern for 4.02 restatements is similar to that for all restatements. In 2005, 77% of 4.02 restatements involved multiple issues, and by 2012, only 29% involved multiple accounting issues.

Table 1: Frequencies of Operating, Investing, and Financing Issues (N=10,479)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Revenue	184	195	227	203	197	110	76	85	83	75	1,435
Percentage of total	21%	20%	14%	11%	16%	12%	11%	10%	10%	10%	14%
Expenses											
Accruals / Reserves / Estimation	313	317	454	549	416	270	226	242	200	148	3,135
	37%	33%	28%	31%	33%	29%	32%	30%	25%	20%	30%
Stock compensation	103	110	193	315	173	124	82	88	65	59	1,312
	12%	11%	12%	18%	14%	13%	12%	11%	8%	8%	13%
Depreciation / Amortization / Capitalization	105	113	341	134	93	66	46	44	39	33	1,014
	12%	12%	21%	8%	7%	7%	6%	5%	5%	4%	10%
Cost of sales	79	87	139	124	68	52	47	38	41	36	711
	9%	9%	9%	7%	5%	6%	7%	5%	5%	5%	7%
Leases	52	36	252	55	33	11	4	3	6	10	462
	6%	4%	16%	3%	3%	1%	1%	0%	1%	1%	4%
Contingencies and pensions	24	42	65	45	35	12	12	15	10	8	268
	3%	4%	4%	3%	3%	1%	2%	2%	1%	1%	3%
Any expense	496	517	956	940	647	441	355	361	313	262	5,288
Percentage of total	58%	54%	60%	53%	51%	47%	50%	44%	39%	36%	50%
Taxes	99	124	195	186	129	107	66	72	89	111	1,178
Percentage of total	12%	13%	12%	10%	10%	12%	9%	9%	11%	15%	11%
Investing	183	174	273	243	120	86	54	71	82	63	1,349
Percentage of total	21%	18%	17%	14%	9%	9%	8%	9%	10%	9%	13%
Financing	138	194	412	544	324	207	136	179	179	114	2,427
Percentage of total	16%	20%	26%	30%	26%	22%	19%	22%	22%	15%	23%
Any business activity	738	803	1,389	1,501	1,027	733	548	618	605	524	8,486
Percentage of total	86%	83%	87%	84%	81%	79%	77%	76%	75%	71%	81%
Total restatements	856	966	1,600	1,784	1,268	929	711	817	810	738	10,479

Percentages are the percent of all restatements reporting the issue per year. Columns do not sum because all reported accounting issues are included, so the number of issues exceed the number of restatements. Any expense/Any business activity includes restatements where at least one expense or business activity issue is noted.

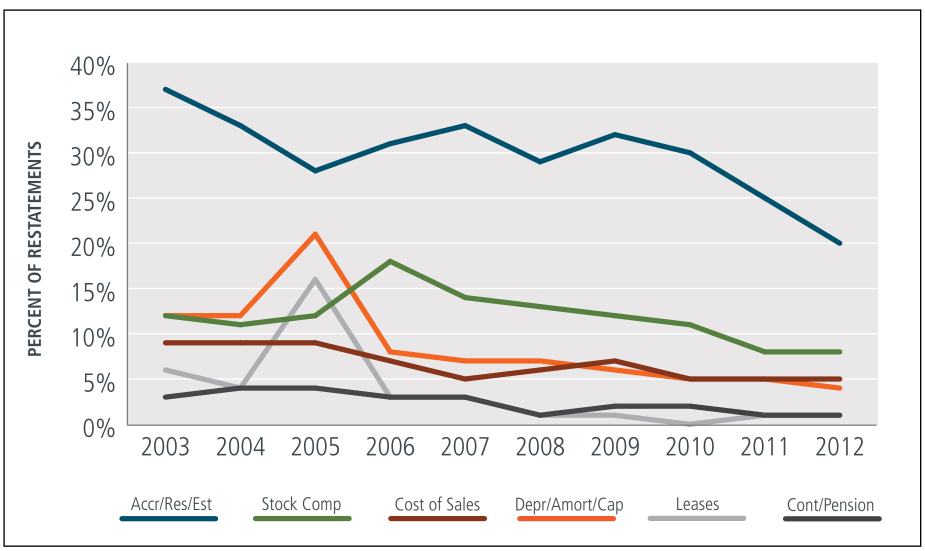
Accounting issues in 4.02 restatements: As might be expected, more 4.02 restatements involve revenue (15% vs. 10% for non-4.02s) and operating expenses (52% vs. 46%). Nonetheless, 4.02 restatements also trend downward across time in these categories.

Overall, tax issues are noted in 11% of both 4.02 and non-4.02 restatements, but over time the rate decreased for 4.02s (from 14% to 11%) but increased for non-4.02s (from 10% to 17%). This suggests that tax issues are becoming less serious.

Figure 6 provides additional detail for specific expense issues. As shown in the figure, errors in the estimation and calculation of accruals, reserves, allowances, and expenses such as payroll and SG&A are most common. These general expense issues are noted in 30% of all restatements. More specific expense issues captured by AA are stock compensation (13%), depreciation, amortization, and related capitalization issues (10%), cost of sales (7%), leases (4%), and pensions and contingencies (3%).[25]

Each expense category trends downward over the decade, general expenses most dramatically. However, there are some predictable spikes in specific cases. Due to issuance of the SEC's February 2, 2005 letter clarifying GAAP for lease accounting, lease accounting was a factor in about 16% of all 2005 restatements, compared to an overall average of just 4%. This is also reflected in an increase in restatements with depreciation, amortization, and capitalization issues in the same year, as 52% of the 462 lease-related restatements also report these issues. In 2006, 18% of restatements involved stock compensation, compared to 13% overall, and 37% of these stock compensation restatements were attributed to backdating (116 of 315). This is due to the discovery of option-backdating problems at that time.[26]

Figure 6: Expense Issue Trends (N=10,479)



Note: The detailed data for Expense Issue Trends can be found in Table 1.

Financial Reporting of Income Taxes

Although most accounting issues decrease over the decade, problems with tax-related financial reporting stay near 10% until ticking up to 15% in 2012.[27] The consistent presence of tax-related restatements is likely due to the inherent and increasing complexity of both the tax code and tax-related GAAP, as well as increased scrutiny of tax reporting.[28]

Investing Activities

Investing activity restatements mainly consist of fixed assets and intangibles misreporting, including periodic value assessments. They also include errors in recording gains and losses from sales.[29] Overall, investing issues were identified in 13% of all restatements. However, the percentage declined fairly consistently over the decade, from 21% to 9%. It is possible these issues have become less prevalent as fair value measurement practices have evolved and been clarified.

Financing Activities

Issues with financing activities are mainly problems accounting for debt and equity, including beneficial conversion features related to warrants and convertible debt. Derivative accounting errors are also in this group.[30] Derivative issues peaked at 6% of 2005 restatements, but were identified in only 1% of restatements the last three years. This may be due to an evolving consensus on accounting for these instruments.

On the other hand, debt and equity problems were identified in roughly 15% to 20% of restatements each year except 2006, when they reached 27%. This highpoint was likely due in part to additional SEC interpretations of SFAS 133 and EITF 00-19 in 2005 and 2006.[31]

Financial Statement Presentation Issues

On average, financial statement presentation issues are noted in 23% of all restatements and range from 18% to 27% across years. **Table 2** provides information about specific categories included in the financial statement presentation group, listed in order of frequency.[32] Cash flow statement issues are most common, occurring in 10% of all restatements and increasing from 2% to 13% from beginning to end of the decade. On the other hand, debt and equity misclassifications decreased from 7% to 1%. Other categories in this group remained fairly constant over time, and no single one is present in more than 4% of all restatements.

Subsidiary and Atypical Transaction Accounting Issues

Issues involving accounting for subsidiaries and atypical events, such as acquisitions or reorganizations, were identified in 24% of all restatements. Together, they fall in a fairly narrow range of 19% to 29% each year, and no sub-group was identified in more than 9% of all restatements. **Table 3** presents information for these issues.[33]

Subsidiary accounting issues are most frequent, reported in 9% of all restatements. Most restatements in this category involve misstated subsidiary results that were incorporated into filed reports or related party disclosures (713 of 924). More than a third of the subsidiaries are foreign (252 of 713). This category also includes restatements due to "inter-company or affiliate balances, investment valuations or transactions" (286 of 924). Restatements in the *Subsidiary* category are most common during SOX Section 404 implementation in 2005 and trend downward in later years.

Acquisition accounting and *Consolidation* problems are mentioned in 8% and 7% of all restatements, respectively. The proportion of restatements involving acquisition accounting remained fairly consistent across the years, declining somewhat during the recession years with the decrease in acquisition activity. However, the consolidation category declined significantly from about 10% in 2003 to 3% in 2012. In addition to consolidation of subsidiaries, this category includes accounting for variable interest entities, off-balance sheet arrangements, joint ventures, and minority interests.

Comparing 4.02 and non-4.02 restatements

Financing, financial statement presentation, and subsidiary/atypical transaction issues: After 2006, financing issues for non-4.02s trended downward more steeply than for 4.02s. By 2012, 20% of 4.02s involved debt or equity issues compared to 12% of non-4.02s.

Investing issues are similar for both groups.

Financial statement presentation issues are more likely to be non-4.02 restatements. Since 2005, 29% of non-4.02s involve these errors compared to just 17% of 4.02s. Cash flow statement and segment and footnote restatements are responsible for most of the difference.

Subsidiary and atypical transaction issues are reported at similar rates for 4.02 and non-4.02 restatements.

Table 2: Frequency of Financial Statement Presentation Issues (N=10,479)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Cash flow statement	19	48	134	205	155	114	59	85	96	95	1,010
Percentage of total	2%	5%	8%	11%	12%	12%	8%	10%	12%	13%	10%
Income statement misclass / EPS	33	48	87	77	65	38	30	38	29	25	470
Percentage of total	4%	5%	5%	4%	5%	4%	4%	5%	4%	3%	4%
Debt / Equity misclassification	62	66	58	83	75	21	22	18	15	5	425
Percentage of total	7%	7%	4%	5%	6%	2%	3%	2%	2%	1%	4%
Segments and other footnotes	12	23	41	49	29	34	30	34	38	35	325
Percentage of total	1%	2%	3%	3%	2%	4%	4%	4%	5%	5%	3%
Asset misclassification	28	33	64	52	35	22	8	10	11	25	288
Percentage of total	3%	3%	4%	3%	3%	2%	1%	1%	1%	3%	3%
Comprehensive income	5	5	36	14	19	6	4	2	14	6	111
Percentage of total	1%	1%	2%	1%	1%	1%	1%	0%	2%	1%	1%
Any statement presentation Issue	153	210	364	430	344	214	141	170	188	182	2,396
Percentage of total	18%	22%	23%	24%	27%	23%	20%	21%	23%	25%	23%
All restatements	856	966	1,600	1,784	1,268	929	711	817	810	738	10,479

Therefore this trend may have been affected by the adoption of new rules for variable interest entity consolidation in 2003, and the subsequent simplifying revision of those rules in 2009.[34]

Reorganization activities, reported in 5% of all restatements, include problems accounting for disposals, reorganizations, discontinued operations, and fresh start accounting. These problems trended downward from a high of 8% during SOX Section 404 implementation.

U.S. Compared to Foreign Restatement Accounting issues

There are few changes when only the 8,916 restatements by U.S. companies are included in the analysis. Percentages for individual issues are within a few points of those shown in the tables. Because foreign registrants account for only 15% of restatements, it is not surprising that removing them from the analysis has a minimal effect.

There are a few differences comparing restatements by U.S. and foreign companies directly. Restatements by foreign companies were less likely to involve typical business activities: 76% compared to 82% for U.S. companies. This is mainly due to fewer restatements involving revenue, general business expenses, and lease expense.[35] Foreign company restatements were also less likely to involve taxes: 9% vs. 12%. On the other hand, they have more restatements that involve consolidation issues: 12% versus 7% for U.S. restatement companies.

Accounting Issues Summary

By the end of the decade, restatements involve fewer accounting issues than in earlier years. This is reflected in downward trends for most accounting issues, including more serious issues such as revenue restatements and restatements of typical business expenses. However, there are a few accounting problems that are reported in an increasing percentage of restatements. Specifically, the proportion of restatements involving tax reporting and cash flow statements both increased in recent years.

C. Restatement Severity

Restatement severity is considered from several perspectives. The analyses include: more serious accounting issues (accounting issue severity), the length of time restated, indications of fraud, and income effects. Because 4.02 restatements are determined based on whether the error renders the financial statements unreliable, each analysis provides separate information for 4.02 restatements beginning in 2005.

Accounting Issue Severity

To analyze accounting issue severity, each restatement is assigned to one of four groups: 1) revenue, 2) business expenses, 3) tax, investing, and financing activities, and 4) financial statement presentation, atypical transactions and subsidiary accounting (denoted "Other"). This assignment is based on a determination of the most serious accounting issue for each restatement. Because investors tend to be more concerned about restatements of revenue and business expenses (core earnings), restatements involving those issues are considered to be more severe than the other two groups.[36] So, any restatement involving revenue is classified as a revenue restatement whether or not any other accounts are affected. A restatement involving business expenses, but not revenue is included with the business expense group, and so forth. Thus, each restatement is included only once in the analysis, and the total number of restatements shown in the figures is 10,479.

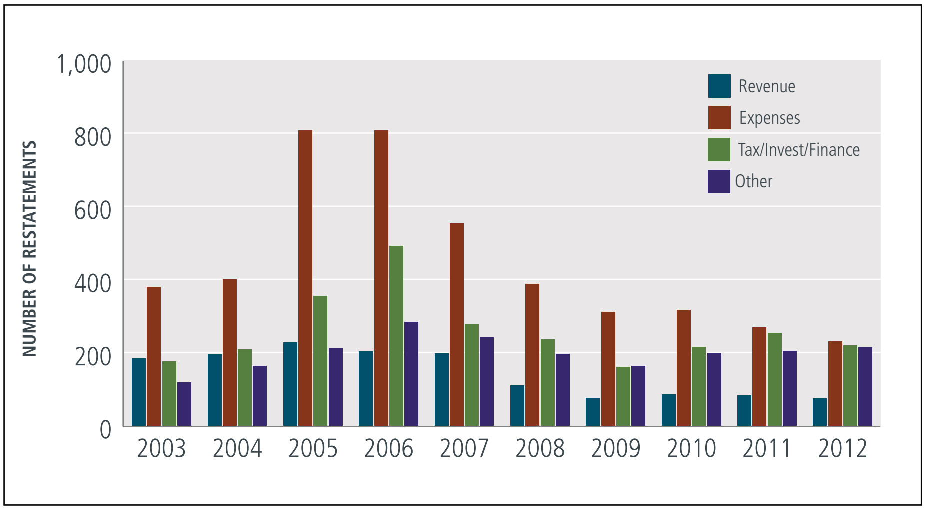
Figure 7 provides trends in the number of restatements for each severity group

Table 3: Frequency of Subsidiary and Atypical Transaction Issues (N=10,479)

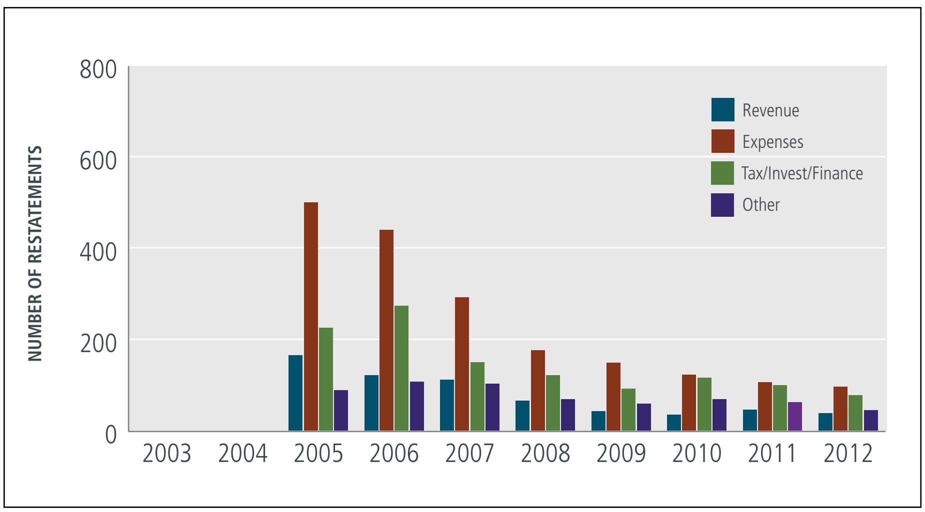
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Subsidiary	79	102	209	182	123	50	39	46	46	48	924
Percentage of total	9%	11%	13%	10%	10%	5%	5%	6%	6%	7%	9%
Acquisition	68	80	122	166	105	79	43	51	59	63	836
Percentage of total	8%	8%	8%	9%	8%	9%	6%	6%	7%	9%	8%
Consolidation	85	97	146	139	58	67	42	51	49	23	757
Percentage of total	10%	10%	9%	8%	5%	7%	6%	6%	6%	3%	7%
Reorganizations	62	78	122	107	62	30	21	19	22	28	551
Percentage of total	7%	8%	8%	6%	5%	3%	3%	2%	3%	4%	5%
Any subsidiary/transaction issues	222	283	466	475	299	207	135	157	162	153	2,559
Percentage of total	26%	29%	29%	27%	24%	22%	19%	19%	20%	21%	24%
All restatements	856	966	1,600	1,784	1,268	929	711	817	810	738	10,479

Figure 7: Number of Restatements by Accounting Issue Severity

Panel A: All restatements (N=10,479)



Panel B: 4.02 restatements (N=4,246)



for all restatements in Panel A, and only 4.02 restatements in Panel B. The figure shows that all four groups reach their highest points in 2005 or 2006 and subsequently decrease. The decline in expense restatements is particularly precipitous, due in part to the completion of lease and option backdating restatements. Trends are similar when only 4.02 restatements are considered.

Figure 8 provides the proportion of restatements for each accounting severity group, again for all restatements in Panel A, and only 4.02 restatements in Panel B. These figures reinforce the decline in the proportion of revenue and expense restatements across time. As would be expected, 4.02 restatements tend to have somewhat higher proportions of these more severe issues than the overall group.

U.S. Compared to Foreign Restatements

Although not shown in the figures, foreign restatement companies tend to have a lower proportion of revenue restatements—11%, compared to 14% for U.S. restatement companies. However, this difference is primarily due to early years of the decade. By 2012, foreign restatement companies reported a *higher* proportion of revenue restatements than U.S. restatement companies—12%, compared to 10%.

Restatement Severity Measures

Table 4 provides the yearly incidence and percentages of restatements involving core earnings (revenues or business expenses) and other characteristics of severe restatements, which are subsequently discussed. Each measure suggests that restatement severity has decreased or remained the same over the decade.

4.02 Restatements

As noted previously, since late 2004, restatements have been reported on Form 8-K Item 4.02 when the error is sufficiently pervasive or serious that the financial statements are deemed unreliable overall. As noted in **Table 4**, slightly less than half (49%) of the restatements from 2005 to 2012 are 4.02 restatements, suggesting that the others are less serious. The highest percentage of 4.02 restatements is 61% in 2005, the year following introduction of Item 4.02. The percentage decreases fairly steadily afterward, reaching a low of 35% in 2012. It is likely that the decrease reflects the overall decrease in severity observable in other measures and perhaps an evolving understanding of which restatements require Item 4.02 disclosure.

Core Earnings

As shown in **Table 4**, in 2003, 66% of restatements involved core earnings. By the end of the decade, the proportion decreased to 41%. As mentioned previously, a significant part of this decrease was due to revenue restatements. In 2012, revenue restatements accounted for only 10% of restatements, less than half of the 21% reported in 2003. Business expense restatements also decreased from 44% to 31%. As might be expected, more 4.02 restatements involve core earnings, but over time rates generally trend downward for this group as well.

Number of Years Restated

On average, restatements corrected financial statements for about one year and three quarters.[39] The longest misstatement periods are for restatements announced in 2005 and 2006, when the average length was over two years. This is due in part to the lease restatements announced in 2005, which averaged more than three years in length.[40] Beginning in 2008, the average restatement period shrank to less than a year and half. This decline is accompanied by an increase in the percentage of restatements that affect quarterly, but not annual, reports. Until 2007, the percentage of restatements involving only unaudited interim reports ranged from 20% to 30%, but the percentage increased to about 35% over the last half of the decade. The shift towards a higher proportion of quarterly-only restatements suggests that more errors are being identified and corrected before they extend to annual results.

In nearly every year, 4.02 restatements tend to correct longer periods—the average length is nearly two years. But here too, the trend is toward shorter restatement periods and more restatements involving only quarterly results. Finally, although not shown in the table, on average foreign companies tend to restate shorter periods—close to 1.5 years overall—but the median time period is one year for both foreign and U.S. restatement companies.

Fraud

AA identifies restatements as fraudulent when company filings associated with the restatement mention “fraud” or “irregularities,” or suggest criminal proceedings associated with the restatement. SEC Accounting and Auditing Enforcement Releases (AAERs) are another way of identifying fraudulent restatements. A list of AAERs issued from 1998 to 2007 was privately provided for purposes of this study by the authors of the Committee of Sponsoring Organizations of the Treadway Commission’s (COSO) 2010 study, *Fraudulent Financial Reporting 1998-2007: An Analysis of U.S. Public Companies*.[41] Because AAERs can be issued several years after a restatement, these AAERs primarily relate to restatements disclosed from 2003 through 2006, plus a few disclosed in 2007.

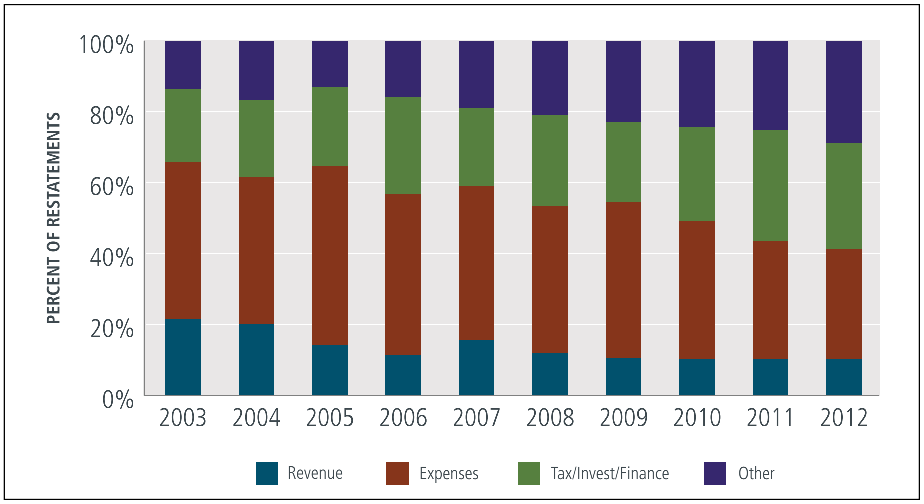
Using both methods of identifying fraudulent restatements, about 2% of all restatements across the decade involve fraud (234 of 10,479). Annual percentages range from 5% in early years (in 2003, 45 of 856 restatements involved fraud), and decrease to 1% (11 of 738) by the end. Without AAERs, fraud is identified in 1% of all restatements (155 of 10,479); beginning at 2% in the early years and decreasing to 1% in later years. However, these publicly available sources of information may not identify all intentional misstatements, and the analysis should be considered with that caveat in mind.

Table 4: Restatement Severity Measures (N=10,479)

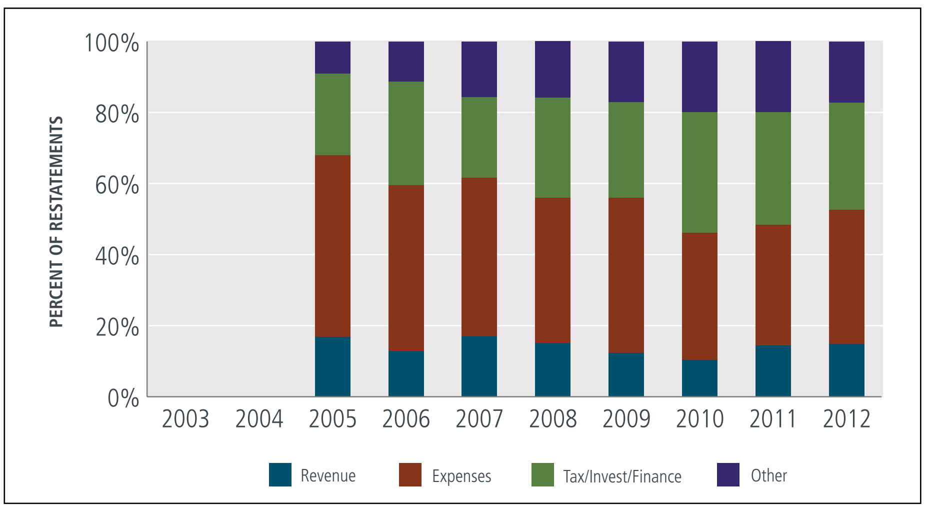
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total[37]
All restatements	856	966	1,600	1,784	1,268	929	711	817	810	738	10,479
4.02 restatements			977	940	653	430	339	340	312	255	4,246
Percentage of all			61%	53%	51%	46%	48%	42%	39%	35%	49%
Core earnings											
Percentage of all	66%	62%	65%	57%	59%	53%	54%	49%	43%	41%	56%
Percentage of 4.02s			68%	60%	62%	56%	56%	46%	48%	53%	59%
Years restated											
All average	1.61	1.72	2.06	2.01	1.84	1.41	1.39	1.43	1.41	1.43	1.71
4.02 average			2.32	2.41	1.96	1.55	1.52	1.48	1.40	1.52	1.96
Interim results only											
Percentage of all	30%	29%	20%	28%	30%	36%	34%	34%	34%	36%	30%
Percentage of 4.02s			20%	27%	34%	36%	37%	40%	33%	40%	30%
Fraud involved											
Percentage of all	5%	5%	3%	2%	1%	1%	2%	1%	1%	1%	2%[38]
Percentage of 4.02s			4%	3%	2%	2%	3%	1%	3%	3%	3%

Figure 8: Proportion of Restatements in Accounting Issue Severity Groups

Panel A: All restatements (N=10,479)



Panel B: 4.02 restatements (N=4,246)



Fraud is more closely associated with revenue than any other accounting severity issue group; 48% of all frauds are revenue-related (112 of 234). Or, put another way, fraud is clearly identified in 8% of the revenue restatements. However, accounting involving foreign subsidiaries (included in the *Subsidiary and Atypical Transactions* accounting issues group) is the issue with the highest incidence of fraud; 14% of these restatements are attributed to fraud. Fraudulent restatements also tend to last longer than non-fraudulent restatements (2.9 years, compared to 1.7 years). Across industries, the highest fraud rate (4%) is found in Computers & Software (computers, software, electronic equipment) and Business Services companies (consulting, advertising, employment agencies), while the lowest (1%) is in Energy (oil, gas, coal extraction and products) and Financial (banking and insurance) companies.

Fraud rates are similar between U.S. and foreign restatement companies, but are about one percentage point higher for 4.02 restatements compared to all restatements. This is because most frauds are 4.02 restatements; 83% of all identified frauds since 2005 were reported on Item 4.02 (120 of 145).

Negative Financial Statement Impact

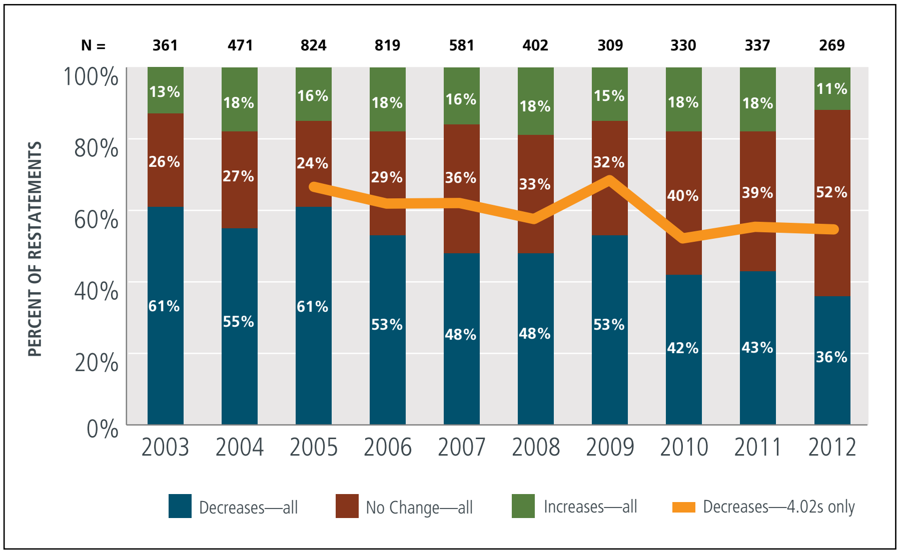
AA provides the dollar effect of the restatement on previously reported income, cumulated over all restated periods. However, these data are available for only 2,208 of the 4.02 restatements, and 4,703 restatements overall (primarily those made by companies trading on major exchanges). Overall, 52% of these restatements (2,422 of 4,703) reduce previously reported income, 32% (1,511) do not affect income, and 16% (770) increase reported income. As shown in **Figure 9**, the percentage of income-decreasing restatements declines from 61% to 36% over the decade as the percent that do not affect income increases from 26% to 52%. This is likely due in part to the increase in cash flow statement restatements noted previously.

The line across **Figure 9** indicates the percent of 4.02 restatements that decrease reported income. As might be expected, it is higher than the overall percent each year. Sixty-one percent of 4.02 restatements decreased income (1,343 of 2,208), nearly 10% higher than overall. The difference is offset by a lower percent of 4.02 restatements that do not affect income (22%). Interestingly, about the same percent of 4.02 restatements increase reported income as the overall rate (17%).

Comparing foreign and U.S. restatements, the percent of restatements that do not affect income is about the same for both groups. But a smaller percent of foreign company restatements are income-decreasing (49% compared to 52% for U.S. companies) and a correspondingly larger percent of foreign company restatements increase income (20% compared to 16%).

Data necessary to calculate the percent change in previously reported income are available for even fewer restatements.[42] Nonetheless, **Figure 10** presents the median percent change in reported income for 1,545 income-decreasing restatements and 572 income-increasing restatements with necessary information. (Restatements that do not affect income are excluded.) The median percent change is shown because some extreme changes influence the averages. The overall median for income-decreasing restatements is -15% and the median for income-increasing restatements is 14%. (Average changes are -111% and 138% respectively.) The year with the most negative median income effect is the recession year of 2009 (-23%), and the most positive median effect is in 2010 (24%). Since then, the magnitudes are smaller for both types of restatements. As mentioned above, these movements are accompanied by an increasing percentage of restatements that do not affect income.

Figure 9: Effect of Restatement on Previously Reported Income for the Subset of 4,703 Restatements With Available Income Effect Data



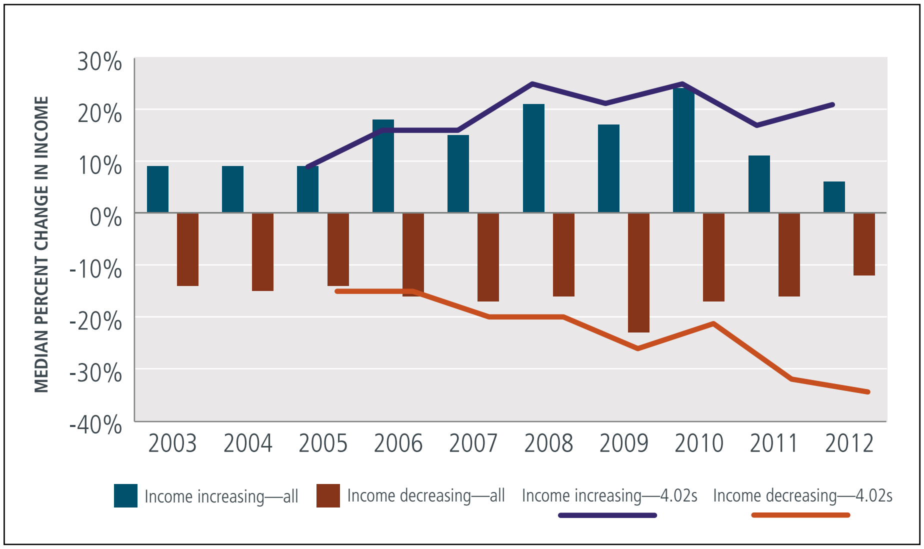
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Decreases income											
All	219	257	499	433	277	194	163	138	144	98	2,422
4.02s			382	323	215	125	109	76	71	42	1,343
No change in income											
All	95	128	195	241	212	134	99	133	133	141	1,511
4.02s			109	112	77	53	25	41	33	30	480
Increases income											
All	47	86	130	145	92	74	47	59	60	30	770
4.02s			95	97	54	47	26	31	27	8	385
Number of restatements											
All	361	471	824	819	581	402	309	330	337	269	4,703
4.02s			586	532	346	225	160	148	131	80	2,208

The number of restatements that report a decrease in income declined steadily starting in 2006.

As shown by the lines across **Figure 10**, income effects for 4.02s are typically greater for both the income-increasing and income-decreasing restatements.[43] Furthermore, these magnitudes stay around +20%/-30% at the end of the decade even as the overall effect diminishes.

Together these trends suggest that the overall magnitude of the restatement income effects is decreasing due to more restatements that do not affect income and smaller effects for the increasing number of non-4.02 restatements. However, 4.02 restatements are increasingly distinct from non-4.02 restatements, as would be expected due to the more serious nature of 4.02 restatements.

Figure 10: Median Percent Change in Reported Income for the Subset of Restatements with Available Data (N=1,545 Income-decreasing and N=572 Income-increasing Restatements)



The median percent change in reported income for those restatements for which the restatement resulted in a decrease in income was –15%; the median for income-increasing restatements was 14%. The income effects for 4.02 restatements are typically greater. The reasons for these differences are a potential area for future research.

Endnotes

13. From August 2004 through the end of that year, 187 restatements were disclosed on Form 8-K Item 4.02. However, they are included with the non-4.02 restatements to allow meaningful year-by-year analyses.

14. See Susan Scholz, *The Changing Nature and Consequences of Public Company Financial Restatements: 1997-2006*. The Department of the Treasury (2008).

15. Securities and Exchange Commission, *Staff Accounting Bulletin: No. 99—Materiality*. August 12, 1999. http://www.sec.gov/interps/account/sab99.htm.

16. Securities and Exchange Commission, *Staff Accounting Bulletin: No. 101—Revenue Recognition in Financial Statements*. December 3, 1999. http://www.sec.gov/interps/account/sab101.htm.

17. See Mark L. DeFond and Jere R. Francis, "Audit research after Sarbanes-Oxley" in *Auditing: A Journal of Practice and Theory*, vol. 24 (2005), and Zoe-Vonna Palmrose, "Litigation and independent auditors: The role of business failures and management fraud" in *Auditing: A Journal of Practice and Theory*, vol. 6 (1987).

18. See Colleen Boland, Scott N. Bronson and Chris E. Hogan, *Accelerated filing deadlines, internal controls, and financial statement quality: The case of originating restatements*. Working paper, Michigan State University and University of Kansas (2013).

19. SEC, *Final Rule: Additional Form 8-K Disclosure Requirements and Acceleration of Filing Date*, http://www.sec.gov/rules/final/33-8400.htm

20. When implementing SAB 108, the SEC permitted registrants that had accurately applied the prior approach to record the cumulative effect of the initial application of SAB 108 as an adjustment to beginning balances rather than as a restatement of prior periods. Approximately 426 registrants disclosed such adjustments in reports filed mainly in late 2006 and 2007. These adjustments are not included in this study. For more information see Marsha B. Keune and Karla M. Johnstone, "Staff Accounting Bulletin No. 108 Disclosures: Descriptive Evidence from the Revelation of Accounting Misstatements" in *Accounting Horizons*, vol. 23 (2009).

21. See the PCAOB's *Auditing Standard No. 5* at http://pcaobus.org/Standards/Auditing/Pages/Auditing_Standard_5.aspx and the SEC's Interpretive Release at http://www.sec.gov/rules/interp/2007/33-8810.pdf.

22. Overall, U.S. restatement companies tend to have somewhat higher rates of 4.02 restatements than foreign companies filing 10-K annual reports: 52% compared to 44%. However, while the frequency of 4.02 restatements for U.S. companies declines from 66% in 2005 to 35% in 2012, 4.02 frequencies for foreign companies remain over 40% every year, and have been higher than U.S. company rates since 2010. As noted previously, foreign restatement companies filing 20-F annual reports do not have a reporting requirement analogous to Item 4.02, so none of these are 4.02 restatements, although it is likely that some of them would be considered non-reliance restatements. Restatements by such companies comprise about 5% of all restatements since 4.02 reporting began and about 30% of all foreign restatements since 4.02 reporting began.

23. This trend may be due to restatement disclosure practices as well as more limited restatements if companies have become more likely to focus their announcements on the serious issues, rather than simply list all affected areas.

24. See Jaime J. Schmidt, "Perceived Auditor Independence and Audit Litigation: The Role of Nonaudit Services Fees," *The Accounting Review*, vol. 87 (2012), Wendy M. Wilson, "An Empirical Analysis of the Decline in the Information Content of

Earnings Following Restatements," *The Accounting Review*, vol.83 (2008), Cristi A. Gleason, Nicole Thorne Jenkins, and W. Bruce Johnson, "The Contagion Effects of Accounting Restatements," *The Accounting Review*, vol. 83(2008), Zoe-Vonna Palmrose, Vernon Richardson, and Susan Scholz, "Determinants of Market Reactions to Restatement Announcements," *Journal of Accounting and Economics*, vol. 37 (2004) and Zoe-Vonna Palmrose and Susan Scholz, "The Circumstances and Legal Consequences of Non-GAAP Reporting: Evidence from Restatements," *Contemporary Accounting Research*, vol. 21 (2004).

25. Revenue restatements are identified by AA code 6. Expenses due to general accrual/reserve and estimation issues are identified by AA codes 7, 12 and 14. Other AA categories in the expense analysis are 17 (stock compensation), 1 and 23 (depreciation, amortization and capitalization issues), 20 (cost of sales), 42 (leases), 69 and 21 (contingencies and pension expense). See Appendix B for further description of the categories and classifications.

26. See Erik Lie, "On the Timing of CEO Stock Option Awards" in *Management Science*, vol.51 (2005).

27. Tax reporting restatements are identified by AA code 18. Although not shown in the table, the percentage of restatements that involve only tax issues also increased. The percentage of restatements involving taxes where tax reporting is the *only* issue reaches 63% by 2012, compared to an overall rate of 36%.

28. For example, FASB Interpretation No. 48 Accounting for Uncertainty in Income Taxes-an interpretation of FASB Statement No. 109, issued in 2006, is generally considered to be a relatively complex standard that focused attention on tax-related accounts.

29. Investing activities are identified by AA codes 3 (PPE intangible or fixed asset (valuation/diminution) issues) and 22 (Gain or loss recognition issues).

30. See AA codes 4 (Debt, quasi-debt, warrants & equity (BCF) security issues) and 8 (Financial Derivatives/hedging (FAS 133) acct issues).

31. For example, AA points to speeches on this topic in 2005 by Todd Hardiman and 2006 by Stephanie Hunsaker, both SEC Associate Chief Accountants in the Division of Corporation Finance as a reason for this spike.

32. Financial statement presentation issues are identified by AA codes 19 (Cash flow statement), 9 (EPS, ratio and classification of income statement), 26 (Debt/equity classification), 36 (Fin statement, footnote & segment disclosure), 29 (Balance sheet classification of assets), and 35 (Comprehensive income).

33. Subsidiary issues are identified by AA codes 24 and 11 (Intercompany, investment in subs./affiliate issues and Foreign, related part, affiliated or subsidiary issues). Foreign subsidiaries are identified by code 44 (Foreign, subsidiary only issues (subcategory)). Acquisition is code 45(Acquisition, mergers only (subcategory) acct issues), Consolidation is code 13 (Consolidation issues incl Fin 46 variable interest & off-B/S) Reorganization is code 10—code 45 (Acquisitions, mergers, disposals, re-org. acct issues—Acquisitions, mergers, only (subcategory).

34. *FASB Interpretation No. 46, Consolidation of Variable Interest Entities—an interpretation of ARB No. 51* was issued in January 2003 and revised in December 2003 (FIN 46(R)) in response to Enron's accounting fraud. *FASB Statement No. 167, Amendments to FASB Interpretation No. 46(R)* was issued in 2009. Consolidation guidance is now provided in ASC Section 810.

35. Revenue is involved in 11% of foreign company restatements compared to 14% of U.S. company restatements, general business expenses are noted in 48% compared to 51%, and lease issues are 2% compared to 5%. In addition, while stock compensation percentages are similar between the two groups, option backdating problems are less prevalent for foreign restatement companies: 5% versus 13%.

36. See Wendy M. Wilson, "An Empirical Analysis of the Decline in the Information Content of Earnings Following Restatements," *The Accounting Review*, vol. 83 (2008), Cristi A. Gleason, Nicole Thorne Jenkins, and W. Bruce Johnson, "The Contagion Effects of Accounting Restatements," *The Accounting Review*, vol. 83 (2008), Zoe-Vonna Palmrose, Vernon Richardson, and Susan Scholz, "Determinants of Market Reactions to Restatement Announcements," *Journal of Accounting and Economics*, vol. 37 (2004) and Zoe-Vonna Palmrose and Susan Scholz, "The Circumstances and Legal Consequences of Non-GAAP Reporting: Evidence from Restatements," *Contemporary Accounting Research*, vol. 21 (2004). The ordering is consistent with market reactions to restatement announcements. Average stock price returns at announcement dates (for restatements with return data) are: -4% for group 1, 1.5% for group 2, -0.5% for group 3, and -0.3% for group 4. See *Chapter 4* for more discussion of the return calculations.

37. For 4.02 restatements, percentage of total is based on restatements announced from 2005 to 2012.

38. Fraud rates are higher in earlier years in part because AA fraud data are supplemented with information from SEC Accounting and Auditing Enforcement Releases that were issued from 2003 to 2007 but similar data were not readily available for later years. The identification and measurement of fraud is discussed further in the section on fraud found in *Section C, Restatement Severity*.

39. The number of years misstated is determined by calculating the number of days between the beginning date of the misstated period and the ending date and dividing by 365. Beginning and ending dates are provided by AA. The beginning date is the first day of the first quarter restated and the ending date is the last day of the last restated quarter. Interim-only restatements are identified by restated periods lasting less than 300 days.

40. Other accounting issues with relatively longer restatement periods are revenue, stock compensation, capitalization and depreciation, and contingencies and pensions. The average for each of these issues is more than two years.

41. See Mark S. Beasley, Joseph V. Carcello, Dana R. Hermanson, Terry L. Neal. *Fraudulent Financial Reporting 1998-2007: An Analysis of U.S. Public Companies*. Committee of Sponsoring Organizations of the Treadway Commission (2010). The COSO study analyzes 347 AAERs. These AAERs are linked to restatements in this study by first identifying restatement companies with AAERs and then comparing the financial periods misstated to those addressed by the AAER. This process identifies 90 incremental restatements as fraudulent, a total of 2% of all restatements announced from 2003 to 2007. The additional restatements are made by a total of 69 companies, because several AAERs span multiple restatements. In addition to differences in study periods, there are fewer fraudulent restatements than AAERs because not all AAERs are associated with restatements. The study does not include AAERs that are not in the COSO study because of the difficulty involved in obtaining these data.

42. Companies in this analysis are limited to those reporting in U.S. dollars for which originally reported net income data are available in Compustat and net income change data are available in AA.

43. For 4.02 restatements, data are available for 914 income-decreasing and 328 income-increasing restatements.

3 Restatement Company Characteristics

A. Industry

Returning to the full sample of 10,479 restatements, **Figure 11** shows the percent of restatements per industry for the ten industries that represent at least 4% of all restatements plus an "other" category. **Table 5** provides counts and percent by year. Industries are shown in order of frequency and **Figure 12** charts the percent of restatements announced by the six industries that are each responsible for at least 9% of all restatements over the decade.[44]

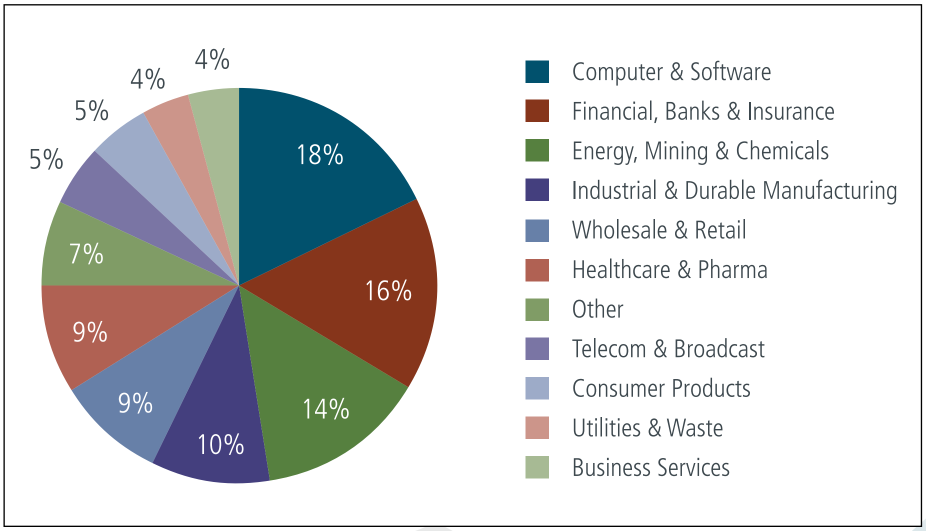
Table 5 and **Figure 12** show that industry proportions are fairly steady over the decade. For example, Computers & Software has the most restatements in seven of the ten years, and in the other years it ranks second or third. Two of these exceptions are 2003 and 2012, both years when financial companies have the most restatements. Financial companies rank second or third in every other year.

Comparing rankings of each industry across the decade, no annual rank varies by more than two places from the overall order except Wholesale & Retail, which experienced a relatively high number of restatements in 2005 to correct lease accounting, Utilities & Waste, which had a relatively high proportion of restatements in 2003, and Telecom & Broadcast which had relatively few restatements in 2011. The highest percentage for an individual industry was in 2006, when the Computer & Software industry was responsible for 22% of all restatements. This corresponds to the year that stock option backdating restatements were announced, which disproportionately affected this industry.[45]

U.S. Compared to Foreign Restatement Companies

Industry patterns for U.S. restatement companies are similar to those in **Table 5**. However, there are some differences considering only the 1,563 foreign restatement companies. Among the foreign companies, Energy, Mining & Chemicals has the most restatements, 23% overall, and it ranks highest in every year except 2007. This appears to be due mainly to a large number of mining company restatements. Of the 366 foreign restatements in this industry group, 136 (37%) are in SIC codes related to metals mining. The Computers & Software industry ranks second among

Figure 11: Proportion of Restatements by Industry (N=10,479)



The proportion of 4.02 restatements by industry is very similar to that for all restatements—within two percentage points of the overall percentages shown for all restatements in Table 5.

foreign companies, with 257 (16%) of all foreign restatements, and Industrial & Durable Goods Manufacturing is third with 165 (11%). For foreign restatement companies, percentages across years are less stable than for U.S. companies. For example, the Financial, Banks & Insurance industry is responsible for 8% of all foreign restatements and ranks sixth overall. However, in 2012 it jumps to third, while Computers & Software drops to seventh.

Figure 12: Percent of Restatements Announced by the Top Six Industries

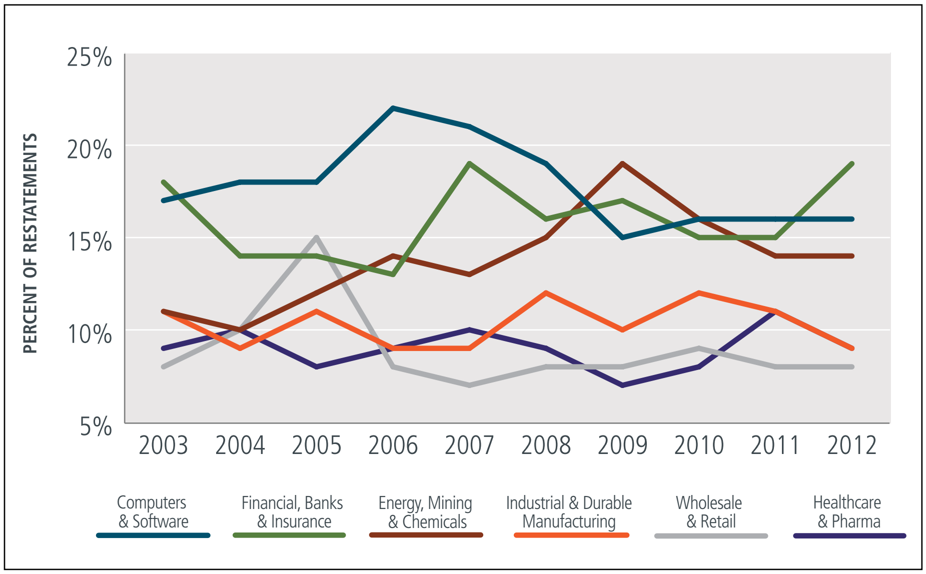
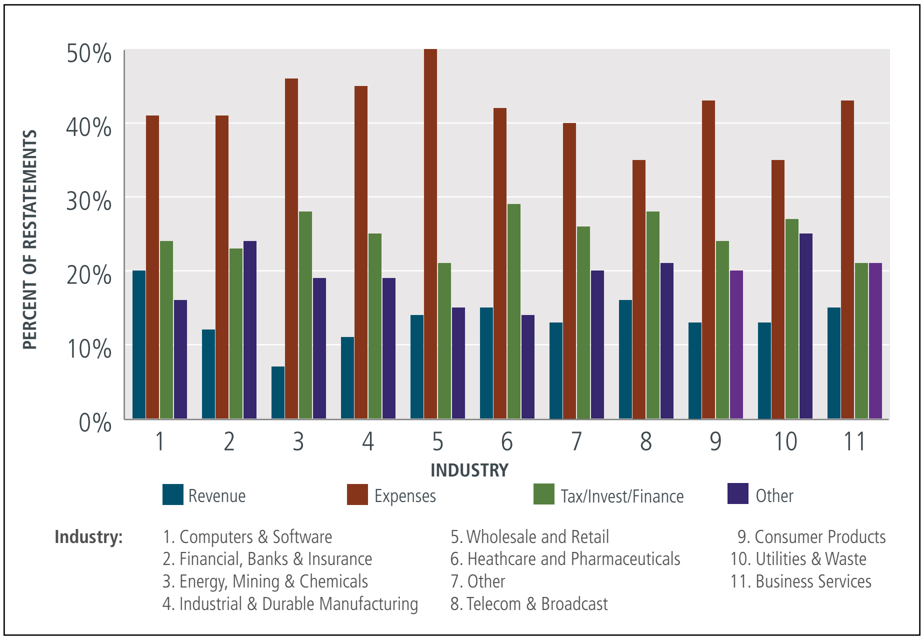


Table 5: Number and Percentage of Restatements by Industry and Year (N=10,479)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Computers & Software	145	173	281	398	263	177	106	133	130	115	1,921
	17%	18%	18%	22%	21%	19%	15%	16%	16%	16%	18%
Financial, Banks & Insurance	150	140	220	234	243	144	118	123	119	143	1,634
	18%	14%	14%	13%	19%	16%	17%	15%	15%	19%	16%
Energy, Mining & Chemicals	90	98	188	247	171	137	134	133	112	105	1,415
	11%	10%	12%	14%	13%	15%	19%	16%	14%	14%	14%
Industrial & Durable Manufacturing	95	84	182	165	113	107	71	98	93	63	1,071
	11%	9%	11%	9%	9%	12%	10%	12%	11%	9%	10%
Wholesale & Retail	68	96	240	151	91	72	55	71	62	59	965
	8%	10%	15%	8%	7%	8%	8%	9%	8%	8%	9%
Healthcare & Pharma	76	94	124	166	126	87	47	64	90	68	942
	9%	10%	8%	9%	10%	9%	7%	8%	11%	9%	9%
Other	57	79	107	124	76	69	65	63	64	64	768
	7%	8%	7%	7%	6%	7%	9%	8%	8%	9%	7%
Telecom & Broadcast	53	74	76	86	49	42	34	34	21	25	494
	6%	8%	5%	5%	4%	5%	5%	4%	3%	3%	5%
Consumer Products	25	48	68	81	45	36	39	45	61	38	486
	3%	5%	4%	5%	4%	4%	5%	6%	8%	5%	5%
Utilities & Waste	60	46	60	56	52	28	16	25	27	25	395
	7%	5%	4%	3%	4%	3%	2%	3%	3%	3%	4%
Business Services	37	34	54	76	39	30	26	28	31	33	388
	4%	4%	3%	4%	3%	3%	4%	3%	4%	4%	4%
Total	856	966	1,600	1,784	1,268	929	711	817	810	738	10,479

Figure 13: Industry and Accounting Issue Severity



Industry and Restatement Severity

Figure 13 shows the percentage of restatements that fall into each of the four accounting issue severity groups for each industry. Because each restatement is classified in one severity category, the percentages for each industry sum to 100%. Industries are listed in the same order as **Table 5**, from greatest to least number of restatements overall. The "Other" accounting issue category includes financial statement presentation problems, and issues involving atypical transactions, consolidations, and subsidiary accounting.

Accounting issue severity shows surprisingly similar patterns across industries. In every industry, expense restatements are most common, ranging from 35% (Utilities & Waste and Telecom & Broadcast) to 50% (Wholesale & Retail).[46] Tax/Investing/Finance restatements are second in most industries and a close third otherwise, ranging from 21% of Wholesale & Retail restatements to 29% of Healthcare & Pharmaceuticals. Presentation, consolidation, and atypical transaction issues are typically third most common with industries ranging from a low of 14% (Healthcare & Pharmaceuticals) to a high of 25% (Utilities & Waste). Revenue restatements are least common in all industries except Computers & Software and Healthcare & Pharmaceuticals. Computers & Software represents the high end of the 7% to 20% range. Energy, Mining & Chemicals is at the low end, and the other nine industry groups are clustered from 10% to 16%.

There is not much industry variation for other measures of restatement severity. Wholesale & Retail has a higher rate of 4.02 restatements, 50% compared to 42% overall, as well as the longest misstatement periods, and again these characteristics appear to be due to lease restatements. Business Services has the highest incidence of fraud, 4% compared to 2% overall and a low of 1% in Financial, Banks & Insurance. Otherwise, all other industries are near the overall percentages.

Individual Accounting Issues Across Industries

If each restatement issue is analyzed separately (i.e., when the number of accounting issues is greater than the number of restatements), accounting issue rates remain fairly consistent across industries. Most industries fall within +/-5% of the overall percentage of restatements correcting each individual issue. A few exceptions are Industrial & Durable Manufacturing, where companies tend to correct relatively more cost of sales issues; 13% of restatements in this industry involve cost of sales compared to 7% overall, and Financial, Banks & Insurance where companies rarely restate cost of sales. Only 1% of financial industry restatements involve cost of sales—likely because most of these companies do not have physical inventories. Further, there are several accounting issues where no industry percentage is more than +/-5% of the overall rate. These include tax, investing activities, most financial statement presentation issues, and most subsidiary/consolidation/atypical transaction issues. Appendix C provides a breakout of industry percentages for each accounting issue.

B. Restatement Company Exchange and Financial Characteristics

This stage of the analysis requires financial information about the restating company. Specifically, basic financial measures (assets, revenue, and net income) for the fiscal year-end immediately prior to the restatement announcement must be readily obtainable to be included in this analysis. These data are attained mainly from Standard and Poor's Compustat database.

Basic financial data are available for 6,535 (62%) of the 10,479 restatements studied in prior sections. The distribution of companies with and without available financial data is shown in **Figure 14**. The proportion of restatement companies with data ranges from a low of 54% in 2009 to a high of 72% in 2005. The 6,535 restatements in the analysis are made by 4,229 unique companies. The number of restatements per company ranges from one (2,706 companies) to 10 (one company).

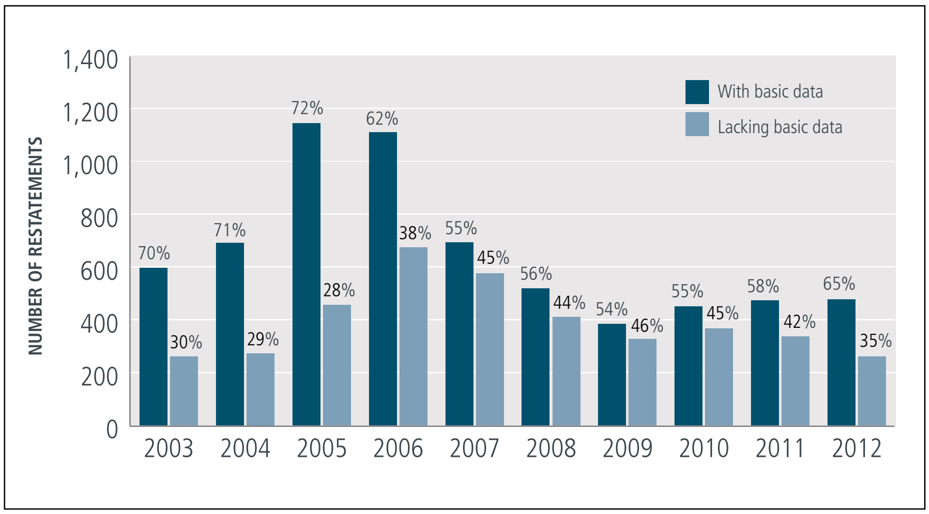
Profile of Companies Lacking Financial Data

Of the 3,944 restatements lacking sufficient data for further analysis, exchange membership is unknown for 88%, suggesting that some of these entities may not have been operating companies at the time of the restatement—for example, trusts or asset backed securities that are not followed by Compustat. Another 9% are traded over the counter (OTC) on bulletin boards, leaving only 3% that are, or were, associated with a major exchange. Not surprisingly, companies that cannot be included in this analysis due to missing data also tend to be small. For the limited number of these companies with asset data available, median assets are only $9.1 million; $5.7 million if financial institutions are excluded.[47]

Regarding severity measures, companies that exit the analysis due to missing data are less likely to report revenue restatements (11% of exiting companies, compared to 15% for continuing companies), more likely to have expense restatements (45% exiting, 41% continuing), and tend to have shorter average misstatement periods (1.4 years exiting, 1.9 years continuing). On the other hand, more 4.02 restatements remain in the analysis, 66% of 4.02 restatements are included compared to 56% of non-4.02 restatements since 2005.

Excluded companies are also disproportionately from the Energy, Mining & Chemicals industry (18% exiting, 11% continuing) and the Financial industry (17% exiting, 15% continuing), but are less likely to be Computer & Software companies (16% exiting, 20% continuing). Finally, the largest difference between exiting and continuing companies is that while 20% of exiting companies are foreign (801 of 3,994), only 12% of continuing companies are foreign (762 of 6,535).

Figure 14: Number of Restatement Companies With and Without Basic Financial Data (N=10,479)



Basic financial data are available for 62%, or 6,535, of the restatements included in this study. The proportion of restatement companies with financial data ranges from a high of 46% in 2009 to a low of 28% in 2005.

Exchange Membership of Restatement Companies

Focusing on the 6,535 restatement companies with basic financial data, 26% trade on the NYSE (including Amex), 31% trade on the NASDAQ, 37% trade OTC (either pink sheets or Bulletin Boards), and an additional 6% are untraded subsidiaries or trade on other exchanges such as the NYSE Arca.[48]

However, these percentages are not stable over time. As shown in the solid lines in **Figure 15**, in earlier years there are more OTC restatement companies, 42% compared to roughly 25% each for the

Figure 15: Restatement Company Exchange Membership (N=6,535)

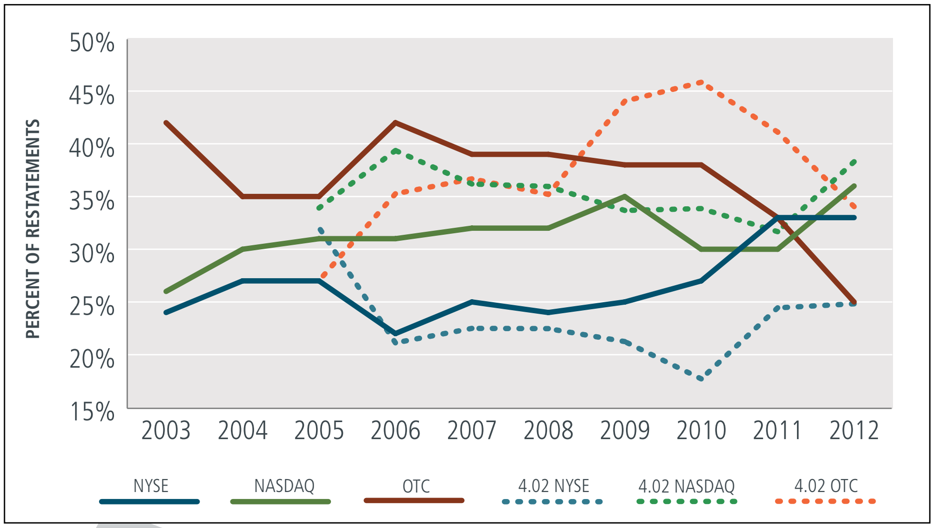


Table 6: Exchange Membership of U.S. and Foreign Restatement Companies

	U.S.	Foreign	Total
NYSE	1,495	226	1,721
	26%	30%	26%
NASDAQ	1,915	124	2,039
	33%	16%	31%
OTC	2,008	406	2,414
	35%	53%	37%
Other	355	6	361
	6%	1%	6%
Total	5,773	762	6,535

NASDAQ and NYSE. But in recent years the percentage of restatement companies trading OTC decreased markedly. This is particularly evident in 2012, the only year that the percentage of OTC restatement companies (25%) is lower than the percentage trading on both the NYSE (33%) and the NASDAQ (36%)

This appears to be due in part to a divergence in 4.02 and non-4.02 restatements. As shown by the dotted lines in **Figure 15**, the proportion of 4.02 restatements that were made by NYSE restatement companies dropped below 25% in 2006 and remained below that mark through the end of the decade. Thus, the proportional increase in restatements by NYSE restatement companies is attributable to non-4.02 restatements. On the other hand, although the proportion of 4.02 restatements by OTC restatement companies begins trending down in the last two years of the decade, in 2012 OTC companies are still responsible for 34% of 4.02 restatements and NASDAQ companies are responsible for 38%.

U.S. Compared to Foreign Restatement Companies

Comparing U.S. and foreign restatement companies in **Table 6**, the foreign companies are more likely to trade on the NYSE and OTC, but less likely to trade on the NASDAQ. This suggests that foreign restatement companies tend to consist mainly of relatively large or relatively small companies with few in the middle.

Restatement Company Size

Average assets for restatement companies are $6.9 billion, and median assets are $201 million. The wide difference between average and median amounts is due in part to the effect of Financial, Banking & Insurance industry restatements. (These companies have average assets of $35.2 billion and median assets of $1.1 billion.) Excluding financial institutions, average assets of the remaining restatement companies falls to $2.1 billion.[49]

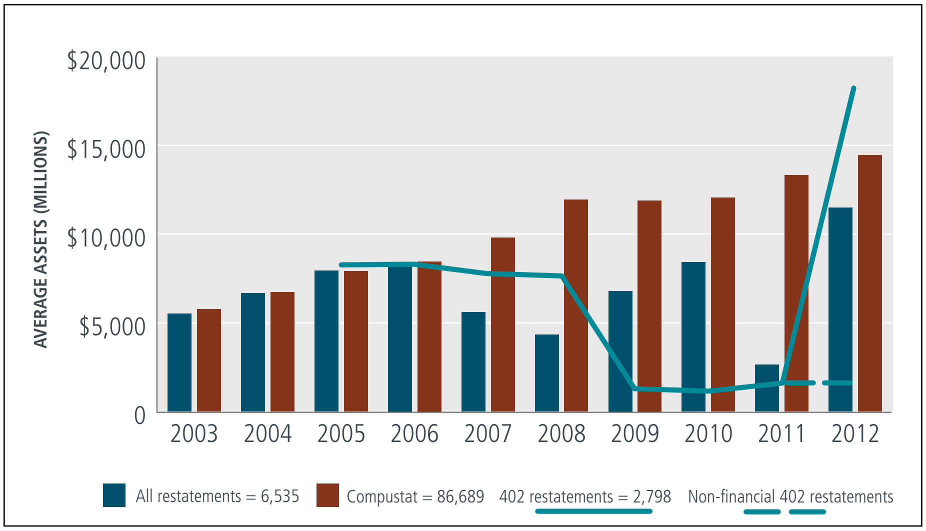
Figure 16 compares average assets for restatement companies to Compustat companies.[50] On average, restatement companies tend to be smaller than Compustat companies; average Compustat company assets are $10.0 billion (compared to $6.9 billion for restatement companies, including financial institutions). The median Compustat company is also larger than the median restatement company; median Compustat assets are $308 million (compared to $201 million for all restatement companies).

Compustat company size increases fairly steadily over the decade, albeit leveling off during the 2008 to 2010 recession years. Restatement company size closely tracks Compustat companies from 2003 to 2006, but drops sharply in 2007 and is notably smaller than the Compustat average until 2012. However, the 2012 increase is mainly due to a higher proportion of restatements announced by large financial institutions.[51] Excluding Financial, Banks & Investment companies, the average assets of restatement companies in 2012 is $3.3 billion, up slightly from $2.6 billion in 2011 and still markedly less than the average of $8.4 billion in 2010.

Overall, companies announcing 4.02 restatements are somewhat smaller than non-4.02 companies, averaging $6.8 billion in assets compared to $7.5 billion for non-4.02 companies from 2005-2012. As shown by the line in Figure 16, the average size of 4.02 restatement companies decreases from $7.9 billion in 2006 to $1.3 billion in 2011 before shooting up to $17.6 billion in 2012. The large increase in 2012 is due to the financial institution restatements mentioned above; if the financial industry is excluded, the average for 4.02 companies is comparable to 2011, as indicated by the dotted line in the figure.[52]

Patterns are similar when comparing median assets (not shown), except restatement companies are markedly smaller than Compustat companies beginning in 2006, rather than 2007, and 4.02 companies' median assets are smaller than both Compustat and non-4.02 medians in 2012. Revenue patterns are similar to median asset patterns.

FIGURE 16: COMPUSTAT AND RESTATEMENT COMPANY AVERAGE ASSETS (MILLIONS) (N=6,535)



For the 6,535 restatement companies with financial data in the Compustat database, average assets for the restating companies tend to be smaller than Compustat companies. Beginning in 2007, restating companies were notably smaller than the Compustat average until 2012, when several large financial institutions announced restatements. When Financial, Banks & Insurance companies are excluded, average assets of restatement companies in 2012 is $3.3 billion.

U.S. and Foreign Restatement Company Size

On average, foreign restatement companies are much larger than domestic restatement companies. The 762 foreign restatement companies in this analysis report average assets of $20.8 billion compared to $5.1 billion for the 5,773 U.S. restatement companies. The largest differences are in 2009 ($1.7 billion for U.S. companies compared to $45.2 billion for foreign) and 2010 ($2.6 billion compared to $40.3 billion). These differences are due in part to large foreign financial institutions that announced restatements in these two years.[53]

On the other hand, median assets of foreign restatement companies are smaller: $102 million compared to $201 million for U.S. restatement companies. As noted in the discussion of exchange membership, this suggests that foreign restatement companies include many very small companies and another group of extremely large companies and financial institutions.

U.S.-only Compustat and Restatement Company Size

Focusing on only U.S. companies, U.S. restatement companies are smaller than U.S. Compustat companies, whether considering asset averages ($5.1 billion compared to $6.0 billion for Compustat) or medians ($217 million compared to $323 million). **Figure 17** compares

Figure 17: Average U.S. Compustat and Restatement Company Assets (millions) (N=5,773)

Figure 18: Compustat and Restatement Company Profitability (N=6,535)

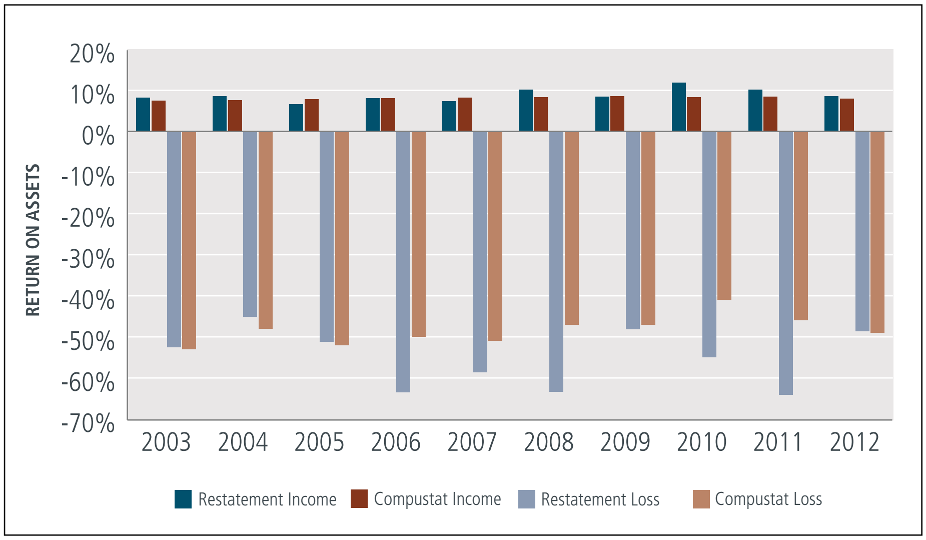


Table 7: Restatement Companies Reporting Net Income or Loss Prior to Restatement (N=6,535)

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
With net income	256	342	623	557	362	260	150	197	235	252	3,234
Average ROA	8%	9%	7%	8%	7%	10%	8%	12%	10%	9%	8%
With net loss	340	348	521	553	331	258	234	253	238	225	3,301
Average ROA	-53%	-45%	-51%	-64%	-59%	-63%	-48%	-55%	-64%	-49%	-55%
Total	596	690	1,144	1,110	693	518	384	450	473	477	6,535
Percentage with loss	57%	50%	46%	49%	48%	49%	60%	56%	50%	47%	50%

average assets for U.S. restatement and Compustat companies across years. While U.S. restatement companies are about 26% larger than comparable Compustat companies around the time of SOX Section 404 implementation in 2004 to 2006, they trend smaller again beginning in 2007—and dramatically so from 2009 to 2011, when they are about a third the size of Compustat companies. However, in 2012 restatement companies are larger again. As mentioned previously, this is due in part to a higher percentage of restatements by large financial institutions.[54] Median patterns (not shown) are similar, except restatement companies' median assets are markedly lower beginning in 2006, and differences between the two groups are not as extreme as average differences in later years of the decade.

Profitability of Restating Companies

Restatement companies tend to be relatively unprofitable. As shown in **Table 7**, 50% of restatement companies report a net loss prior to announcing a restatement. In comparison, about 40% of Compustat companies report net losses over the decade and the majority are profitable each year.[55] **Table 7** also provides the average return on assets (ROA) separately for restatement companies reporting income and those reporting losses. ROAs of some companies are limited because they have negligible assets and extreme ROA values that distort the overall averages.[56] These ROAs are capped at a ceiling of 200% and a floor of -200%. After imposing this restriction, the average unprofitable restatement companies have an average ROA of -55%, and profitable ROA companies have an average ROA of 8%.

Figure 18 shows that the average ROA for profitable restatement companies is similar to the ROA of profitable Compustat companies. However, unprofitable restatement companies tend to be more unprofitable: -55%, compared to -47% for Compustat companies.

U.S. and Foreign Restatement Company Profitability

There is little difference in profitability between U.S. and foreign restatement companies. When only U.S. restatement companies are considered, the percent of profitable companies and ROA statistics all are within two percentage points of those shown in **Table 7**. Similarly, about half of all foreign restatement companies report a loss prior to restating. Foreign restatement companies tend to be a little more profitable, with an average ROA of 11%, compared to 8% for U.S. companies. Conversely, foreign loss companies tend to do a little worse, with an average ROA of -57%, compared to -55% for U.S. companies.

Summary

Restatement companies tended to be similar in size to Compustat companies in the early years of the decade, but smaller in recent years. Relative to Compustat companies, restatement companies are more likely to report losses, and these unprofitable restatement companies tend to be more unprofitable than the comparison group. Overall, 4.02 restatement companies are slightly smaller than non-4.02 companies because the average size of non-financial 4.02 companies has decreased markedly since 2006.

Comparing U.S. and foreign restatement companies, the foreign companies tend to be more extreme; on average they are much larger, but this appears to be due mainly to a relatively few very large companies—particularly financial institutions. On the other hand, median assets of foreign restatement companies are smaller than for U.S. restatement companies, indicating a meaningful presence of smaller foreign companies.

Profitability of 4.02 restatement companies: 48% of 4.02 restatement companies report losses prior to the restatement. In 2005 and 2006, 4.02 companies were more likely than non-4.02 companies to be profitable, but by the end of the decade, 4.02 companies were much less likely to be profitable than non-4.02 companies.

Endnotes

44. Industry definitions are based on the Fama and French 12 industry classification scheme. Fama and French combine various four-digit SIC codes to create industry groups. For this analysis, industries representing less than 4% of all restatements are included with "other" or combined with similar industries. Industries representing less than 4% of all restatements that are combined with other industries are Chemicals (combined with Energy & Mining) and Durable Product Manufacturing (Combined with Industrial Manufacturing). The "other" category includes companies involved in transportation, construction and engineering, and travel and leisure as well as other uncategorized companies. The Business Services category includes management consulting, employment, logistics and security services.

45. The Computer & Software industry is responsible for 27% of all stock compensation restatements and 56% of the backdating subset. In comparison, the overall averages for the other industries are 7% and 4% respectively. The standard deviation of the ranks is 1.0 or less for all industries except Wholesale & Retail (standard deviation is 1.5), Utilities and Waste (1.4), and Energy and Chemicals (1.1).

46. Wholesale & Retail drops to 39% if lease restatements are removed from the analysis.

47. Limited financial data and exchange data are available through AA, however not all necessary data items are available for these companies. Median assets are based on 1,602 entities (1,324 non-financial entities) with asset data either before or after the restatement announcement year.

48. Within the OTC category, 88% are OTC and 12% are OTCBB.

49. Most industry averages for restatement companies range from $1.3 billion to $3.9 billion. In addition to Financial companies, Wholesale & Retail companies tend to be larger, with average assets of $7.3 billion, while companies in Computers & Software and Health & Pharmaceuticals tend to be smaller, around $700 million.

50. To be included in this analysis Compustat companies must have CIK codes and asset data. CIK codes are unique company identification numbers issued by the SEC for each registrant, foreign or domestic. Because all restatement companies in the study are SEC registrants, comparison Compustat companies are also required to be SEC registrants. Compustat converts foreign currencies to U.S. dollar equivalents using exchange rates, so all companies are included regardless of reporting currency.

51. This is the year with the highest percentage of restatements announced by financial institutions; in 2012 21% of restatement companies are financial institutions compared to an overall average of 15%. Excluding Financial, Banks & Insurance companies, average assets of companies announcing restatements in 2012 are $3.3 billion rather than $11.5 billion.

52. Overall averages are based on 2,798 4.02 restatement companies with available data from 2005 to 2012. In 2012, these companies include 116 non-financial and 26 financial organizations. Average assets of the Financial, Banks & Insurance companies are $90.1 billion.

53. For example, UBS AG, with assets of $1.8 trillion, announced a restatement in 2009, Mitsubishi UFJ Financial Group, with assets of $2.1 trillion announced a restatement in 2010. Amounts based on Compustat conversion of foreign currencies into U.S. dollars.

54. For example, JP Morgan Chase & Co, with assets of $2.3 trillion, announced a restatement in 2012.

55. There are 49,023 profitable and 32,553 unprofitable Compustat company years in this analysis.

56. Truncating ROA at 200% affects 18 income-reporting restatement companies, one with unadjusted ROA of 40,000%, the rest range from 217% to 3,198%. Truncating loss ROAs at -200% affects 455 restatement companies. These ROAs range from -201% to -1,300,700%. ROA for Compustat companies in Figure 4 is similarly truncated.

4 Restatement Announcement Market Reactions

This stage of the analysis requires share price information at the time of the restatement announcement in order to calculate the market reaction. These data are obtained mainly from the Center for Research in Security Prices (CRSP) database, maintained by the Booth School of Business at the University of Chicago. CRSP provides daily share price mainly for companies trading on the NYSE/Amex and NASDAQ.

Profile of Restatement Companies Lacking Stock Price Data

Price data are available for 4,175 (40%) of the 10,479 restatements studied in prior sections. These restatements are almost entirely a subset of the 6,535 restatements included in the exchange, size and profitability analyses; only 89 companies have stock price data but not basic financial data.

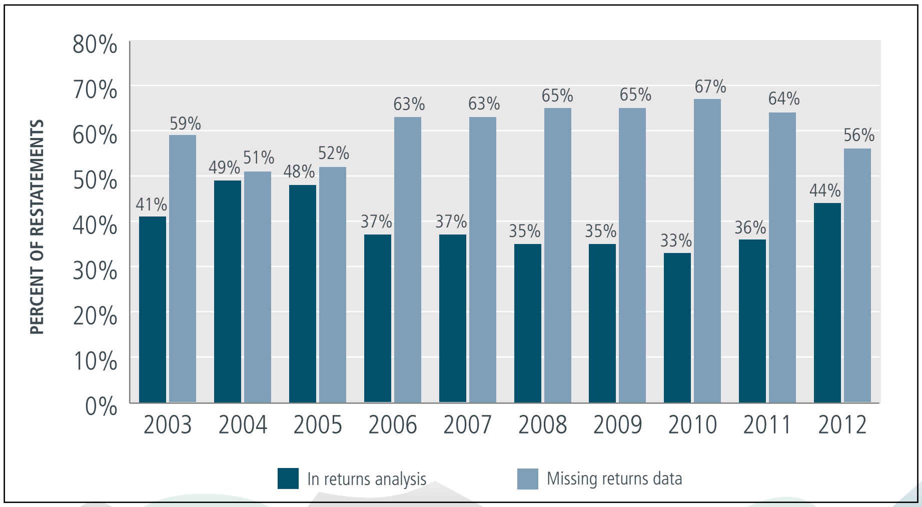
Figure 19 shows the proportion of companies with and without data to calculate the stock price reaction over the decade. Restatement companies with necessary data range from 49% in 2004 to 33% in 2010. Companies exiting the analysis due to missing data tend to be about half the size of those remaining in the analysis, and much less profitable.[57] They are also more likely to be foreign and from the Energy, Mining & Chemicals and Business Services industries. On the other hand, the companies remaining in the analysis are more likely to have announced 4.02 or revenue related restatements, and are more likely to be from the Wholesale & Retail and Financial, Banking & Insurance industries.[58]

Average Announcement Reactions Over Time

Stock market reactions analyzed in this study are estimated by calculating the percent change in the company's common stock price on the day of the restatement announcement and the day after, adjusting these daily returns to account for the overall market return and summing the adjusted returns that were calculated for each of the two days. For simplicity, this measure is referred to as the market reaction or stock price reaction.[59]

Overall, the average market reaction at the time of the restatement announcement for the 4,175 restatements with price data is -1.5% and the median is -0.01%.[60] As shown in **Figure 20**, averages each year vary only slightly from -0.6% in 2003 to -2.5% in 2009. Reactions are statistically negative in each year

Figure 19: Restatements With and Without Market Reaction Data (N=10,479)



Average announcement reactions to 4.02 Restatements: Reactions to 4.02 restatements average –2.3% compared to –0.6% for non-4.02 restatements. Reactions are more negative for 4.02 restatements than for non-4.02 restatement every year except 2010, when they are the same. The largest difference is in 2012 when the 4.02 reaction is –5.3% and the non-4.02 reaction is –0.6%.

except 2003.[61] Median market reactions are nearer zero each year. **Figure 20** also shows a measure of market volatility, the VIX, on the right axis. The more negative reactions in 2008 and 2009 are during years of relatively high market volatility.

Market reactions for more severe restatements tend to be much more negative. **Figure 21** shows the average reaction for restatements with various indications of severity. On average, reactions to announcements of 4.02 restatements and restatements involving fraud and affecting revenue are statistically more negative than the overall average (p-values < .01).

Figure 20: Average and Median Market Reactions to Restatement Announcements (N=4,175)

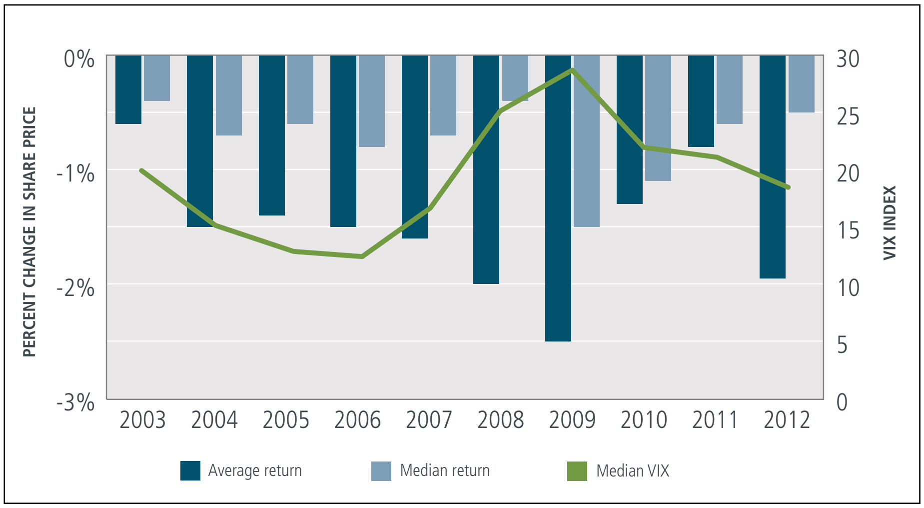
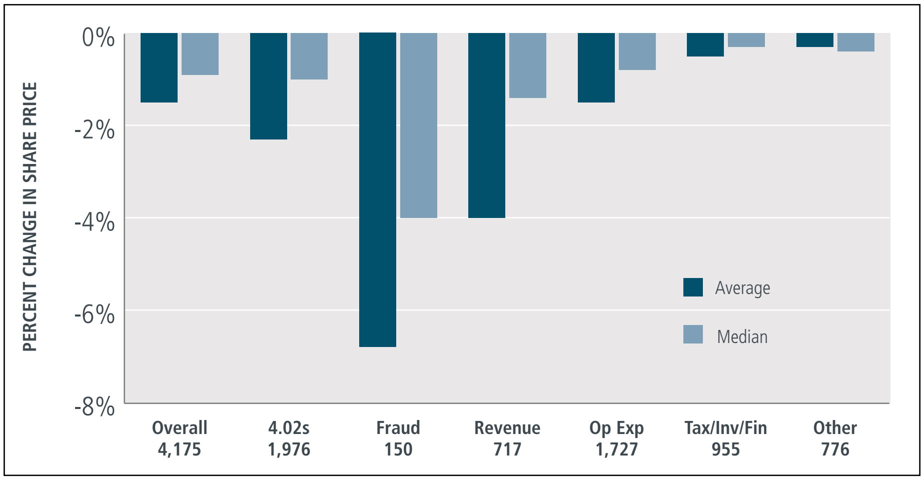


Figure 21: Returns by Restatement Characteristics



Further investigation of years with extreme reactions suggests that the more negative average reaction in 2009 is due in part to four fraud restatements announced in that year with average returns of -23% and median returns of -16%—in addition to the effects of market volatility and the recession. On the other hand, the more negative average in 2012 appears to be due to a relatively high number of revenue restatements with average announcement returns of -8%.

Over the decade, 17 restatement announcements prompted reactions of -50% or worse. Of these, 14 are 4.02 restatements, nine involve revenue, three involve fraud, and three are by foreign registrants. At least one occurs in every year except 2003 and 2011. The highest number (3) was in 2012, and 2009 saw the most negative reaction of the decade: Huron Consulting, which had an announcement reaction of -72%.

U.S. and Foreign Restatement Market Reactions

Figure 22 compares market reactions for restatements by 3,775 U.S. and 400 foreign companies. The overall average return for U.S. companies (-1.5%) is only slightly more negative than for foreign companies (-1.4%) and the difference is not statistically significant.

Differences between U.S. and foreign registrants are 1% or less in most years. Foreign registrants' average returns are -1.5% or better except in 2009 and 2010. Because there are only 19 restatements with return data announced by foreign companies in 2009 and 35 in 2010, the averages are strongly influenced by restatements by Satyam Computer in 2009 and Searchmedia in 2010; both had market reactions approaching -60%.

Regression Analysis of Market Reactions to Restatement Announcements

Regression analysis assesses which restatement and company characteristics are statistically associated with more negative market reactions, holding other factors constant. Restatement characteristics included in the analysis are 4.02 restatements, fraud, directional effect on reported income, length of restatement period and accounting issue severity. Company characteristics include profitability, whether the company is foreign, an accelerated or large accelerated filer, and whether the company had disclosed ineffective internal controls at the time of the announcement.

Results of the regression model are shown in **Table 8**. Statistically significant associations are indicated with asterisks and a "-" or "+" in the "significant associations" column. These symbols mean that characteristic is associated with more negative (-) or less negative (+) announcement returns, respectively. If the cell is left blank, the item is not statistically associated with market reactions.[62]

The model confirms that reactions are more negative for 4.02 restatements and when the restatement involves fraud or reduces previously reported income.[63] Restatements of revenue or operating expense accounts have more negative reactions than the other two severity groups, but there is no association between the length of the restated period and the market reaction.[64]

Reactions tend to be more negative when accelerated filers announce restatements, but large accelerated filers tend to experience relatively less negative reactions.[65] Net loss companies are also more likely to experience negative announcement reactions, but not companies with internal control weaknesses or foreign companies. Finally, restatements announced during the recession years of 2008 and 2009 tend to have more negative reactions. This appears to be due in part to increased volatility during this time. If the VIX index is substituted for recession years, greater market volatility around the time of the announcement is associated with more negative reactions. However, these two measures are significantly correlated (p-value < .01); so if both are included, neither is statistically significant.

Figure 22: Average Market Reactions for U.S. and Foreign Companies

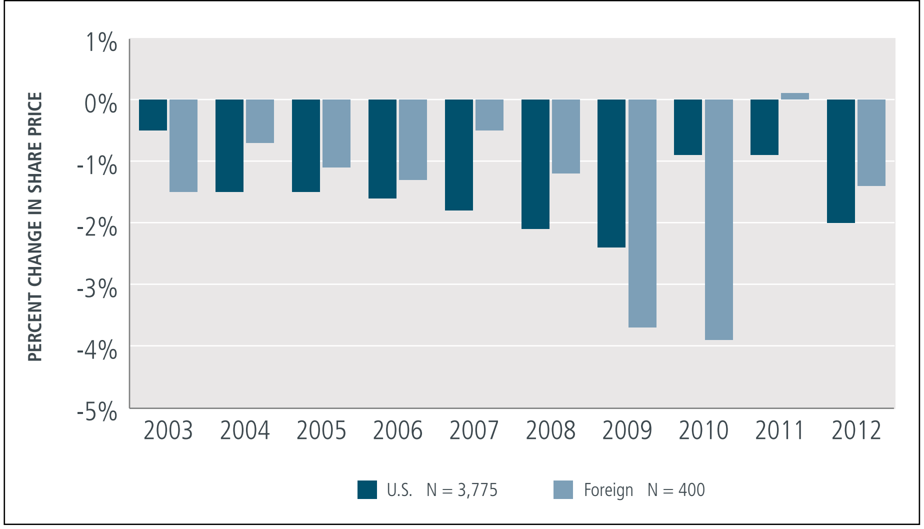


Table 8: Restatement and Company Characteristics Associated with Market Reactions (N=3,682)

	Significant Association	Coefficient	Significance
Restatement characteristics			
4.02 restatement	-	-0.009	**
Fraud involved	-	-0.044	**
Income-decreasing	-	-0.005	**
Years restated		0.000	
Revenue restated	-	-0.029	**
Expenses restated	-	-0.007	**
Company characteristics			
Accelerated filer	-	-0.009	**
Large accelerated filer	+	0.009	**
Ineffective controls		-0.001	
Net loss	-	-0.007	**
Foreign registrant		-0.003	
Timing effects			
Recession years (2008-2009)	-	-0.009	**

***Indicates coefficient statistically significance at p-values < .05*

Endnotes

57. Among companies with financial data, average assets for companies with return data are $8.6 billion compared to $4.0 billion for companies without. Median ROA for the remaining companies is 1% compared to -13% for exiting companies. In the returns analysis, 59% are 4.02 restatements, compared to 49% of all restatements since 2005.

58. These are attributes that deviate more than +/-5% from the overall attrition rate of 60%. Foreign companies have a 75% attrition rate, Energy, Mining & Chemicals has a 75% attrition rate, and Business Services 68%. On the other side, the attrition rate for Wholesale & Retail is only 52%, Financial: 54%, and revenue restatements: 50%.

59. This measure is commonly called the "cumulative abnormal return" (CAR). The CARs are calculated using Eventus software which subtracts an equally-weighted market return from the individual company's return on each day of the announcement window. This gives an estimate of the daily abnormal return for the company. The abnormal returns are summed to obtain the CAR for the announcement window. The window does not include the day prior to the announcement, because there appears to be relatively little reaction on this day, suggesting little news leakage prior to the announcement. The window does include the day after because announcements can be made after market close, so reactions are reflected in prices the following trading day. The window and methodology are consistent with prior research in this area. Restatements are sometimes announced at the same time as other news, such as earnings, auditor changes, and 10-K or 10-Q filings. In addition, restatement announcements include varying degrees of information about the restatement so different companies' returns capture different types and levels of information.

60. In prior periods returns are much more negative. From 1995 to 2000 average returns were nearer -10%. See Zoe-Vonna Palmrose, Vernon J. Richardson and Susan Scholz, "Determinants of Market Reactions to Restatement Announcements," *Journal of Accounting and Economics*, vol. 37 (2004). However, in 2001 and 2002 returns are similar to those reported in this table. See Susan Scholz, *The Changing Nature and Consequences of Public Company Financial Restatements*, The Department of the Treasury (2008), p.29..

61. T-tests are used to assess whether returns differ significantly from zero. Conventionally, p-values of .10 or less indicate statistical significance. Here, one-tailed p-values are significant at the .01 level each year except 2003 and 2011. 2011 is significant at the .10 level and 2003 is not significant.

62. The regression analysis includes 3,682 restatements for which data are available for all items in the model. The overall model is significant, the F-statistic is 11.5 (p-value < .01), the adjusted R^2 is .033, and the constant (0.007) is significant (t-statistic = 2.002, p-value = 0.05). A p-value of.05 or better is indicated by **.

63. Additional tests confirm that income-decreasing restatements have more negative returns and no change and income-increasing restatements have less negative returns. If the change in reported income scaled by total assets is included in the model in place of this indicator variable it is not significant and other results are not affected.

64. An indicator for restatements that affect only interim results is not significant if substituted for the length of the misstated period.

65. An asset-based size measure is not significant whether included alone or with the accelerated filer variables.

5 Restatement Companies and Internal Control Reporting

The decline in the frequency and severity of restatements that is documented in prior chapters can be attributable in part to improvements in internal control over financial reporting (ICFR) due to SOX Section 404 ICFR assessment and reporting requirements. Quantifying the effect of ICFR assessment and reporting activities is beyond the scope of this study. Nonetheless, this final chapter provides some preliminary, high-level information about ICFR reporting—before and after restatement announcements—that may stimulate further research in this area.

A. ICFR Background and Limitations in the Analysis

SOX Section 404(a) requires management to assess the company's ICFR, and the SEC's implementation rules provide for management to disclose whether the controls are deemed effective or have a material weakness at year end. The SEC required that "larger" companies provide this ICFR disclosure commencing with annual reports for fiscal years ending on or after November 15, 2004.[66] SOX Section 404(b) requires certain companies to have their external auditor attest to managements' assertions on the effectiveness of ICFR. Under the SEC's implementation rules, Section 404(b) reporting also began in December 2004. As an aside, 404(a) and 404(b) reports are consistent 99.9% of the time.

Beginning December 15, 2007, "smaller" companies were required to provide reports on management's assessment of the company's ICFR but their auditors are not required to attest to management's assertions. Therefore, this analysis focuses on restatements announced from 2005 to 2012 by companies issuing both 404(a) and 404(b) reports (404(a)&(b) companies).[67]

The analysis further focuses on restatements of annual results of 4.02 restatements, as these are considered to be of a more serious nature and could suggest a connection with a material weakness in ICFR. In addition, Section 404 reporting is an annual process, based on fiscal year-end conditions disclosed in annual reports. It is also important to acknowledge that it is not known whether the accounting issue or issues underlying a restatement are directly related to the material weakness identified in the ICFR disclosure.

What is ICFR Reporting?

With a few exceptions, all public companies are required to assess the effectiveness of internal control over financial reporting (ICFR) and report the results at each year end. In addition, most large public companies are required to have their external auditor report, with reasonable assurance, on the design, operation, and effectiveness of ICFR. *Internal controls have inherent limitations, and even those determined to be effective can provide only reasonable assurance with respect to preparation and presentation of the financial statements. Any evaluation of the effectiveness of controls to future periods are subject to the risk that controls may become inadequate because of changes in conditions or the degree to which compliance with the policies or procedures may deteriorate.*

B. Effective ICFR Reports and Restatements

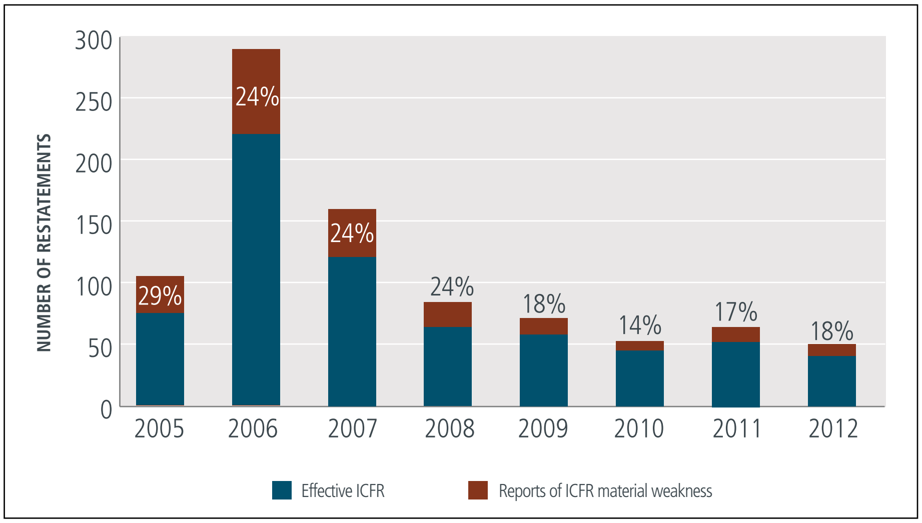
The analysis turns first to assessing the frequency of reports of ICFR that stated that the company did not have a material weakness relative to restatement activity. Audit Analytics' *SOX 404 Adverse Auditor Attestation History* indicates that over the eight years of 404 reporting (roughly 2005–2012), a total of 33,352 404(a)&(b) ICFR reports were issued,[68] of which 30,873 reported that ICFR was effective. Of these 30,873 effective ICFR reports, 668, or 2% of the companies announced an annual 4.02 restatement, while 30,205, or 98% did not have a subsequent 4.02 restatement. Furthermore, effective ICFR reports associated with restatements decreased over time, from a high of 6% in 2006 to about 1% from 2009 through 2012.

C. ICFR Reports with Material Weaknesses at the Time of the Restatement Announcement

The analysis next focuses on companies with annual 4.02 restatements and the ICFR reports that precede the restatement announcements. That is, the ICFR disclosures are related to a year that later is revealed to be misstated. Because these ICFR reports were publicly available at the time of the restatement announcement, the ICFR reports in this initial analysis do not reflect discovery of the misstatement.[69] Section D addresses ICFR reports issued after the misstatement is discovered.

This analysis considers 861 annual, 4.02 restatements that were preceded by a 404(a)&(b) ICFR report. The number of restatements included in the analysis is relatively small as only 2,109 restatements of any type were preceded by an ICFR report issued by 404(a)&(b) companies — consistent with the decline in restatements by larger companies that was documented in previous chapters. After eliminating quarterly-only (574) and non-4.02 (674) restatements, there are 861 annual, 4.02 restatements for analysis.

Figure 23: ICFR Reports Preceding Restatements by 404(a)&(b) Companies and Frequency of ICFR Material Weakness Disclosures



	2005	2006	2007	2008	2009	2010	2011	2012	Total
Effective ICFR	75	220	122	65	52	45	49	40	668
Weak ICFR	30	68	38	20	11	7	10	9	193
Total	105	288	160	85	63	52	59	49	861

Overall, 22% of these 861 restatements were preceded by disclosure of a material weakness in ICFR. As shown in **Figure 23**, the highest percentage is in the initial year of ICFR reporting (2005), when 29% of the ICFR reports disclosed a material weakness.[70] From 2006 to 2008, the number of annual, 4.02 restatements by 404(a)&(b) companies decreased sharply (from 288 in 2006 to 85 in 2008) and ICFR reports disclosing a material weakness preceded 24% of these restatement announcements. From 2009 to 2012 the number of such restatements leveled out to around 50 to 60 per year, and about 18% are preceded by an ICFR report disclosing a material weakness.[71]

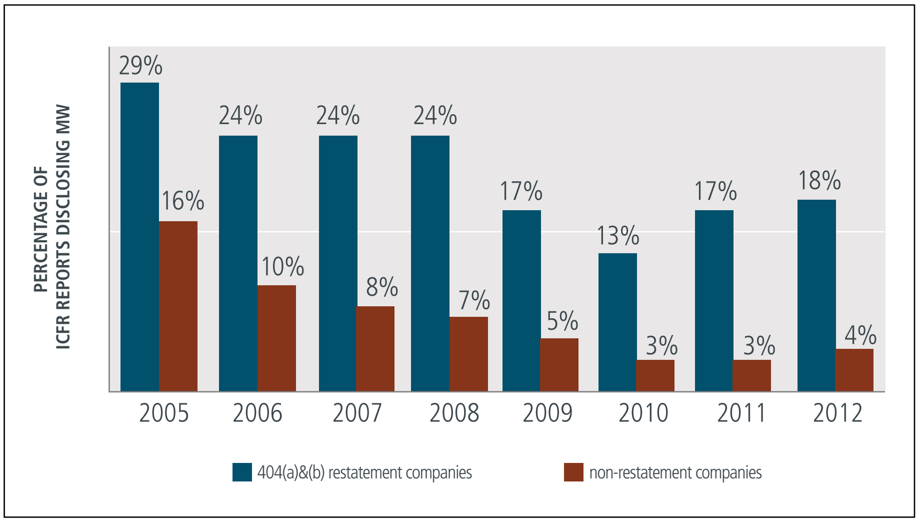
In comparison, AA reports that overall only 7% of all ICFR reports by non-restatement 404(a)&(b) companies disclose a material weakness.[72] **Figure 24** compares the frequencies of ICFR reports disclosing a material weakness for restatement and non-restatement 404(a)&(b) companies.

Each year, the frequency of restatement companies reporting a material weakness in ICFR is at a least 10 percentage points higher than that of non-restatement companies. Using the overall AA data as a baseline, statistical analysis suggests that the frequency of ICFR material weakness disclosures before an annual, 4.02 restatement announcement is 184% higher than would be expected.[73] In short, ICFR reports disclosing a material weakness are dramatically more likely before a restatement announcement than when no restatement is forthcoming.[74]

D. ICFR Reports After Restatement Discovery

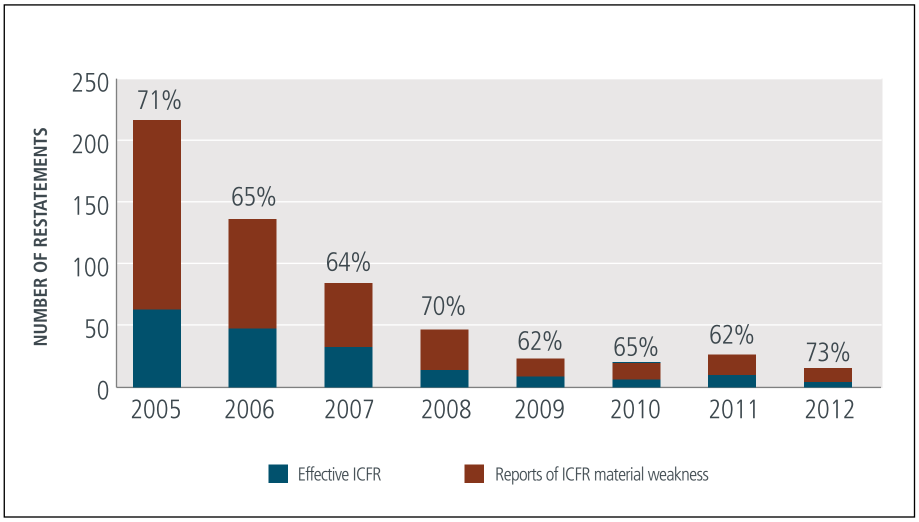
Finally, the analysis focuses on ICFR assessments when the need for a restatement is known before the ICFR report is filed. Again, the analysis focuses on annual, 4.02 restatements by 404(a)&(b) ICFR companies. During the 2005–2012 ICFR reporting timeframe, there were 1,241 total restatements reported by 404(a)&(b) companies that were followed by an ICFR report. Of these, 557 restatements remain for analysis after eliminating the non-4.02 restatements (496) and the quarterly-only restatements (188).

Figure 24: Percentage of ICFR Material Weakness Disclosures in the Prior Period for Restatement and Non-Restatement 404(a)&(b) Companies



	2005	2006	2007	2008	2009	2010	2011	2012	Total
Effective ICFR	61	47	32	14	8	7	10	4	183
Weak ICFR	151	87	51	32	13	13	16	11	374
Total	212	134	83	46	21	20	26	15	557

Figure 25: Number of ICFR Reports with a Material Weakness Disclosure Following Restatements by 404(a)&(b) Companies and Frequency of Weak ICFR Disclosures



	2005	2006	2007	2008	2009	2010	2011	2012	Total
Effective ICFR	61	47	32	14	8	7	10	4	183
Weak ICFR	151	87	51	32	13	13	16	11	374
Total	212	134	83	46	21	20	26	15	557

On average, 67% of these restatements are followed by an ICFR report noting a material weakness. **Figure 25** shows the distribution of ICFR reporting. Once again, the figure highlights the precipitous decline in serious restatements by 404(a)&(b) companies since ICFR reporting commenced. It also shows that disclosures of ICFR with material weakness are fairly close to the 67% overall average each year.

This suggests that sometimes a material weakness is corrected prior to the year-end preceding the restatement announcement. For example, a company may discover and correct a weakness late in a fiscal year, and later find a restatement that affected the last several years. In this scenario, it is possible that discovery of the ICFR weakness helped identify the restatement. Investigating these circumstances is an area for future research.

Although not shown in the figure, additional analyses indicate that ICFR reports with material weakness disclosures are more likely after a restatement that involves revenue or fraud; both are followed by material weakness disclosures 88% of the time. Unprofitable companies are more likely to report a material weakness in ICFR than profitable companies (78% vs. 62%) and foreign companies have essentially the same rate of material weakness disclosures after a restatement as U.S. companies.[75]

In summary, this analysis indicates that very few reports of effective ICFR are associated with companies announcing annual, 4.02 restatements. Also, ICFR reports issued before serious restatements are announced are much more likely to disclose a material weakness than are ICFR reports by non-restatement companies. Not surprisingly, the likelihood of a weakness disclosure increases sharply when the ICFR report date is *after* restatement announcement, although nearly one-third of such ICFR reports do not disclose a material weakness. This illustrates that a restatement does not necessarily mean that an unremediated weaknesses existed at year end.

E. Suggested Areas of Future Research

This chapter provides some preliminary, high-level information about ICFR reporting before and after announcements of 4.02 annual restatements for 404(a)&(b) companies. The analysis leaves several important questions for future research. For example, the association between restatements and ICFR reporting for 404(a) companies that are not subject to auditor attestation remains to be examined. Another area for future exploration is the association between ICFR reporting and quarterly-only and non-4.02 restatements.

Perhaps most importantly, future research could investigate whether the material weakness disclosures identified in ICFR reports are directly related to the accounting issues responsible for restatements.

Endnotes

66. These "larger" companies have public float greater than or equal to $75 million and are referred to as accelerated filers by the SEC; accelerated filers with $700 million or more of public float are referred to as large accelerated filers. Other ("smaller") companies are non-accelerated filers.

67. "Smaller" companies issuing only 404(a) reports differ from "larger" 404(a)&(b) companies on several dimensions. In addition to having no auditor ICFR attestation, 404(a) companies may have less sophisticated control environments and generally tend to identify a higher level of material weaknesses in ICFR. Audit Analytics data on material weakness disclosures indicate an overall material weakness reporting rate of 31% of 404(a) companies as compared to 7% for 404(a)&(b) companies. The auditor's role in ICFR reporting for 404(a)&(b) companies is explicit since a separate ICFR report is required to be issued. In cases where a separate ICFR audit report is not issued, auditors are nonetheless required to obtain an understanding of the company's ICFR as part of the financial statement audit, and, based on this work, report any identified material weaknesses in ICFR to company management and the audit committee. Data are not available to determine the extent of auditor involvement in the identification of ICFR material weakness disclosures reported by 404(a) companies.

68. AA collects data from all the reports filed with the SEC. Therefore, when there is no internal control data available, it is probable that company did not file a report for that year. However, it cannot be ruled out that some reports were issued but the data are missing from the AA database.

69. For example, if a restatement is announced in 2006 after Form 10-K for the year ended 12/05 is filed (i.e., the year ended 2005 is restated), the original ICFR report for 2005 is used. The need for a restatement was not known at the time of issuance of the ICFR report. If the restatement is announced in 2006 before Form 10-K for 12/05 is filed (i.e., earlier years and perhaps 2005 quarterly results are restated), the ICFR report for 2004 is used. This is because when it was filed, the ICFR assessment in Form 10-K for 12/05 would have reflected the discovery of the restatement.

70. Although a high number of restatements were announced in 2005, few were preceded by an ICFR report because reporting began very late in 2004.

71. Restatement companies with an ICFR disclosure of a material weakness prior to an annual, 4.02 restatement are more likely to be foreign (36% vs. 22% of U.S. companies), unprofitable (29% vs. 18% of profitable companies), and smaller than the median. Differences are statistically significant (p-values < .05). Industries with rates of disclosures of ICFR material weakness that are notably lower than the 22% average are Business Services (15%), Healthcare & Pharma (15%), and Financial, Banks & Insurance (15%). The Utilities & Waste industry category has the highest percentage (41%).

72. ICFR rates of material weakness for all 404(a)&(b) companies are from Audit Analytics' SOX 404 Adverse Auditor Attestation History. The 404(a)&(b) history includes auditor ICFR reports issued for fiscal years ending from November 15, 2004 through November 14, 2012.

73. The increased frequency estimate is based on a 2x2 Chi-square analysis (restatement vs. no restatement and weak vs. effective ICFR) that estimates the expected number of disclosures of material weakness in ICFR using data from the AA ICFR report (see prior note) for the no-restatement condition. The increase over the expected frequency is calculated as the difference between the actual and expected number of ICFR reports of material weakness divided by the number expected ((193-68)/68).

74. ICFR reports disclosing a material weakness are also more likely prior to restatements by 404(a) companies. Here, 41% of annual, 4.02 restatements are preceded by a disclosed material weakness. However, relative to the 31% overall base rate for these companies, this is only a 34% increase over the expected number of such disclosures using the 2x2 Chi-square analysis explained in the endnote 73 above.

75. Overall, 404(a) companies report weak ICFR after 80% of annual, 4.02 restatements.

Appendices

Appendix A: Summary of Events Affecting Restatement Activity

Year	Accounting events	SOX events	Regulatory clarification	Economic events
1999			SEC issues SAB 99: Materiality and SAB 101: Revenue Recognition	
2000				Recession begins
2001	Enron restatement			
2002	WorldCom restatement	SOX enacted, Section 302 reporting commences		
2003		Filing deadlines accelerate for all accelerated filers		
2004			SEC introduces non-reliance reporting on Form 8-K Item 4.02	
2005	Lease accounting restatements following SEC lease accounting letter	First Section 404(a)&(b) ICFR reports issued by larger companies for years ending after November 15, 2004		
2006	Stock-option backdating restatements	First ICFR reports issued by larger foreign filers.	SEC issues SAB 108: Quantifying Errors	
2007		Section 404(a) ICFR reports issued by smaller companies / PCAOB issues AS No.5	SEC issues interpretive guid-ance for management's ICFR assessments	Recession begins
2008				Financial market crash
2009			FASB issues ASU No. 2009-12 Fair Value Measurement and Disclosures	Recession ends

Appendix B: Accounting Issues Taxonomy

The accounting issues analyzed in this report are based on categories developed by Audit Analytics (AA). AA codes each restatement into one or several categories based on the restatement company's public disclosures. For purposes of this study, AA's categories are grouped as follows:

Report Classifications	AA Code	AA Category Title	AA Description
Business Activities			
Revenue	6	Revenue recognition issues	Consists of errors or irregularities in approach, understanding or calculation associated with the recognition of revenue. Many of these restatements originate from a failure to properly interpret sales contracts for hidden rebate, return, barter or resale clauses. Some of them also relate to the treatment of sales returns, credits and other allowances.
Expense–Accruals/ Reserves/Estimation	7	Expense (payroll, SGA, other) recording issues	Consists of errors or irregularities in approach, theory or calculation associated with the expensing of assets or understatement of liabilities. These issues can arise from any number areas including failure to record certain expenses, reconcile certain accounts or record certain payables on a timely basis. Also issues with payroll expenses or SG&A expenses are identified with this category.
	12	Liabilities, payables, reserves and accrual estimate failures	Consists of errors, irregularities or omissions associated with the accrual or identification of liabilities on the balance sheet. These could range from failures to record pension obligations, to problems with establishing the correct amount of liabilities for leases, capital leases and other. This category could also include failures to record deferred revenue obligations or normal accruals. †
	14	Accounts/loans receivable, investments & cash issues	Consists of errors or irregularities in approach, theory or calculations with respect to cash, accounts receivable, loans collectible, investments, allowance for uncollectibles, notes receivables and/or related reserves. These mistakes often manifest themselves in balance sheet and income statement errors or misclassifications. Based on GAAP rules, changes in estimates, such as allowances for bad debts, should not be reflected as a restatement but should be recorded in the period in which such change is identified.
Expense–Stock compensation	17	Deferred, stock-based and/ or executive comp issues	Consists of errors or irregularities in approach, theory or calculation associated with the recording of deferred, stock based or executive compensation. The majority of these errors are associated with the valuation of options or similar derivative securities or rights granted to key executives. This category can also include restatements associated with the new FASB dealing with expensing of certain employee options as compensation expense in financial statements.
	48	Deferred, stock-based options backdating only (subcategory)	Consists of errors or irregularities associated only with the incorrect back dating of options.
	39	Deferred, stock-based SFAS 123 only (subcategory)	Consists of errors and irregularities associated with the expensing of share/option based compensation. SFAS 123 provides the primary guidance for this area of accounting.
Expense–Cost of sales	20	Inventory, vendor and/or cost of sales issues	Consists of errors or irregularities in approach, theory or calculation associated with transactions affecting inventory, vendor relationships (including rebates) and/or cost of sales. Such errors primarily are related to the capitalization of activities in inventory or the calculation of balances at year-end.
Expense–Capitalization, depreciation and amortization	23	Capitalization of expenditures issues	Consists of errors or irregularities in approach, theory or calculation associated with the capitalization of expenditures. These can include expenditures capitalized related to leases, inventory, construction, intangible assets, R&D, product development and other purposes.
	1	Depreciation, depletion or amortization errors	Consists of errors or irregularities in approach, theory or calculation associated with depreciation of assets, amortization of assets and/or amortization of debt premiums or discounts. A significant number of these items can be attributed to the recalculation of depreciation associated with revised leasehold improvements associated with the revised lease accounting rules.

Appendix B: Accounting Issues Taxonomy (cont'd)

Report Classifications	AA Code	AA Category Title	AA Description
Business Activities (cont'd)			
Expense–Leases	42	Lease, leasehold and FAS 13 (98) only (subcategory)	Represents errors or irregularities with respect to a registrant's recording or identification of lease related issues. This is a subcategory of the "Lease, SFAS 5, legal, commitments and contingency" category.
Expense–Pensions and contingencies (#21–#42)	69	Pension and other post-retirement benefit issues	Consists of accounting errors including obligations, expenses, etc. associated with pensions or other post-retirement plans or benefits
	21	Lease, SFAS 5, legal, contingency and commitment issues	Consists primarily of errors, omissions or irregularities associated with FAS 5 type contingencies and commitments. This description also deals with issues associated with the disclosure or accrual of legal exposures by registrants and issues associated with incorrectly identifying historical contractual lease terms. These terms can include treatment of "rent holidays", tenant allowances and other such items.
Tax Reporting	18	Tax expense/benefit/deferral/other (FAS 109) issues	Consists of errors or irregularities in approach, understanding or calculation associated with various forms of tax obligations or benefits. Many of these restatements relate to foreign tax, specialty taxes or tax planning issues. Some deal with failures to identify appropriate differences between tax and book adjustments.
Investing	3	PPE intangible or fixed asset (value/diminution) issues	Consists of identifiable errors or irregularities either in calculation, approach or theory that have taken place in the recording of assets, goodwill, intangible or contra liabilities that are required to be valued or assessed for diminution in value on a periodic basis. Examples include: intangible assets, goodwill, buildings, securities, investments, lease hold improvements, etc. This description also covers misreporting of fixed assets.
	22	Gain or loss recognition issues	Consists of errors or irregularities in approach, theory or calculation with respect to the recording of gains or losses from the sales of assets, interests, entities or liabilities. Mistakes in these areas often result from problems with calculating the appropriate basis for items that were sold or the proper sales amount when such amounts are of the nature of barters.
Financing	4	Debt, quasi-debt, warrants & equity (BCF) security issues	Consists of errors or irregularities in approach, theory or calculation associated with the recording of debt or equity accounts. These restatements will often be about errors made in the calculation of balances arising from debt, equity or quasi debt/equity instruments with conversion options (including beneficial conversion features- BCF and warrants). For example when convertible debt is issued, converted, repurchased or paid off, the GAAP requirements can be challenging. In addition, certain debt instruments can be erroneously valued.
	8	Financial derivatives/hedging (FAS 133) acct issues	Consists of errors or irregularities in approach, theory or calculation of derivative instruments. These can include the valuation of financial instruments such as hedges on currency swings, interest rate swaps, purchases of foreign goods, guarantees on future sales and many other examples.
Financial statement presentation			
Cash flow statement	19	Cash flow statement (SFAS 95) classification errors	Consists of errors or irregularities in approach, theory or calculation that manifested themselves in cash flow statements (FAS 95) that are not consistent with GAAP. These misclassifications can affect cash flow from operations, financing, non-cash and other.
Income statement misclassification / EPS	9	EPS, ratio and classification of income statement issues	Consists primarily of errors, omissions or irregularities associated with a registrant's disclosure of financial/operational ratios or margins and earnings per share calculation issues. Also included are circumstances where income statement items are misclassified, often between CGS and SGA.
Debt/Equity misclassification	26	Debt and/or equity classification issues	Consists mainly of errors or irregularities in approach, theory or calculation associated with the proper classification of a debt instrument as short term or long term. Issues associated with determining the correct treatment can require an in depth understanding of the contractual nature of the debt instruments. These errors can also include differences misclassifications between debt and equity accounts.

Appendix B: Accounting Issues Taxonomy (cont'd)

Report Classifications	AA Code	AA Category Title	AA Description
Financial statement presentation (cont'd)			
Segments and footnotes	36	Fin Statement, footnote & segment disclosure issues	This represents errors or irregularities associated with financial statement, footnote and/or segment reporting information.
Asset misclassifications	29	Balance sheet classification of assets issues	Consists of errors or irregularities in approach, theory or calculation associated with how assets were classified on the balance sheet. This can include how assets were classified as short term/long term, how they were described or whether they should have been netted against some other liability.
Comprehensive income	35	Comprehensive income issues	Made up of errors or irregularities related to misstatements of comprehensive income or accumulated income. These most commonly would include misstatements of pensions, foreign currency or derivatives.
Subsidiary accounting and atypical transactions			
Subsidiary	24	Intercompany, investment in subs./affiliate issues	Consists primarily of errors or irregularities in approach, theory or calculation related to intercompany or affiliate balances, investment valuations or transactions. It is often the case that problems arise when intercompany balances are not recognized or that income figures are manipulated at the affiliate (foreign or US) levels.
	11	Foreign, related party, affiliated, or subsidiary issues	Consists primarily of errors, omissions or irregularities associated with disclosures about related, alliance, affiliated and/or subsidiary entities. The most prevalent number of issues in this category arise from problems with foreign affiliates and their related accounting or financial reporting.
	44	Foreign, subsidiary only issues (subcategory)	This is a subcategory of the "Foreign, related party, affiliate or subsidiary category". This category was created in order to identify the prevalence of accounting restatement issues related to dealings or oversight of foreign subsidiaries of US companies or where the subsidiary of a foreign company is itself in another country from its parent.
Acquisition	45	Acquisitions, mergers, only (subcategory) acct issues	This subcategory captures errors and omission issues related only to mergers and acquisitions. This is a subset of the prime category of Acquisitions, Mergers, Disposals, Reorganizations Accounting category.
Consolidation	13	Consolidation issues including Fin 46 variable interest & off-B/S	Consists of errors or irregularities in approach, theory or calculation with respect to the consolidation of subsidiaries including variable interest entities and off balance sheet arrangements. This can include mistakes in how joint ventures, off balance sheet entities or minority interests are recorded or manifested. It can also include issues associated with foreign currency translations of foreign affiliates.
Reorganization	10††	Acquisitions, mergers, disposals, re-org acct issues	Consists primarily of errors or irregularities in approach, theory or calculation associated with mergers, acquisitions, disposals, reorganizations or discontinued operation accounting issues. The restatements in this area can be varied but they all deal with a company's failure to properly record an acquisition (such as valuation issues) or a failure to properly record a disposal (such as discontinued operations) or reorganization (such as in bankruptcy). It can also include failures to properly revalue assets and liabilities associated with fresh start rules.

† Although errors related to deferred revenue liabilities would ultimately affect revenue rather than expenses, these errors cannot be separated from expense related liabilities. If the error also affected revenue balances, AA would code the restatement as a revenue recognition restatement (code 6) as well.

† † Less category 45, Acquisitions-only.

Appendix C: Industry Rates for Individual Accounting Issues

This appendix presents the percent of restatements that disclose each individual accounting issue in each industry. The percentages add to more than 100% because restatements often involve more than one issue.

Industries that vary from the overall percent of total by **5%** *(-5%)* or more are indicated in blue bold (italic)

Industry Code:	Total	1	2	3	4	5	6	7	8	9	10	11
Revenue	1,435	376	204	104	122	137	138	103	78	62	52	59
Percentage of total	14%	**20%**	13%	*7%*	11%	14%	15%	13%	16%	13%	13%	15%
Expense												
Accrual, Res, & Est	3,135	517	594	399	320	267	278	242	130	153	108	127
Percentage of total	30%	27%	**36%**	28%	30%	28%	30%	32%	26%	32%	27%	33%
Stock Compensation	1,312	348	117	196	127	101	154	71	62	55	29	52
Percentage of total	13%	**18%**	*7%*	14%	12%	11%	16%	9%	13%	11%	*7%*	13%
Depr, Amort, & Cap	1,014	124	112	191	85	176	70	65	58	44	35	54
Percentage of total	10%	7%	7%	13%	8%	**18%**	7%	8%	12%	9%	9%	14%
Cost of Sales	711	169	21	60	143	100	61	37	29	51	24	16
Percentage of total	7%	9%	*1%*	4%	**13%**	10%	7%	5%	6%	11%	6%	4%
Leases	462	35	47	17	21	192	24	38	27	17	19	25
Percentage of total	4%	2%	3%	1%	2%	**20%**	3%	5%	6%	4%	5%	6%
Contingencies & Pensions	268	32	51	30	45	14	17	18	11	20	20	10
Percentage of total	3%	2%	3%	2%	4%	2%	2%	2%	2%	4%	5%	3%
Any expense	5,288	963	787	712	551	569	475	374	230	251	169	207
Percentage of total	50%	50%	48%	50%	51%	**59%**	50%	49%	47%	52%	*43%*	53%
Tax	1,178	227	164	137	139	87	92	95	70	62	61	44
Percentage of total	11%	12%	10%	10%	13%	9%	10%	12%	14%	13%	15%	11%
Investing												
Gains & Losses	371	37	107	48	31	37	19	26	20	15	19	12
Percentage of total	4%	2%	7%	3%	3%	4%	2%	3%	4%	3%	5%	3%
PPE	1,026	165	109	188	89	72	97	85	65	58	45	53
Percentage of total	10%	9%	7%	13%	8%	8%	10%	11%	13%	12%	11%	14%
Any investing activity	1,349	198	202	230	118	103	113	109	81	72	59	64
Percentage of total	13%	10%	12%	16%	11%	11%	12%	14%	16%	15%	15%	17%
Financing												
Derivatives	308	10	109	68	31	9	11	19	10	7	27	7
Percentage of total	3%	1%	7%	5%	3%	1%	1%	2%	2%	1%	7%	2%
Debt	2,133	437	209	343	213	161	293	144	109	92	58	74
Percentage of total	20%	23%	*13%*	24%	20%	17%	**31%**	19%	22%	19%	*15%*	19%
Any financing	2,427	446	314	407	242	170	302	163	119	99	84	81
Percentage of total	23%	23%	19%	**29%**	23%	*18%*	**32%**	21%	24%	20%	21%	21%

Industry codes:

1. Computers & Software
2. Financial, Banks & Insurance
3. Energy, Mining & Chemicals
4. Industrial & Durable Manufacturing
5. Wholesale & Retail
6. Healthcare & Pharmaceuticals
7. Other
8. Telecom & Broadcast
9. Consumer Products
10. Utilities & Waste
11. Business Services

Appendix C: Industry Rates for Individual Accounting Issues (cont'd)

This appendix presents the percent of restatements that disclose each individual accounting issue in each industry. The percentages add to more than 100% because restatements often involve more than one issue.

Industries that vary from the overall percent of total by **5%** *(-5%)* or more are indicated in blue bold (italic)

Industry Code:	Total	1	2	3	4	5	6	7	8	9	10	11
Financial Statement Presentation												
Cash flow statement	1,010	158	211	103	110	122	64	72	34	37	71	28
Percentage of total	10%	8%	13%	7%	10%	13%	7%	9%	7%	8%	**18%**	7%
Inc misclassification / EPS	470	72	93	54	53	43	42	35	22	24	16	16
Percentage of total	5%	4%	6%	4%	5%	5%	5%	5%	5%	5%	4%	4%
Debt/Equity misclassification	425	69	73	43	40	48	30	39	29	22	19	13
Percentage of total	4%	4%	5%	3%	4%	5%	3%	5%	6%	5%	5%	3%
Segments & footnotes	325	54	62	53	44	16	24	19	13	16	16	8
Percentage of total	3%	3%	4%	4%	4%	2%	3%	2%	3%	3%	4%	2%
Asset misclassification	288	55	50	32	29	33	27	24	11	9	11	7
Percentage of total	3%	3%	3%	2%	3%	3%	3%	3%	2%	2%	3%	2%
Comprehensive Inc	111	10	30	19	20	8	6	5	4	3	6	0
Percentage of total	1%	1%	2%	1%	2%	1%	1%	1%	1%	1%	2%	0%
Any Presentation	2,396	394	466	277	264	241	180	176	105	97	129	67
Percentage of total	23%	21%	**29%**	20%	25%	25%	19%	23%	21%	20%	**33%**	*17%*
Subsidiary/Consolidation/ Atypical Transactions:												
Subsidiary	924	162	133	113	135	57	65	67	45	53	54	40
Percentage of total	9%	8%	8%	8%	13%	6%	7%	9%	9%	11%	14%	10%
Acquisition	836	165	96	123	74	65	86	51	43	51	33	49
Percentage of total	8%	9%	6%	9%	7%	7%	9%	7%	9%	11%	8%	13%
Consolidation	757	101	146	98	104	51	51	58	40	33	36	39
Percentage of total	7%	5%	9%	7%	10%	5%	5%	8%	8%	7%	9%	10%
Reorganizations	551	83	83	79	53	35	44	49	33	22	38	32
Percentage of total	5%	4%	5%	6%	5%	4%	5%	6%	7%	5%	10%	8%
Any sub, cons, trans issue	2,559	431	380	349	300	182	214	184	129	135	126	129
Percentage of total	24%	22%	23%	25%	28%	*19%*	23%	24%	26%	28%	**32%**	**33%**
Total restatements	10,479	1,921	1,634	1,415	1,071	965	942	768	494	486	395	388

Industry codes:

1. Computers & Software
2. Financial, Banks & Insurance
3. Energy, Mining & Chemicals
4. Industrial & Durable Manufacturing
5. Wholesale & Retail
6. Healthcare & Pharmaceuticals
7. Other
8. Telecom & Broadcast
9. Consumer Products
10. Utilities & Waste
11. Business Services

Appendix D: Glossary

This appendix provides definitions for selected terms used in the study

4.02 restatement (see also non-4.02 restatement)	A restatement reported on SEC Form 8-K Item 4.02 "Non-reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review." Thus, the originally filed financial statements were deemed unreliable overall for 4.02 restatements, but presumably not for restatements not reported on Item 4.02 (non-4.02 restatements). Item 4.02 was created in late 2004 so the distinction between 4.02 and non-4.02 restatements begins in 2005.
404(a) company	Companies that provide SOX 404 internal control over financial reporting (ICFR) opinions by management only.
404(a)&(b) company	Companies that provide SOX 404 internal control over financial reporting (ICFR) opinions by both management (SOX 404(a) opinions) and their auditor (SOX 404(b) opinions). In this study, the opinions expressed in 404(a) and 404(b) reports are the same more than 99% of the time.
Accelerated filer and large accelerated filer	Accelerated filers are companies with public float greater than or equal to $75 million. These companies were required to provide 404(a)&(b) internal control opinions beginning with annual reports for fiscal years ending on or after November 15, 2004. Large accelerated filers (companies with public float greater than or equal to $700 million) are included in this requirement. Smaller companies were required to provide 404(a) opinions beginning in 2007.
Classification restatements	Restatements that consist of shifting the classification but not the amount of balance sheet or income statement accounts. The changes can be between current and non-current classifications or between account types, for example from equity to liabilities or from net revenue to expenses.
Fraud	An intentional misstatement in the financial statements. Fraud is identified by AA from publicly available sources including company filings, by the use of terms including fraud and irregularity and when criminal proceedings. Early years of the study supplement AA fraud information with information from SEC Auditing and Accounting Enforcement Actions.
ICFR reports or opinions	Reports by management (404(a)) or the auditor (404(b)) that provide an opinion about whether the company's internal controls over financial reporting are effective or have material weaknesses.
Misstatement	A departure from GAAP in financial statements filed with the SEC due to intentional or unintentional error. Material misstatements are corrected via restatement.
Non-4.02 restatement (see also 4.02 restatement)	A restatement *not* reported on Form 8-K Item 4.02. For example, restatements required when several immaterial errors become cumulatively material to the balance sheet. For these restatements the originally filed financial statements were not deemed unreliable overall. This group also includes any restatement prior to 2005 because Item 4.02 was created in late 2004.
Restatement announcement	The initial public revelation of a restatement or the need for a restatement. This may be a report on Form 8-K Item 4.02, a disclosure in an earnings announcement or other press release, or the presentation of restated results in regularly scheduled filings.
Severe or serious restatements	Restatements with characteristics typically considered to be more troubling to financial statement users. Restatements that involve fraud, decrease reported income, correct more periods, or affect core earnings (revenue or business expenses) are considered to be more severe. 4.02 restatements are also considered to be more severe than non-4.02 restatements. Although more severe restatements are likely attributable to more material misstatements, the concept of severity used in this study does not directly follow the definition of materiality from the auditing standards and the two terms are not synonymous.
Stock market reaction to restatement announcement	The percentage change in the stock price for the day of the restatement announcement plus the day following the announcement, adjusted for the contemporaneous overall market returns. The reaction is calculated using standard Cumulative Abnormal Return methodology with stock price data from CRSP and Eventus software.
VIX©	The Chicago Board of Exchange's Volatility Index. It provides a measure of stock market volatility used when assessing the stock market reaction to restatement announcements.

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