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2019 FINANCIAL RESTATEMENTS
A NINETEEN YEAR COMPARISON

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2019 Financial Restatements: A Nineteen Year Comparison

Introduction

Reissuance restatements are disclosed in an 8-K, Item 4.02 because past financial statements can no longer be relied upon and must be reissued. Except for a minor uptick in 2018, the number of these more severe restatements experienced a constant decline for thirteen years, reaching a total of 85 in 2019. This total is the lowest since the 8-K disclosure requirement came into effect in August of 2004.

After six years of relative stability, the number of total restatements dropped for five consecutive years to a 19-year low of 484 (while also maintaining low severity) and, in similar fashion, the total number of reissuance restatements reached an all-time low of 85.

The other type of restatement, a revision restatement, is defined as an adjustment contained in a periodic report without a prior 8-K disclosure. Thus, presumably, a revision restatement does not undermine reliance on past financials, and is less disruptive, if at all, to the market. In 2019, revision restatements comprised 79.7% of the total restatements disclosed. This figure is the highest percentage since 2005 (the first full year the 8-K disclosure requirement was in effect).

A review of the aggregate of both types of restatements shows six years of relatively stable restatement counts from 2009 to 2014. This trend stopped in 2015 with five consecutive years of decreases, bringing the total to a 19-year low of 484 restatements in 2019.

In addition to quantifying the number of restatement disclosures, Audit Analytics also assessed the severity of the restatements filed in 2019 and found the impact remained generally low. Indeed, Audit Analytics found an indication of low severity in every criterion quantified: (1) the negative impact on net income, (2) the average

cumulative impact on net income per restatement, (3) the percentage of restatements with no impact on income statements, (4) the average number of days restated, and (5) the average number of issues identified in the restatements.

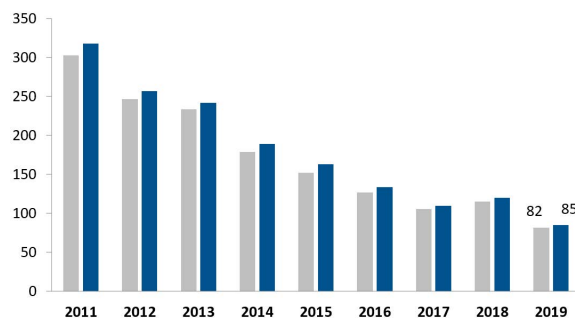
In 2019, the average number of issues implicated in a restatement was 1.51 issues per restatement. Likewise, the average number of days that were corrected by a financial adjustment (the restatement period) decreased from 500 days in 2018, to 451 in 2019 - the lowest number during the nineteen years analyzed.

Another indication of a restatement's severity is the time needed to assess and correct the mistatement. In 2019, an average of 6.5 days were needed by public companies to file the restatement, which represents a value much lower than required in three years prior to 2010.

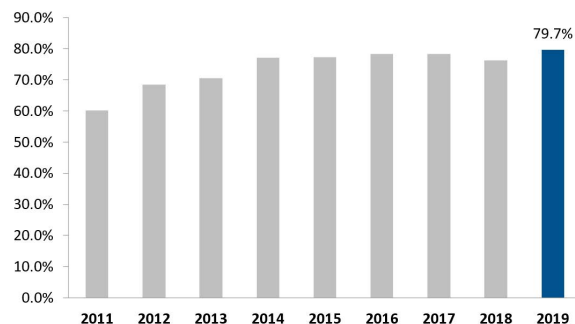
Audit Analytics also identified the largest negative restatement for each year from 2002 to 2019. The largest adjustment in 2019, \$276 million by Baxter International Inc., was the lowest during the last eighteen years and dramatically lower than the largest adjustments in 2004 and 2005, \$6.3 billion and \$5.2 billion, respectively.

Another encouraging finding was revealed in the filer status (e.g., accelerated filer) breakdown of the restatements. Although the total restatements from U.S. accelerated filers experienced a minor uptick to 206, the uptick follows four years of consecutive decreases. In addition, and more importantly, the more severe reissuance restatements from U.S. accelerated filers totaled only 32 in 2019, an amount that is the lowest since 2005, when the disclosure requirement came into effect.

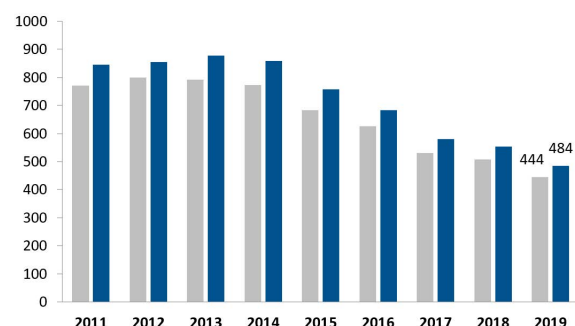
Reissuance Restatements by Year
Unique Filers | Restatements



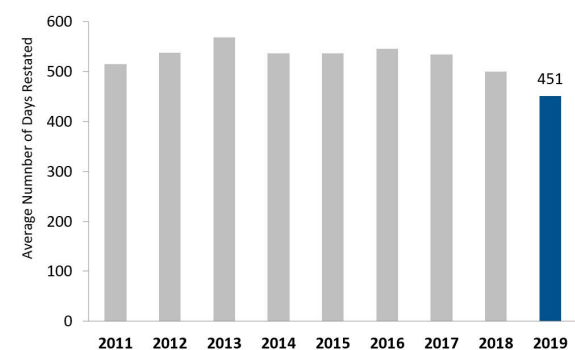
Revision Restatements
as a Percentage of Total Restatements



Total Restatements by Year
Unique Filers | Restatements



Average Restatement Period



Database Overview

The Audit Analytics Financial Restatement dataset includes data from more than 18,000 financial restatements and/or non-reliance filings disclosed by over 10,000 SEC public registrants since January 1, 2001. In addition to the areas identified in the charts contained in this report, the database employs a taxonomy (issue classifications) of more than 40 different accounting error categories (e.g., Cash Flow Statement (FAS 95), Tax (FAS 109), Revenue Recognition, Intangible Assets, etc.). Search results from this level of granularity can be filtered by other demographic data such as industry, financial size, filing designation, location, audit firms, and any number of peer groups. The relational nature of the database allows the researcher to introduce and compare financial restatement search results into other data sets such as accelerated filer status, legal exposures, director and officer changes, auditor changes, auditor fees, internal control reports, and other data populations. This content extension further allows an analyst to identify anomalies and market patterns that would not be readily apparent without performing this layered approach. The analysis included in this Executive Summary is sophisticated, but it does not utilize the full capabilities provided by the database.

Methodology

This report was produced from data searched, categorized, and extracted from the Audit Analytics database. Our restatement dataset covers all filer types (e.g., accelerated filers (“AF”), non-accelerated filers, funds and trusts, new company registrations, foreign registrants, etc.). Restatement records originate from one of two sources: 8-Ks or periodic reports (e.g., 10-Ks, 10-K/As, 10-Qs, 40F, 20F, etc.). Our methodology is designed to create a timeline of the restatement’s history. The timeline frequently begins with a press release or an Item 4.02 disclosure in an 8-K. Generally, we consider such a history of filings to be one restatement. In certain circumstances, however, a company that clearly identified a completely new issue in a subsequent filing is treated as a new restatement. For example, if a company files an 8-K disclosing a revenue recognition problem and the restatement issued in the subsequent 10-K/A provides adjustments for an additional issue (e.g., an adjustment in cash flow in addition to revenue recognition), a separate and distinct restatement is created to track that newly disclosed issue (the cash flow statement (FAS 95) issue). We do not, however, identify the revenue recognition issue in the second restatement so as to avoid duplicating the restatement issues during the process. Generally, the intent is to err on the side of combining new disclosures (such as a change in period or amounts) in restatements unless it is clear that the issues are different. Since we track newly disclosed issues separately, and some companies file more than one restatement during a particular calendar year, the number of restatements we report is greater than the number of unique filers who report them. As a result, we provide both data points (number of unique filers and number of restatements) in our analysis. Since some restatements need not be disclosed in an 8-K, and are thus first presented in a periodic report, our analysts review all periodic reports to identify these types of restatements. In this report, a restatement revealed in a periodic report without a prior disclosure in Item 4.02 of an 8-K is referred to as a revision restatement. Starting in 2013, Audit Analytics augmented its search process by reviewing SEC comment letters from 2005 to present. Most of the restatements discovered by this additional review were restatements in registration statements, such as S-1s.

Population¹

As noted above, the Audit Analytics restatement database contains more than 18,000 financial restatements and/or non-reliance filings disclosed by over 10,000 SEC public registrants since January 1, 2001. While keeping the database current, Audit Analytics also continually reviews and updates the historical population in order to refine the data set. For example, Audit Analytics reviews past restatements filed in close succession by a common registrant to determine if such restatements identified in the database as distinct (as discussed in the Methodology section above) should more appropriately be characterized as a single restatement. Other improvements include the identification of any press releases relevant to a given restatement and the addition of this event to the history of the restatement. Since Audit Analytics begins a restatement’s history at the time of the first announcement, the discovery of an earlier announcement will cause an appropriate shift in the restatement’s history. In addition, Audit Analytics employs a review process designed to identify any instances in which an anticipated restatement announced in an 8-K does not subsequently materialize because the consequences were not as severe as expected. When identified, these orphaned 8-Ks are removed from the database along with their respective history. These ongoing efforts provide the most current and refined population of restatements and non-reliance filings available.

¹ The research is based on a database download of March 6, 2020.

During the research performed for this report, the population described above is further filtered in order to avoid the double counting of restatements when presenting the overall results. First, subsidiaries are removed if the parent also filed a restatement. In addition, interconnected registrants are identified and grouped together if each registrant filed corresponding restatements. For example, an oil drilling entity may create partnerships and individual SEC registrants for each of its oil wells (or other assets/licenses). Under such a scenario, a large number of related partnerships may each file analogous restatements. In order to avoid a skew in the analysis that can result from counting all the equivalent restatements from interconnected registrants, Audit Analytics identified relationships and counted only one member of the group (and its restatement) as a representative of that group.

Terminology and Notice Requirement

Audit Analytics identifies two levels of restatements: reissuance restatements and revision restatements. In short, a reissuance restatement addresses a material error that requires the reissuance of past financial statements. At times, these types of restatements are referred to as “Big R” restatements and, in many cases, are the only type of restatement to garner concern. A revision restatement simply revises an immaterial misstatement. At times, these types of restatements are referred to as “little r” restatements and typically address a series of immaterial adjustments over time. The distinction is important because the goal of financial reporting is to avoid, when possible, the occurrence of a material error while immaterial changes are considered ongoing adjustments made in the ordinary course of business.

As noted above, a reissuance restatement is a restatement that requires the reissuance of the financial statements. As soon as a company determines that it must reissue its financials, it is required to disclose this information to the public. The disclosure requirement for a reissuance restatement is found in the Sarbanes-Oxley Act of 2002 (“SOX”).

In response to Section 409 of SOX, titled “Real Time Issuer Disclosures,” the SEC identified new reportable items that must be disclosed in an 8-K. This new set of disclosure requirements became effective on August 23, 2004, and applies to companies that file a 10-K as an annual report to the SEC.² One of the new reportable events is the conclusion that a past financial statement should no longer be relied upon. Such an event is to be disclosed in an 8-K under Item 4.02, titled “Non-Reliance on Previously Issued Financial Statements or a Related Audit Report or Completed Interim Review.” Therefore, in most instances, the first disclosure of a past unreliable financial statement should appear in the Item 4.02 of an 8-K filed within four business days of the conclusion. The SEC expects an Item 4.02 to precede the adjustment and will likely review an instance where a 4.02 is filed on the same day as an amended periodic report.³ Such a concurrent event could happen if a restatement could be produced quickly (i.e., correct a clerical error), but a material adjustment requiring an investigation would likely be preceded by an Item 4.02 disclosure.⁴

In contrast, a revision restatement does not require the 8-K disclosure because it concerns immaterial adjustments that do not undermine reliance of past financials. Such a restatement does not require the issuance of new financials and are thus less disruptive, if at all, to the market. In this report, a revision restatement is defined as any restatement revealed in a periodic report or other document without a prior disclosure in Item 4.02 of an 8-K.⁵

² Pursuant to SEC Release 33-8400 the registrants that must provide a disclosure are those “subject to the reporting requirements of Section 13(a) and Section 15(d) of the Exchange Act, other than foreign private issuers that file annual reports on Form 20-F or 40-F” (see <http://www.sec.gov/rules/final/33-8400.htm>). Therefore, the distinction between reissuance restatements and revision restatements does not apply to foreign filers.

³ See Louise M. Dorsey, Speech by SEC Staff: Remarks Before the 2006 AICPA National Conference on Current SEC and PCAOB Developments, (noting that “the trigger event is the decision that the financial statements are unreliable, not the completion of the restatement process,” and therefore if “a company files a 4.02 8-K on the same day it files an amended periodic report to restate its financial statements, it is highly likely that the staff would question the timing of the 8-K filing.” In such instances, the SEC would expect to find an adjustment that corrected a clerical error or other error that would not require an internal investigation.

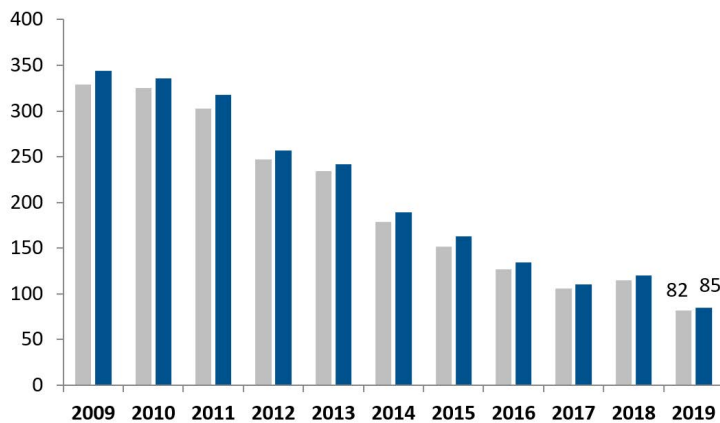
⁴ Although the 8-K disclosure rule does not use the word “material,” preparers simplify the discussion by noting that a “Big R” is a material adjustment while a “little r” is immaterial. The focus on materiality is based on ASC 250 (which includes SAB 99), Accounting Changes and Error Corrections, which, in short, states that previous financials can no longer be relied upon (and thus must be reissued) if the misstatement is material. If the misstatement is immaterial, the misstatement does not undermine reliance on past financials (and thus past financials need not be reissued).

⁵ For example, the first disclosure could be in a quarterly or annual report that provides the adjustment, in an NT filing (a notice of late filing), or in a press release filed in an 8-K.

Executive Summary - Financial Restatements 2001 to 2019

FIGURE 1

Reissuance Restatements by Year Unique Filers vs. Restatements

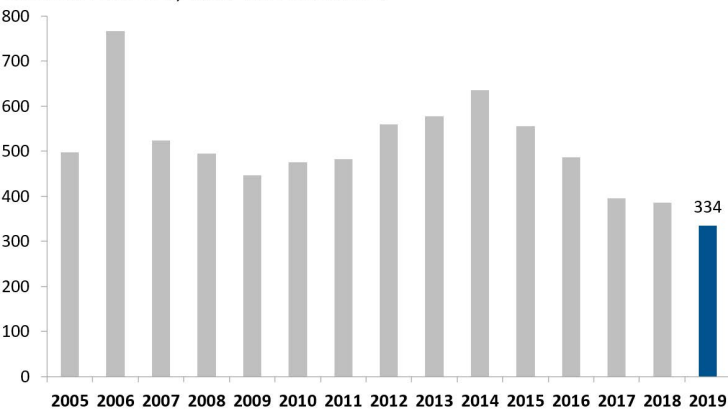


1. The total number of reissuance restatements in 2019 represents the lowest value experienced during the past fifteen years, since the disclosure requirement came into effect.

As noted above, the requirement that 10-K filers disclose the determination that past financial statements can no longer be relied upon came into effect in August 2004. Therefore, the first full calendar year of reissuance restatements occurred in 2005, which experienced 933 such disclosures from 865 companies. (See page 11.) In 2006, 877 companies disclosed a total of 949 reissuance restatements. Thereafter, both the total number of companies and total number of disclosures dropped for eleven consecutive years, reaching a low of 110 disclosures by 106 companies in 2017. A minor uptick in 2018 increased the number of disclosures to 120 from 115 companies, but the uptick was followed by a dramatic drop in 2019 to reach the lowest totals since the disclosure requirement came into effect: 85 disclosures by 82 companies.

FIGURE 2

Revision Restatements without Form 8-K, Item 4.02 Disclosure

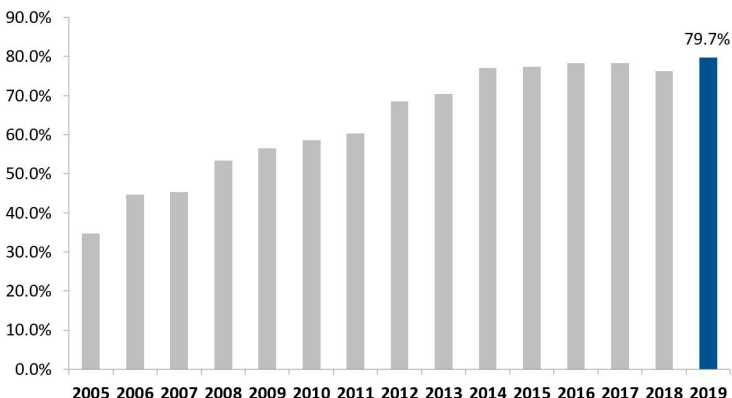


2. A shift to a focus on revision restatements shows a low number of the more severe type of restatement.

This report defines a revision restatement as any restatement revealed in a periodic report or other document without a prior disclosure in Item 4.02 of an 8-K. These types of restatements do not undermine reliance on past financial statements and are of minor, if any, concern. As shown in Figure 2, the number of revision restatements for 2019 represents a fifteen-year low of 334, the lowest number since the disclosure requirement came into effect. (See page 12.)

FIGURE 3

Percentage of Revision Restatements



Although this number is low, the percentage of revision restatements is high. When revision restatements are compared to all restatements from 10-K filers, a different perspective is revealed. Figure 3 displays an overall upward trend from 2005 to 2016 with a local maximum of 78.4% (486 out of 620). This value dropped to 78.3% (396 out of 506) in 2017 and again to 76.3% (386 out of 506) in 2018. The trend, however, changed in 2019, with an increase to 79.7% (334 out of 419). The value of 79.7% is the highest percentage since the disclosure requirement came into effect and shows that a large portion of restatements disclosed in 2019 comprised the less severe type (an indication of low severity of the overall restatement population).

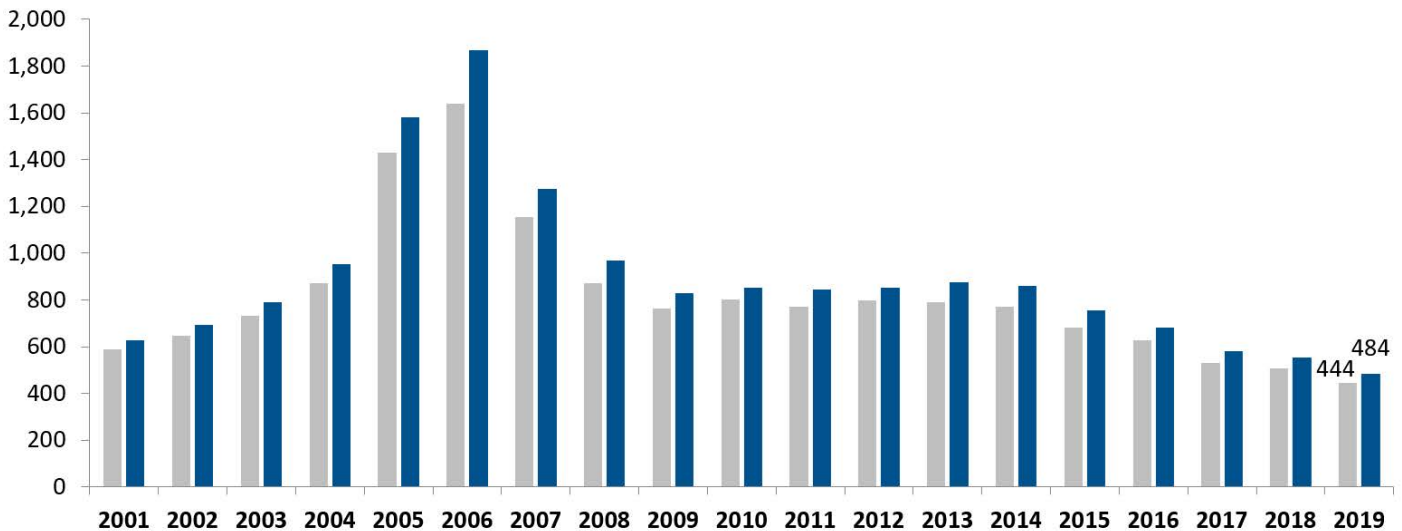
3. After six years of relatively steady restatement totals from 2009 to 2014, the number of total restatement disclosures dropped for five years in a row.

In 2006, the total amount of restatements peaked with 1,869 restatements from 1,638 companies. Thereafter, there were three years of substantial decreases, with 2009 experiencing 831 restatements from 765 companies. The 831 disclosures in 2009 was the beginning of a six-year period when the overall number of restatements leveled off and stayed within a range between 831 and 877. This trend, however, ended with five years of consecutive decline. The total of 484 restatements in 2019 is the lowest amount during the nineteen years analyzed. In addition, the total of 484 also represents the lowest percentage of restatements during the same time period.

FIGURE 4

Total Restatements by Year

Unique Filers | Restatements



The second column in Table 1 repeats the “Total Restatement” displayed in Figure 4. Next to this column is additional information referred to as the “Denominator Population,” which represents the total number of companies that possibly could have disclosed a restatement during a given year. The determination of the denominator population allows for the calculation of a restatement disclosure percentage. As shown in Table 1, the denominator population dropped dramatically from 12,847 companies to 7,636 companies during the thirteen years from 2007 to 2019. Therefore, a decrease in the number of restatements from year to year did not necessarily translate into a corresponding decline in percentage. For example, while the number of restatements fell from 852 in 2010 to 845 in 2011, the resulting year-to-year percentage value increased. A focus on percentage shows that in 2019, for the first time, the percentage value dipped below the 7% floor threshold. Despite a drop in the denominator population from 7,773 in 2018 to 7,636 in 2019, a decrease in restatements from 554 to 484 resulted in a percentage decrease to 6.34%.

TABLE 1

Restatements as % of Population by Year

Disclosure Year	Total Restatement Disclosures	Denominator Population	Restatement Percentage
2006	1,869	12,623	14.81%
2007	1,276	12,847	9.93%
2008	968	12,156	7.96%
2009	831	11,252	7.39%
2010	852	10,795	7.89%
2011	845	10,419	8.11%
2012	854	9,842	8.68%
2013	877	9,183	9.55%
2014	859	9,212	9.32%
2015	757	8,878	8.53%
2016	683	8,405	8.13%
2017	580	7,755	7.48%
2018	554	7,773	7.13%
2019	484	7,636	6.34%

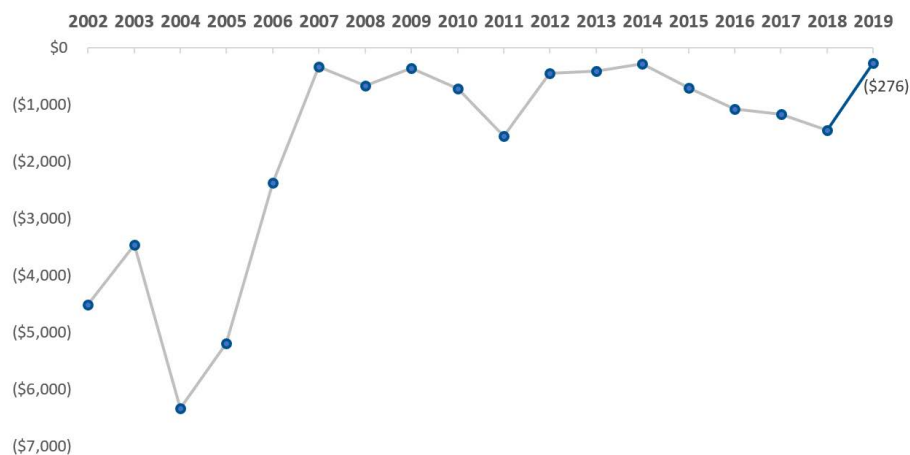
4. Indicators show the restatements disclosed in 2019 were generally low in severity.

a. Negative Impact on Net Income

When looking at net income, both 2004 and 2005 experienced restatements that resulted in very large negative adjustments.⁶ In 2004, Federal National Mortgage Assoc. (Fannie Mae) restated its net income to reflect a negative \$6.335 billion impact and in 2005, American International Group Inc. (AIG) disclosed a negative \$5.193 billion impact. (See page 16.) In 2006, the largest adjustment dropped substantially with Navistar International Corporation disclosing a negative \$2.377 billion impact. The next four years experienced adjustments under \$1 billion: \$341 million by General Electric, \$671 million by TMST, \$357 million by UBS, and \$717 million by Telecom Italia. Calendar year 2011 exceeded the \$1 billion mark with a \$1.557 billion adjustment by China Unicom (Hong Kong) Ltd, followed by another four years with negative impacts below \$1 billion: \$459 million by JPMorgan Chase, \$420 million by Quicksilver Resources Inc., \$286 million by Computer Sciences Corp., and \$711 million by Alphabet Inc. (Google’s parent company). The next three years experienced adjustments slightly above the \$1 billion mark: \$1.085 billion by ING Group N.V., \$1.177 billion by Perrigo Company, and \$1.456 billion by OI S.A. (formerly Brasil Telecom SA). This billion-dollar adjustment trend was broken when the largest negative restatement for 2019 was disclosed by Baxter International Inc. in the amount of \$276 million.

FIGURE 5

Largest Negative Restatements
in millions USD



b. Average Cumulative Impact on Net Income per Restatement

One gauge of the severity can be attained by calculating the impact an average restatement had on the net income of companies traded on one of the three major U.S. stock exchanges.⁶ During 2019, the typical restatement had a negative adjustment of about \$1.2 million. (See page 17.) As shown in Table 2, this amount is the lowest average of the fifteen years shown.

TABLE 2

Average Income Adjustment per Restatement by Companies on NYSE, Nasdaq or NYSE MKT (formerly AMEX)

Year	Average Income Adjustment (Millions USD)
2005	(\$21,331,433)
2006	(\$17,807,709)
2007	(\$3,640,142)
2008	(\$6,125,967)
2009	(\$4,624,605)
2010	(\$5,934,222)
2011	(\$12,941,142)
2012	(\$5,831,183)
2013	(\$3,210,297)
2014	(\$3,564,717)
2015	(\$5,200,144)
2016	(\$8,613,390)
2017	(\$11,623,359)
2018	(\$12,548,221)
2019	(\$1,231,080)

Similar to the trend seen in Figure 5, 2005 and 2006 experienced very high average income adjustments: \$21.3 million in 2005 and \$17.8 million in 2006. These figures provide a stark contrast that highlights the reduction in average adjustment amounts and the relatively low adjustment for 2019. The consequences of the high averages of 2005 and 2006 are further accentuated when coupled with the fact that those years produced the highest number of restatements since 2001 (see Figure 4). Therefore, 2005 and 2006 not only produced restatements that had, on average, historically negative adjustments to net income, but historically high numbers, as well.

⁶ This analysis is limited to those companies that were traded on one of the three major U.S. stock exchanges (i.e., Amex (now NYSE MKT), Nasdaq, and NYSE) for the year shown.

c. No Impact on Income Statements

Another indicator of the severity of restatements in a particular year is the percent of restatements that had no impact on the income statement. During 2019, about 56.8% (176 out of 310) of the restatements disclosed had no impact on earnings. (See page 17.) This percentage represents the third highest for the thirteen years under review and indicates the low severity for 2019. The percentage is also much higher throughout the five years from 2007 to 2011, which experienced percentages in the thirties. The high percentage in 2019, to some degree, is due to cash flow statement errors, which have no impact on the income statement.⁷

TABLE 3

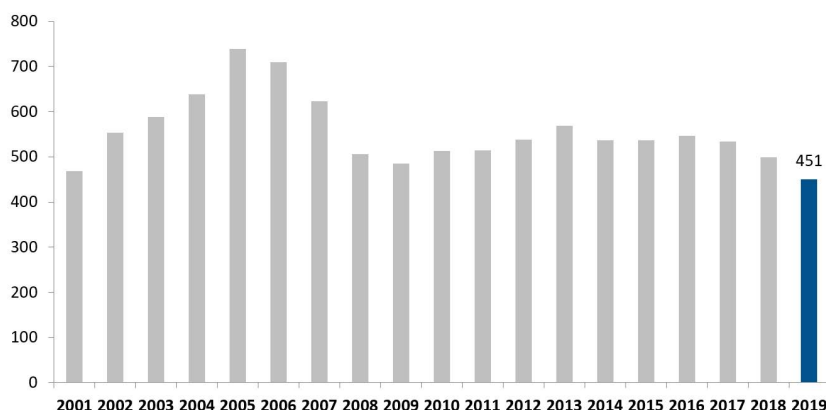
Percentage of Restatements with No Impact on Income Statement	
2007	36.9%
2008	33.4%
2009	31.0%
2010	39.7%
2011	36.7%
2012	46.9%
2013	52.8%
2014	60.0%
2015	55.2%
2016	59.1%
2017	53.7%
2018	53.6%
2019	56.8%

d. Average Number of Days Restated

The average number of days that were restated (the restatement period) by an adjustment in a given year peaked in 2005. (See page 18.) In 2005, the average period was 739 days, followed by four consecutive years of decline to a local low point of 486 days in 2009. The next four years drifted higher to reach a value of 568 in 2013. During 2014, however, the number dropped to 536 and remained level with values of 537, 546, and 534 the next three years. During 2018, the value dropped to 500 days and dropped again in 2019 to 451 days, the lowest value during the nineteen years analyzed.

FIGURE 6

Average Number of Days per Restatement Period



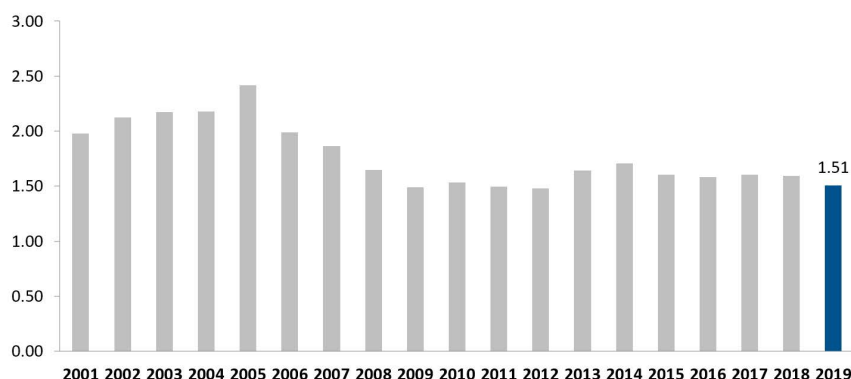
e. Average Number of Issues per Restatement

Audit Analytics developed a taxonomy composed of over forty issues identified in restatement disclosures as a cause for a financial adjustment. The most significant issues and their historical rate of occurrence are tabulated on page 24 and 25. Using this pool of issues, we quantify the average number of issues implicated in restatement disclosures during a particular year.

A review of these issues since 2001 shows that the average number during 2019 is historically low: 1.51 issues per restatement. (See page 19.)

FIGURE 7

Average Number of Issues per Restatement



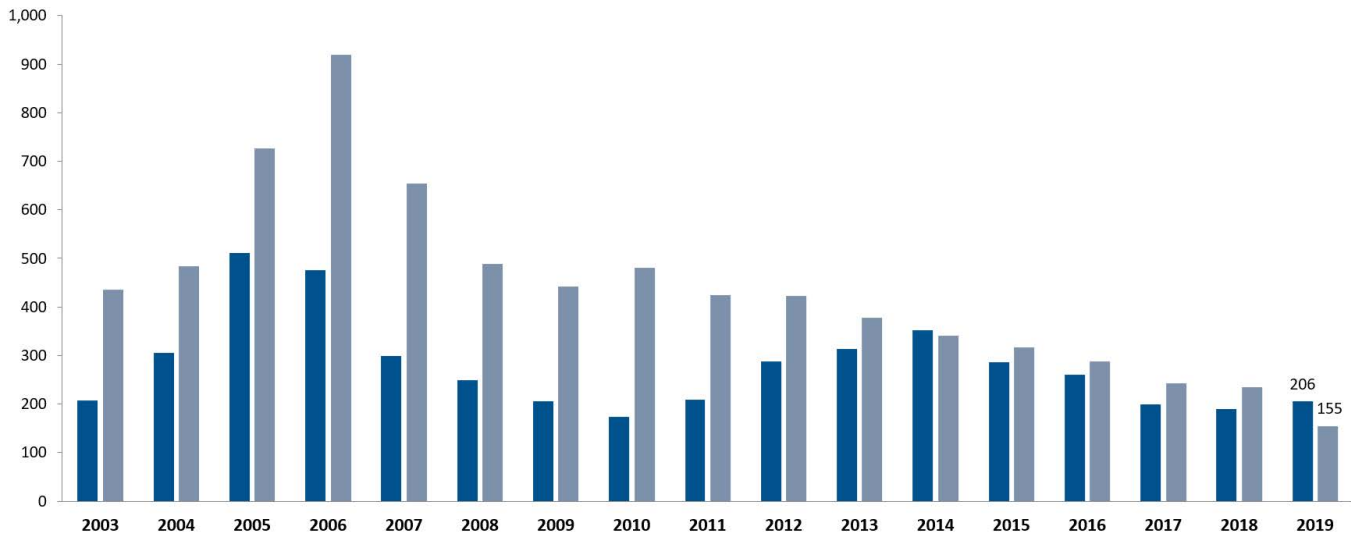
⁷ Types of restatements that may have no impact on an income statement include, but are not limited to, those that address (1) certain tax adjustments, (2) cash flow statements, (3) debt reclassification from short to long term, (4) earnings per share adjustments, and (5) redistribution of income from year to year without a net change in income.

5. A restatement population breakdown based on size (accelerated filer status) shows the number of restatements from U.S. non-accelerated filers continued a long, downward trend.

FIGURE 8

Restating Registrants by Accelerated Filer Status

U.S. Accelerated Filers | U.S. Non-Accelerated Filers



The restatement filer population can be separated into four categories based on size and location: (1) accelerated foreign filer, (2) non-accelerated foreign filer, (3) accelerated U.S. filer, and (4) non-accelerated U.S. filer. (See page 20.) Figure 8 focuses on U.S. companies and shows that the number of restatements from U.S. non-accelerated filers has been trending downward since 2006. The total of 155 companies in 2019 represents the lowest for the seventeen years presented. In contrast, the number of restatements from U.S. accelerated filers rose from 2010 to 2014 and then came down four years thereafter to a low of 189 in 2018, followed by an increase to 206 in 2019. (See page 20.) Although 2019 experienced an uptick, the value of 206 is historically low but similar to the amounts experienced in 2003, 2009 and 2011.

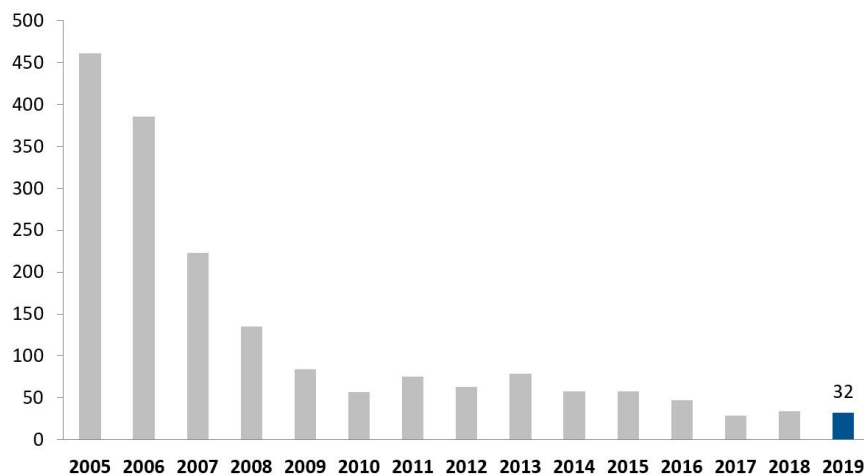
6. Although the number of overall restatements by U.S. accelerated filers experienced a slight uptick, the number of reissuance restatements dropped from last year.

As shown in Figure 8, the number of restatements by U.S. accelerated filers experienced a slight uptick in 2019, but a focus on reissuance restatements does not reveal the same increase. On the contrary, as shown in Figure 9, the number of

FIGURE 9

Reissuance Restatements from U.S. Accelerated Filers

with 8-K, Item 4.02



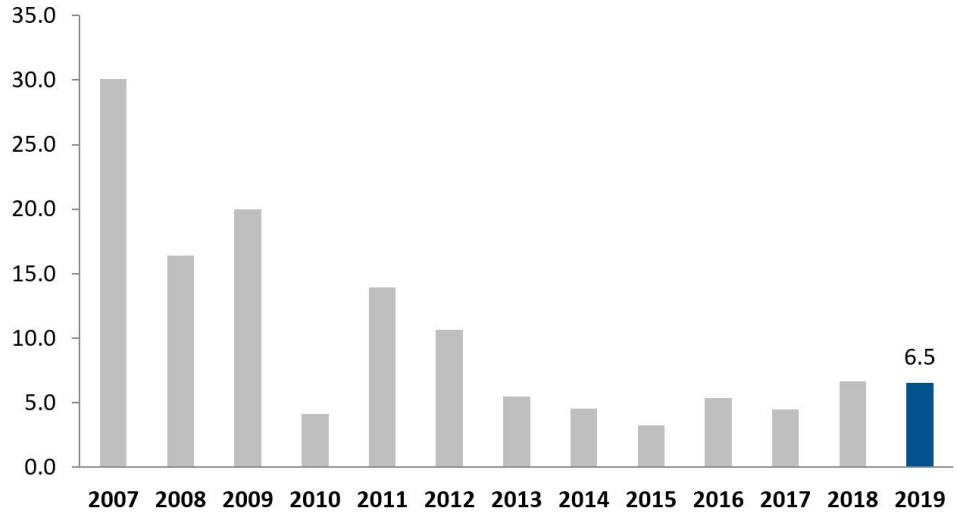
reissuance restatements dropped from 34 to 32. Moreover, this number is less than half the amount of 2013. In 2013, the number of reissuance restatements disclosed by U.S. accelerated filers was 79, followed by a drop to 58 in 2014 and a repeat of 58 in 2015. (See graph and table on page 21.) During 2016, U.S. accelerated filers disclosed 47 reissuance restatements and the total dropped again in 2017 to 29, which represents the lowest number since the 8-K disclosure requirement took effect. A minor rebound in 2018 brought the number to 34, but this total nevertheless represented the second lowest number of reissuance restatements experienced as of that time. This second-place status, however, now belongs to 2019, with a total of 32 reissuance restatements.

7. A review of companies trading on one of the three major U.S. exchanges shows that companies are now, on average, able to file restatements more quickly after the misstatement is disclosed.

Audit Analytics performed a review of the average number of days a registrant needed to file a restatement after the initial disclosure. A review of companies that traded on one of the three major U.S. stock exchanges (NYSE, Nasdaq, or NYSE MKT (formerly Amex)) found that the average duration in 2007 was about 30 days. (See page 22.) The duration dropped dramatically in 2008 to 16.4 days. After an uptick in 2009, the average number of days hit a relatively low point of 4.1 days in 2010. Thereafter the average time to restate increased to 13.9 days in 2011 but decreased for four consecutive years to a low of 3.2 days in 2015. Since then, the duration has been between 5 and 7 days, with an average duration of 6.5 days in 2019.

FIGURE 10

Average Number of Days to File a Restatement



The shorter time periods during the last seven years could be caused by a number of factors. In general, the number of days needed to restate is less for restatements made in response to less complicated errors. As shown in Executive Summary Item 2, the percentage of revision restatements (those without a prior 8-K, Item 4.02 disclosure) represented almost 80% of the restatements filed. A high percentage of revision restatements would cause a decrease in the average time period needed to restate. Furthermore, improved internal control over financial reporting (ICFR) would allow a company to recalculate and restate financials more quickly after an error is discovered. Improved ICFR could cut response time, notwithstanding the complexity of the restatement at hand.

8. A review of the top seven issues implicated in restatements disclosed in 2019 shows that, for the second year in a row, revenue recognition was the top issue.

In 2019, the top seven accounting issues implicated in restatements were as follows:

- Revenue Recognition Issues
- Cash Flow Statement (SFAS 95)
- Debt, Quasi-Debt, Warrants & Equity (BCF) Security Issues
- Tax Expense, Benefit, Deferral and Other (FAS 109) Issues
- Liabilities, Payables, Reserves and Accrual Estimate Failures
- Accounts/Loans Receivable, Investments & Cash Issues
- Expense (Payroll, SGA, Other) Recording Issues

(See page 23.)

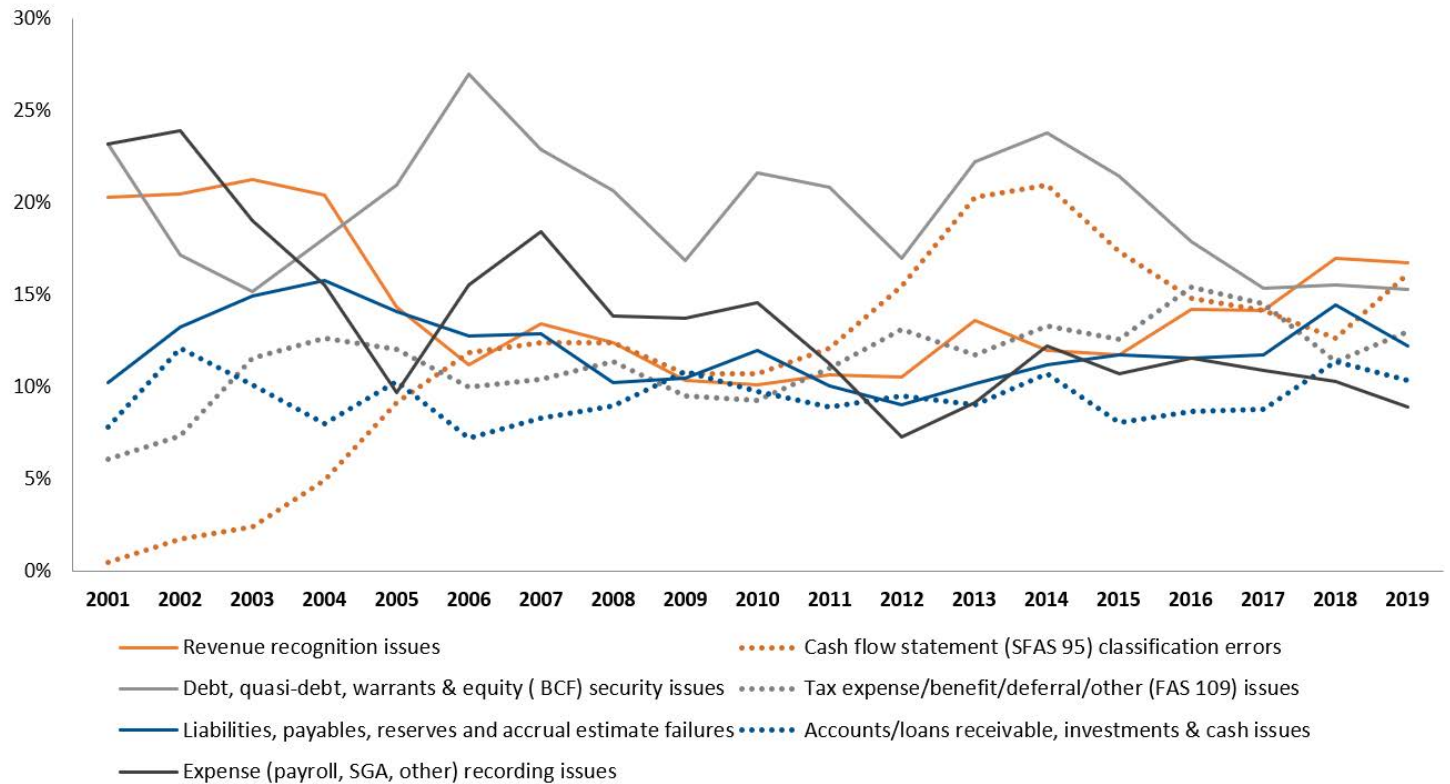
⁸ This analysis provides results that would increase if performed at a later date because the results do not include restatements disclosed but not yet reissued. A restatement not yet reissued has an increased likelihood of adding a data point with a larger duration than the present average. Audit Analytics, nevertheless, provides this information because each year shown was created in the same manner and thus the years are comparable.

A timeline of the occurrence rate of the top seven issues shown above is provided in the graph below:

FIGURE 11

Frequency of Issue Occurrence in Restatements

Historical Percentage of Seven Issues in 2019

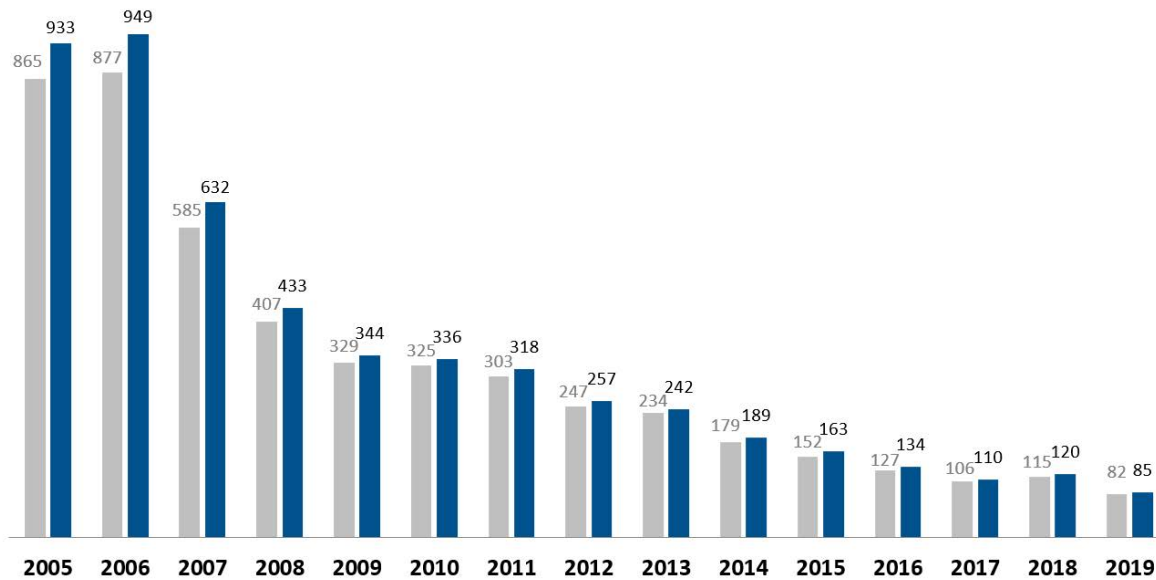


As shown in Figure 11, the number one reason for restatements every year during the thirteen years from 2005 to 2017 involved issues regarding debt. In 2018, however, it came second to revenue recognition. Revenue recognition also maintained the top issue for 2019, while issues regarding debt fell to third. The issue that came in second in 2019, cash flow, has a notable history. During 2001, only 0.5% of the restatements concerned cash flow statements. Thereafter, a rapid upward trend brought cash flow statement restatements up to the second-place position in 2011 and a peak of 21.0% in 2014. During 2013 and 2014, a substantial reason for the rise in cash flow restatements was due to the increase in subsidiary guarantor cash flow statement restatements in order to comply with Rule 3-10 of Regulation S-X (frequently in response to SEC comment letters). Such restatements did not affect the consolidated financial statement, only the allocation between parent and subsidiary. The surge in these types of restatements waned in 2015 and this decline, in large part, is the reason for the drop to 12.6% in 2018. In 2019, however, the cash flow issue increased to 16.1%, which moved it up to second place. The four categories in 2019 that are less prevalent than debt are tax expense at 13.0%, liabilities at 12.2%, accounts/loans receivable at 10.3%, and expense/payroll at 8.9%. It is interesting to note that all seven issues shown above gravitated to a value of about 13%. The prevalence of the seven categories shown above began to converge after 2014 and had a spread of only about 8% in 2019, between the high value of 16.7% and the low of 8.9%.

RESTATEMENT ANALYSIS

TOTAL REISSUANCE RESTATEMENTS BY YEAR

Reissuance Restatements by Year
Unique Filers | Restatements



Total Reissuance Restatements by Year

Disclosure Year	Unique Filers	Restatements	Year-Over-Year Change
2005	865	933	
2006	877	949	1.7%
2007	585	632	-33.4%
2008	407	433	-31.5%
2009	329	344	-20.6%
2010	325	336	-2.3%
2011	303	318	-5.4%
2012	247	257	-19.2%
2013	234	242	-5.8%
2014	179	189	-21.9%
2015	152	163	-13.8%
2016	127	134	-17.8%
2017	106	110	-17.9%
2018	115	120	9.1%
2019	82	85	-29.2%

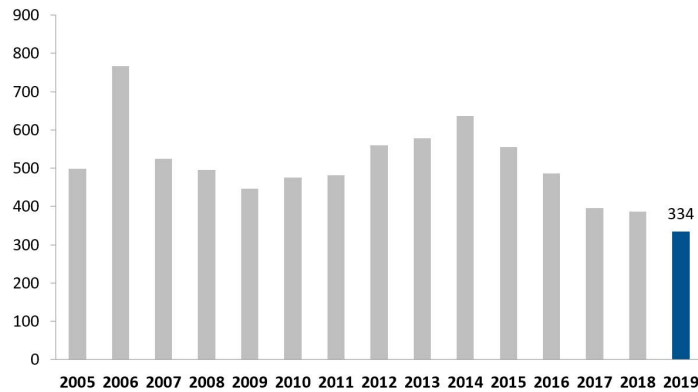
Notes:

- 1) The research is based on a database download of March 6, 2020.
- 2) In response to Section 409 of the Sarbanes-Oxley Act of 2002, entitled "Real Time Issuer Disclosures," the SEC identified new reportable items that must be disclosed in an 8-K within four business days. This new set of disclosure requirements became effective on August 23, 2004 and applied to all registrants that file 10-Ks for annual reports. One of the new reportable events that triggers a disclosure is the conclusion that a past financial statement should "no longer be relied upon." Such a disclosure must be given in the Item 4.02 of the Form 8-K.
- 3) When a company concludes that it must issue a financial restatement that will undermine reliance on one or more past financial statements, the company must file a disclosure in an 8-K, Item 4.02. Audit Analytics uses the term "Reissuance Restatement" when past reliance is undermined.
- 4) The data counts all restatements when a registrant files multiple restatements.
- 5) The Reissuance Restatements population is filtered in order to avoid the double counting of restatements by assigning one representative for a group of interconnected non-tickered companies that file analogous restatements and by not counting the restatement of a subsidiary if the parent files an analogous restatement. (See Population section on page 2 of report.)

RESTATEMENT ANALYSIS

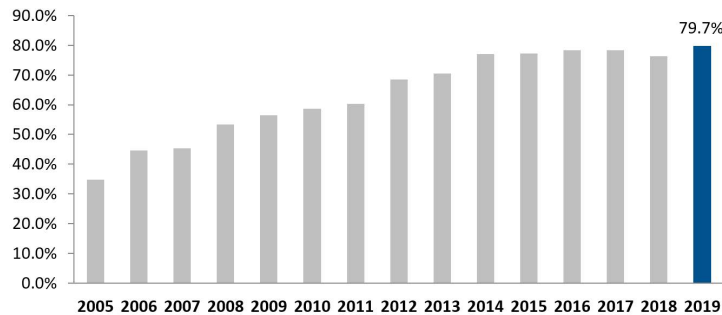
RESTATEMENTS WITHOUT PRIOR FORM 8-K, ITEM 4.02 DISCLOSURE

Number of Revision Restatements



Revision Restatements

as a Percentage of All Restatements



Restatements Without Form 8-K, Item 4.02 Disclosure

Disclosure Year	Total Restatements	Total Restatements From 10-K Filers	Restatements from 10-K Filers without An 8-K, Item 4.02	Percentage With No 8-K
2005	1,582	1,431	498	34.8%
2006	1,869	1,716	767	44.7%
2007	1,276	1,156	524	45.3%
2008	968	928	495	53.3%
2009	831	791	447	56.5%
2010	852	812	476	58.6%
2011	845	800	482	60.3%
2012	854	817	560	68.5%
2013	877	820	578	70.5%
2014	859	825	636	77.1%
2015	757	719	556	77.3%
2016	683	620	486	78.4%
2017	580	506	396	78.3%
2018	554	506	386	76.3%
2019	484	419	334	79.7%

Notes:

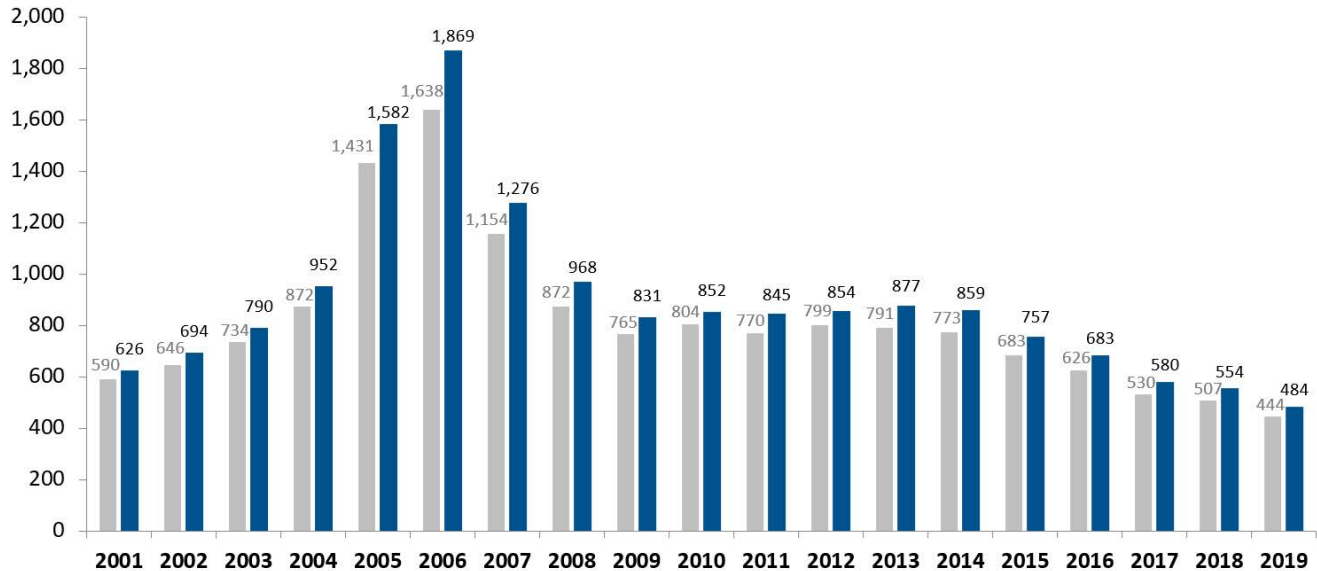
- 1) The research is based on a database download of March 6, 2020.
- 2) In response to Section 409 of the Sarbanes-Oxley Act of 2002, entitled "Real Time Issuer Disclosures," the SEC identified new reportable items that must be disclosed in an 8-K within four business days. This new set of disclosure requirements became effective on August 23, 2004 and applied to all registrants that file 10-Ks for annual reports. One of the new reportable events that triggers a disclosure is the conclusion that a past financial statement should "no longer be relied upon." Such a disclosure must be given in the Item 4.02 of the Form 8-K.
- 3) When a company concludes that it must issue a financial restatement that will undermine reliance on one or more past financial statements, the company must file a disclosure in an 8-K, Item 4.02, but such a disclosure would not be required if a restatement is to make adjustments that do not undermine an investor's reliance on past financials. Audit Analytics uses the term "Revision Restatement" when past reliance is maintained.

RESTATEMENT ANALYSIS

TOTAL RESTATEMENTS (BOTH REISSUANCE & REVISION) BY YEAR

Total Restatements by Year

Unique Filers | Restatements



Total Restatements by Year

Disclosure Year	Unique Filers	Restatements	Growth Rate	Denominator Population	Restatement Percentage
2001	590	626	-	N/A	-
2002	646	694	10.86%	N/A	-
2003	734	790	13.83%	N/A	-
2004	872	952	20.51%	N/A	-
2005	1,431	1,582	66.18%	N/A	-
2006	1,638	1,869	18.14%	12,623	14.81%
2007	1,154	1,276	-31.73%	12,847	9.93%
2008	872	968	-24.14%	12,156	7.96%
2009	765	831	-14.15%	11,252	7.39%
2010	804	852	2.53%	10,795	7.89%
2011	770	845	-0.82%	10,419	8.11%
2012	799	854	1.07%	9,842	8.68%
2013	791	877	2.69%	9,183	9.55%
2014	773	859	-2.05%	9,212	9.32%
2015	683	757	-11.87%	8,878	8.53%
2016	626	683	-9.78%	8,405	8.13%
2017	530	580	-15.08%	7,755	7.48%
2018	507	554	-4.48%	7,773	7.13%
2019	444	484	-12.64%	7,636	6.34%

Notes

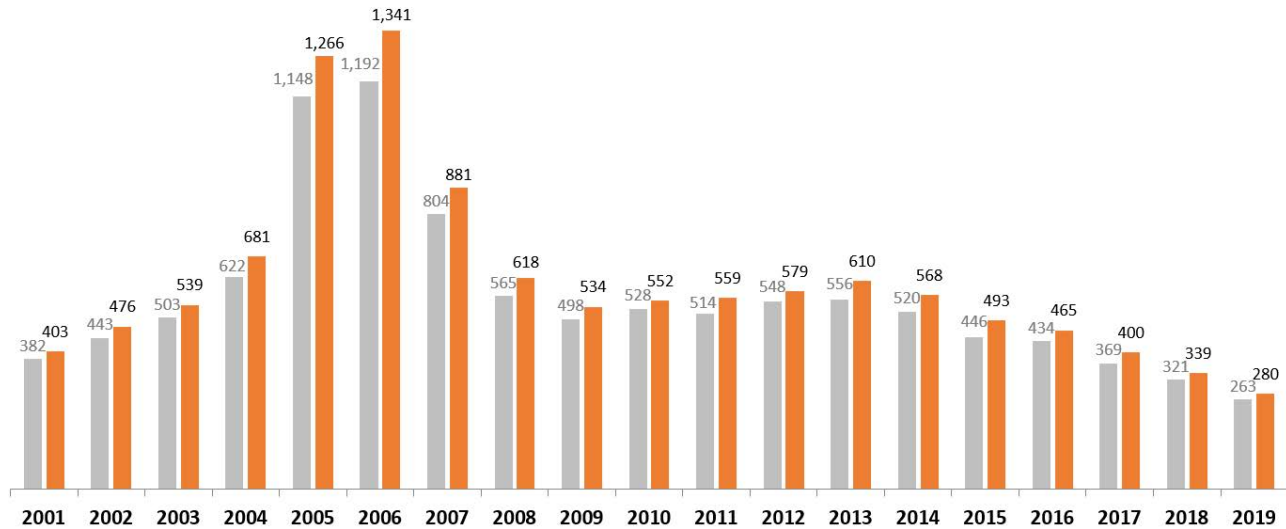
- 1) The research is based on a database download of March 6, 2020.
- 2) The data counts all both Reissuance and Revision Restatements.
- 3) The restatement population is filtered in order to avoid the double counting of restatements by assigning one representative for a group of interconnected non-tickered companies that file analogous restatements and by not counting the restatement of a subsidiary if the parent files an analogous restatement. (See Population section on page 2 of report.)
- 4) The Denominator Population comprises those companies that could possibly have disclosed a restatement for the given year. It does not include funds and trust except for REITs. The initial populations used to create the denominator are from historical snap-shots of the database, which are not available prior to 2006.

RESTATEMENT ANALYSIS

TOTAL ANNUAL RESTATEMENTS ONLY BY YEAR

Annual Restatements

Unique Filers | Annual Restatements



Annual Restatements

Disclosure Year	Unique Filers	Restatements	Growth Rate
2001	382	403	
2002	443	476	18.1%
2003	503	539	13.2%
2004	622	681	26.3%
2005	1,148	1,266	85.9%
2006	1,192	1,341	5.9%
2007	804	881	-34.3%
2008	565	618	-29.9%
2009	498	534	-13.6%
2010	528	552	3.4%
2011	514	559	1.3%
2012	548	579	3.6%
2013	556	610	5.4%
2014	520	568	-6.9%
2015	446	493	-13.2%
2016	434	465	-5.7%
2017	369	400	-14.0%
2018	321	339	-15.3%
2019	263	280	-17.40%

Notes:

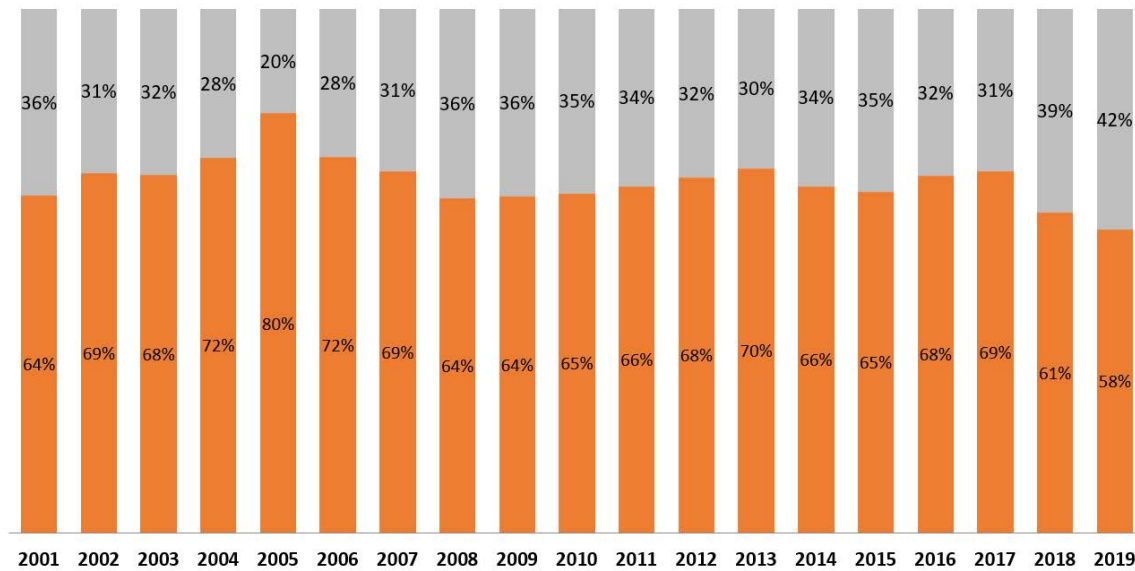
- 1) The research is based on a database download of March 6, 2020.
- 2) The data counts all restatements when a registrant files multiple restatements.
- 3) Annual restatements include all the filings that disclosed affected period of 360 days or more.
- 4) The restatement population is filtered in order to avoid the double counting of restatements by assigning one representative for a group of interconnected non-tickered companies that file analogous restatements and by not counting the restatement of a subsidiary if the parent files an analogous restatement. (See Population section on page 2 of report.)

RESTATEMENT ANALYSIS

YEARLY PERCENTAGE OF QUARTERLY VS. ANNUAL RESTATEMENTS

Yearly Percentage of Restatements

Quarterly | Annual



Percentage of Quarterly vs. Annual Restatements

Disclosure Year	Total Restatements	Quarterly Restatements		Annual Restatements	
		Total	%	Total	%
2001	626	223	35.6%	403	64.4%
2002	694	218	31.4%	476	68.6%
2003	790	251	31.8%	539	68.2%
2004	952	271	28.5%	681	71.5%
2005	1,582	316	20.0%	1,266	80.0%
2006	1,869	528	28.3%	1,341	71.7%
2007	1,276	395	31.0%	881	69.0%
2008	968	350	36.2%	618	63.8%
2009	831	297	35.7%	534	64.3%
2010	852	300	35.2%	552	64.8%
2011	845	286	33.8%	559	66.2%
2012	854	275	32.2%	579	67.8%
2013	877	267	30.4%	610	69.6%
2014	859	291	33.9%	568	66.1%
2015	757	264	34.9%	493	65.1%
2016	683	218	31.9%	465	68.1%
2017	580	180	31.0%	400	69.0%
2018	554	215	38.8%	339	61.2%
2019	484	204	42.15%	280	57.85%

Notes

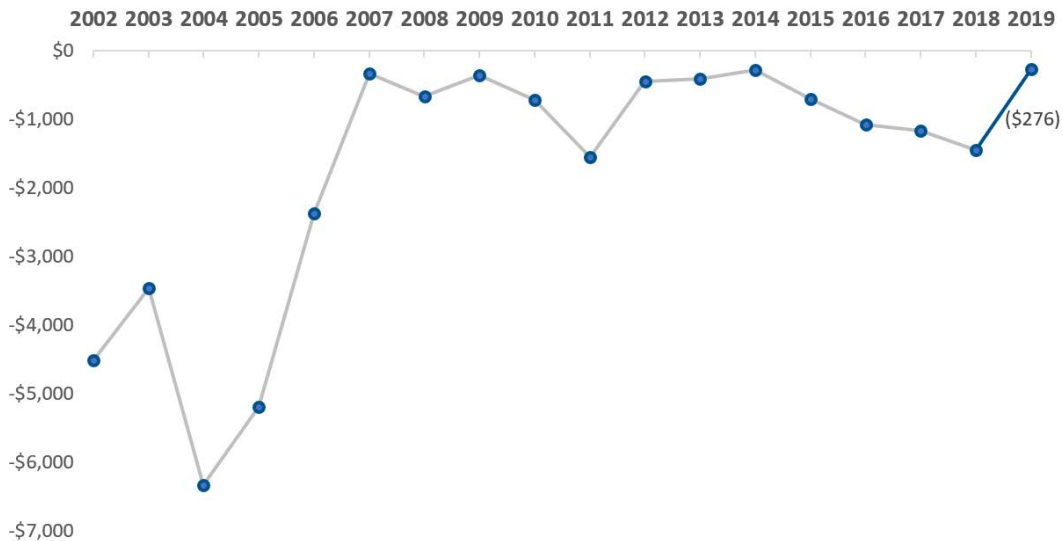
- 1) The research is based on a database download of March 6, 2020.
- 2) The data counts all restatements when a registrant files multiple restatements.
- 3) Annual restatements include all the filings that disclosed affected period of 360 days or more.
- 4) The % columns are based on a total number of Restatements filed for the particular year (see also, table on page 13: Total Restatements by Year).

RESTATEMENT ANALYSIS

LARGEST NEGATIVE RESTATEMENT BY YEAR

Largest Negative Restatements

in millions USD



Largest Negative Restatements by Year

Disclosure Year	Company	Market	Impact on Net Income
2002	TYCO INTERNATIONAL LTD	NYSE	(\$4,512,700,000)
2003	HEALTHSOUTH CORP	NYSE	(\$3,465,294,000)
2004	FEDERAL NAT'L MORT. ASSOC. (Fannie Mae)	NYSE	(\$6,335,000,000)
2005	AMERICAN INTERNATIONAL GROUP INC	NYSE	(\$5,193,000,000)
2006	NAVISTAR INTERNATIONAL CORP	NYSE	(\$2,377,000,000)
2007	GENERAL ELECTRIC CO	NYSE	(\$341,000,000)
2008	TMST, Inc.		(\$670,730,000)
2009	UBS AG	NYSE	(\$357,210,000)
2010	TELECOM ITALIA S P A	NYSE	(\$716,971,200)
2011	CHINA UNICOM (HONG KONG) Ltd	NYSE	(\$1,556,743,500)
2012	JPMORGAN CHASE & CO	NYSE	(\$459,000,000)
2013	QUICKSILVER RESOURCES INC	NYSE	(\$419,880,000)
2014	COMPUTER SCIENCES CORP	NYSE	(\$286,000,000)
2015	ALPHABET	NYSE	(\$711,000,000)
2016	ING GROEP NV	NYSE	(\$1,085,484,400)
2017	PERRIGO CO plc	NYSE	(\$1,177,100,000)
2018	OI S.A. (formerly Brasil Telecom SA)	OTC	(\$1,456,000,000)
2019	BAXTER INTERNATIONAL INC	NYSE	(\$276,000,000)

RESTATEMENT ANALYSIS OF COMPANIES LISTED ON NYSE, NASDAQ, OR NYSE MKT (FORMERLY AMEX)

Restatement Breakdown by Market

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
NYSE MKT	41	62	28	33	23	23	18	17	18	15	5	20
NASDAQ	161	25	130	122	153	196	198	161	173	116	145	167
NYSE	76	135	76	102	138	188	208	181	155	144	116	115
OTC	333	251	257	194	74	48	28	25	0	0	145	93
Not listed	167	157	208	251	325	304	294	279	269	230	60	49
Total	778	630	699	702	713	759	746	663	615	505	471	444

Cumulative Impact on Net Income of Publicly Traded Companies

Disclosure Year	Negative Restatements		Positive Restatements		Total Restatements		Average Income Adjustment Per Restatement
	Negative Restatements	Aggregate Negative Dollar Value	Positive Restatements	Aggregate Positive Dollar Value	Total Restatements	Aggregate Dollar Value	
2007	408	-\$3,155,057,234	82	\$1,371,387,861	490	-\$1,783,669,373	-\$3,640,142
2008	242	-\$2,178,565,096	54	\$365,278,885	296	-\$1,813,286,210	-\$6,125,967
2009	195	-\$1,244,458,512	37	\$171,550,251	232	-\$1,072,908,261	-\$4,624,605
2010	193	-\$1,897,623,362	46	\$479,344,342	239	-\$1,418,279,021	-\$5,934,222
2011	209	-\$4,254,251,707	55	\$837,790,171	264	-\$3,416,461,536	-\$12,941,142
2012	277	-\$2,812,012,413	58	\$858,566,185	335	-\$1,953,446,228	-\$5,831,183
2013	371	-\$2,459,912,328	74	\$1,031,330,131	445	-\$1,428,582,197	-\$3,210,297
2014	343	-\$2,242,729,683	97	\$674,254,188	440	-\$1,568,475,495	-\$3,564,717
2015	299	-\$2,749,740,923	96	\$695,683,887	395	-\$2,054,057,036	-\$5,200,144
2016	296	-\$3,897,118,612	76	\$692,937,475	372	-\$3,204,181,137	-\$8,613,390
2017	230	-\$4,383,957,169	83	\$745,845,703	313	-\$3,638,111,466	-\$11,623,359
2018	225	-\$4,387,641,935	70	\$685,916,739	295	-\$3,701,725,196	-\$12,548,221
2019	259	-\$1,420,485,351	80	\$1,000,687,049	341	-\$419,798,302	-\$1,231,080

Restatements with No Impact on Income Statements

Disclosure Year	Total Restatements	Restatements with No Impact	%
2007	490	181	36.94%
2008	296	99	33.45%
2009	232	72	31.03%
2010	239	95	39.75%
2011	264	97	36.74%
2012	335	157	46.87%
2013	445	235	52.81%
2014	440	264	60.00%
2015	395	218	55.19%
2016	372	220	59.14%
2017	313	168	53.67%
2018	295	158	53.56%
2019	310	176	56.77%

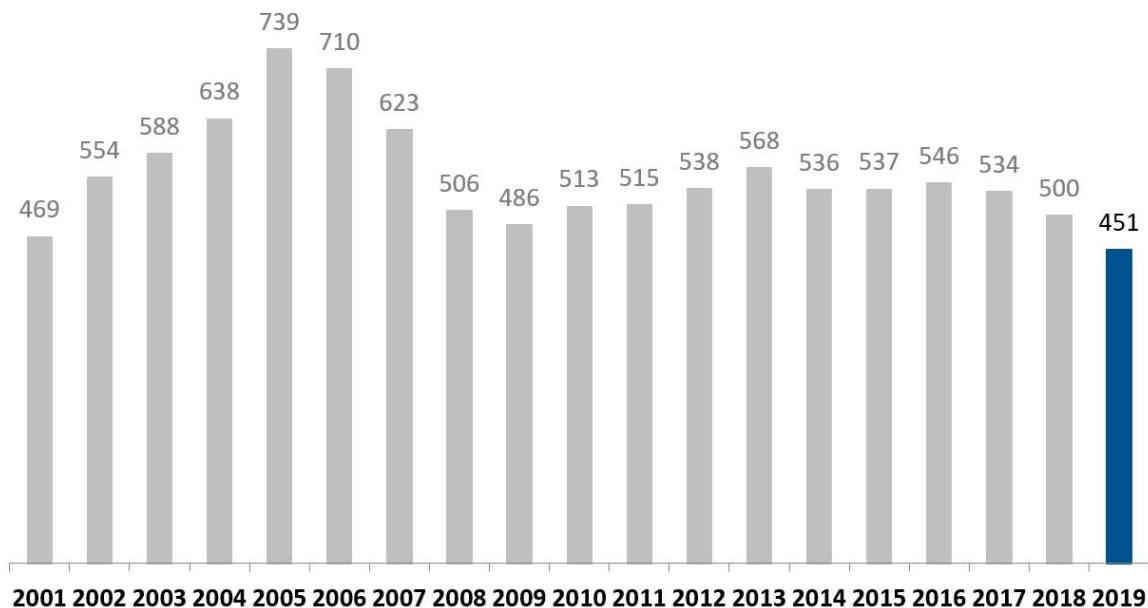
Notes

- 1) The 2018 data is based on a download of March 6, 2020 with prior years from prior reports.
- 2) The three tables above present data of the markets as constituted in the corresponding year.
- 3) In the center table, the cumulative impact on an income statement reported in foreign currency is converted to US dollars historical conversion rate as of the date of the restatement announcement.
- 4) The types of restatements that may have no impact on an income statement include, but are not limited to, restatements addressing (1) certain tax adjustments, (2) cash flow statements, (3) debt reclassification from short term to long term, (4) earning per share adjustments, and (5) redistribution of income from year to year without a net change in income.

RESTATEMENT ANALYSIS

AVERAGE RESTATEMENT PERIOD BY YEAR

Average Number of Days per Restatement Period



Average Restatement Period

Disclosure Year	Restatements	Average Number of Days Restated	Days Growth
2001	626	469	
2002	694	554	18.2%
2003	790	588	6.2%
2004	952	638	8.5%
2005	1,582	739	15.8%
2006	1,869	710	-3.9%
2007	1,276	623	-12.3%
2008	968	506	-18.7%
2009	831	486	-4.0%
2010	852	513	5.6%
2011	845	515	0.4%
2012	854	538	4.5%
2013	877	568	5.6%
2014	859	536	-5.6%
2015	757	537	0.2%
2016	683	546	1.7%
2017	580	534	-2.2%
2018	554	500	-6.4%
2019	484	451	-9.8%

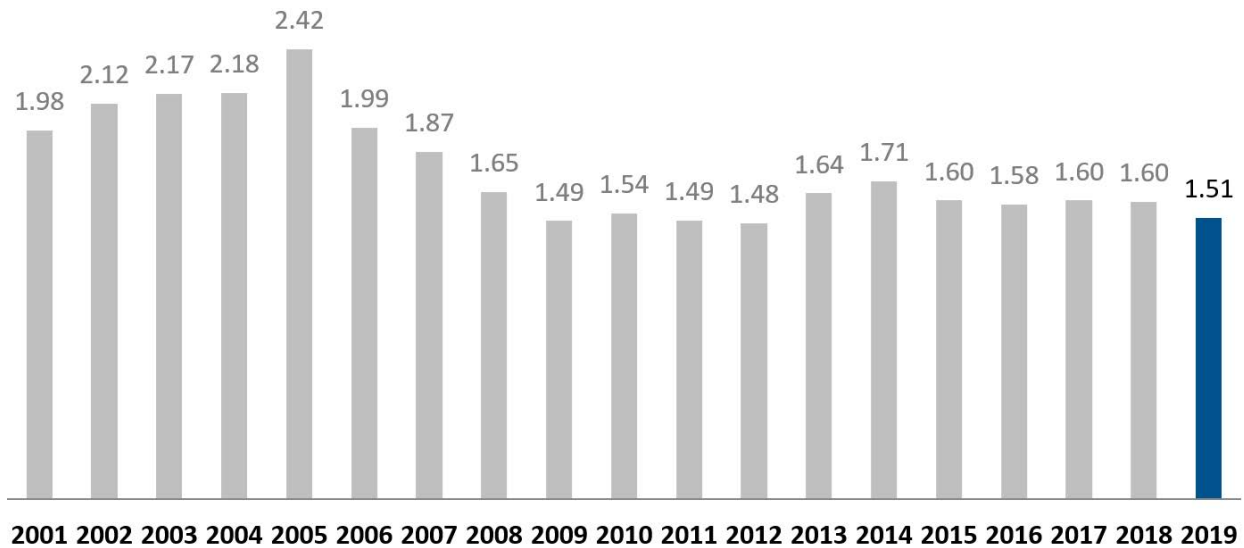
Notes

- 1) The research is based on a database download of March 6, 2020.
- 2) For detail on the total number of restatements per year, see table on page 13: Total Restatements by Year.
- 3) The Total Days Restated is based on the non-reliance period disclosed by entities in their 8-K filings. The actual restated period may differ from the period disclosed in an 8-K.

RESTATEMENT ISSUES ANALYSIS

AVERAGE NUMBER OF ISSUES PER RESTATEMENT

Average Number of Issues per Restatement



Average Number of Issues per Restatement

Disclosure Year	Total Issues Restated	Total Restatements	Average # of Issues
2001	1,239	626	1.98
2002	1,474	694	2.12
2003	1,718	790	2.17
2004	2,076	952	2.18
2005	3,824	1,582	2.42
2006	3,724	1,869	1.99
2007	2,380	1,276	1.87
2008	1,597	968	1.65
2009	1,241	831	1.49
2010	1,308	852	1.54
2011	1,263	845	1.49
2012	1,266	854	1.48
2013	1,440	877	1.64
2014	1,467	859	1.71
2015	1,214	757	1.60
2016	1,081	683	1.58
2017	930	580	1.60
2018	884	554	1.60
2019	730	484	1.51

Notes

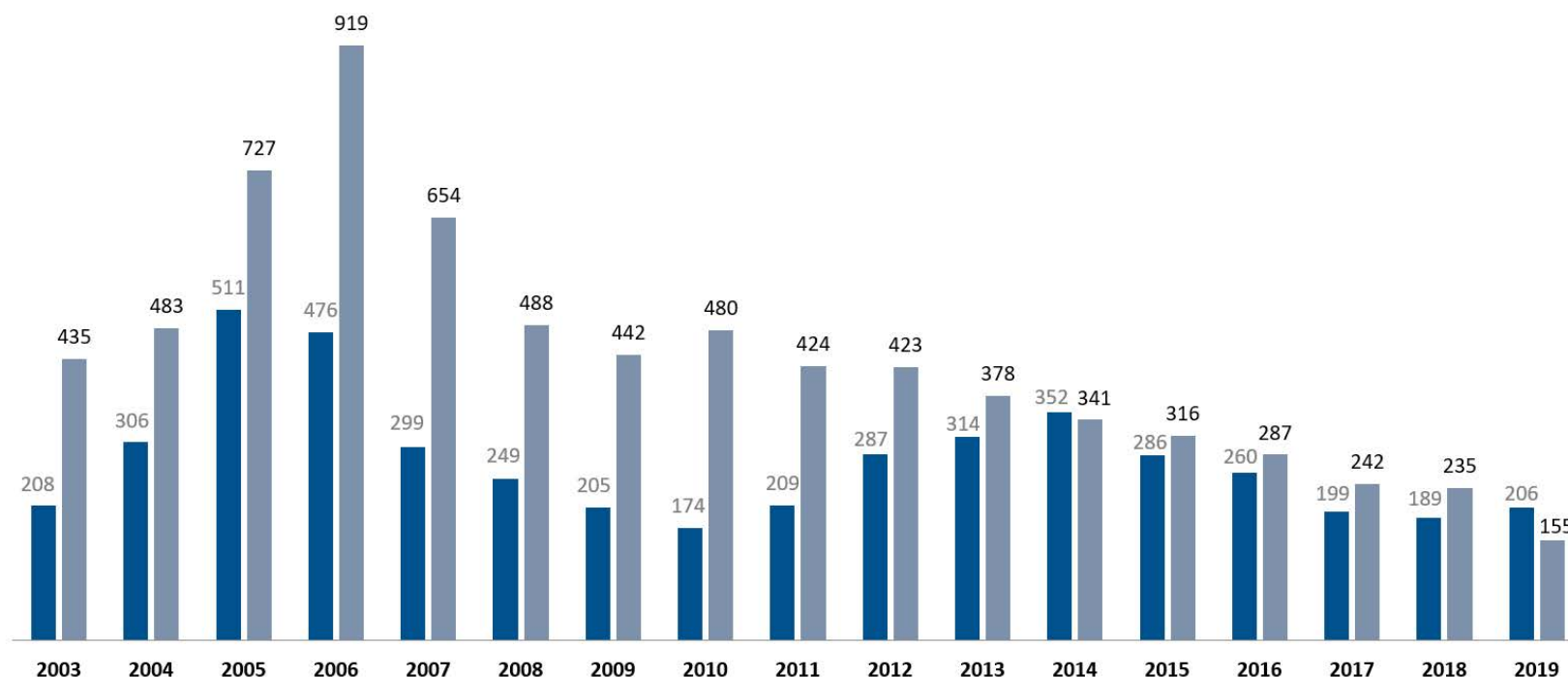
- 1) The research is based on a database download of March 6, 2020.
- 2) This data tracks the occurrence of the 24 issues listed in the table on page 24: Restatement Issue Breakdown by Year. Refer to page 24 and 25 to obtain a breakdown of the total number of issues restated per year.
- 3) For detail on the total number of restatements per year, see table named All Restatements by Year.

RESTATEMENT ANALYSIS

RESTATING REGISTRANTS BY ACCELERATED FILER STATUS

Restating Registrants by Accelerated Filer Status

Accelerated Filers vs. Non-Accelerated Filers



Restating Registrant by Accelerated Filer Status

Filer Status	2003		2004		2005		2006		2007		2008		2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%		
Acc. Foreign Filers	8	1.1%	5	0.6%	47	3.2%	55	3.4%	44	3.7%	16	1.8%	17	2.2%	29	3.5%	29	3.8%	21	2.6%	28	3.7%	28	3.8%	24	3.5%	41	7.3%	35	6.5%	34	5.7%	34	7.7%
Non-Acc.Foreign Filers	83	11.3%	78	8.8%	146	10.2%	188	11.5%	157	13.6%	119	13.6%	101	13.2%	121	15.0%	108	14.0%	68	8.5%	71	9.0%	52	6.7%	57	8.3%	38	6.1%	54	10.2%	49	9.7%	49	11.0%
Acc. U.S. Filers	208	28.3%	306	35.1%	511	35.7%	476	29.1%	299	25.9%	249	28.6%	205	26.8%	174	21.6%	209	27.1%	287	35.9%	314	39.7%	352	45.5%	286	41.9%	260	41.5%	199	37.5%	189	37.3%	206	46.4%
Non-Acc. U.S. Filers	435	59.3%	483	55.5%	727	50.8%	919	56.1%	654	56.7%	488	56.0%	442	57.8%	480	59.7%	424	55.1%	423	52.9%	378	47.8%	341	44.1%	316	46.3%	287	45.8%	242	45.7%	235	46.4%	155	34.9%
Total Unique Restaters	734		872		1431		1638		1154		872		765		804		770		799		791		773		683		626		530		507		444	

Notes

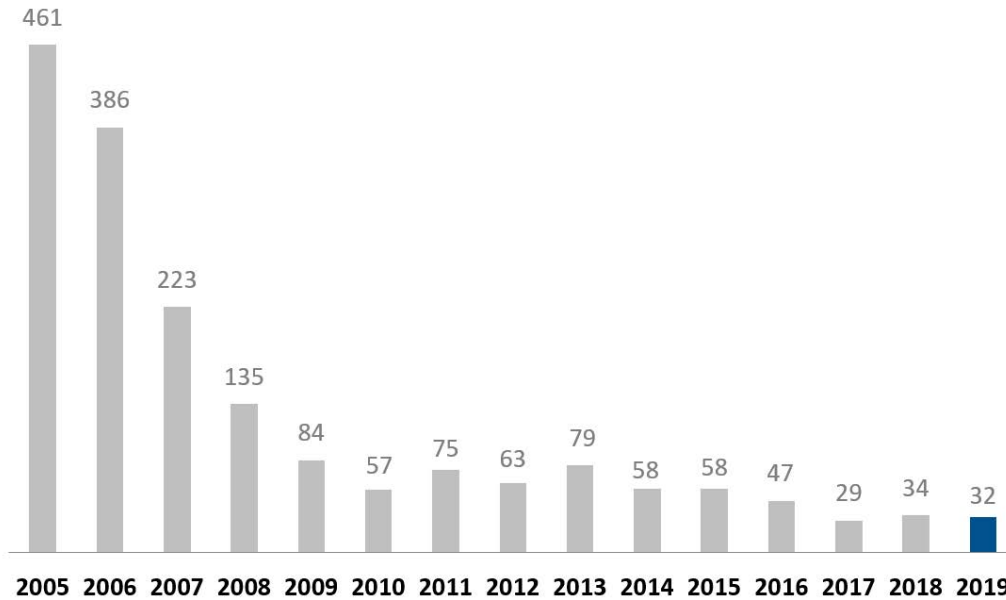
- 1) The research is based on a database download of March 6, 2020.
- 2) The # in this table represents unique companies and the % is based on the Total Unique Restaters for the particular year.
- 3) A registrant's accelerated filer status is determined from the last filing of the relevant year.
- 4) Foreign filers include Canadian registrants.

RESTATEMENTS FROM ACCELERATED FILERS

WITH PRIOR FORM 8-K, ITEM 4.02 DISCLOSURE (PRIOR FINANCIALS COULD NO LONGER BE RELIED UPON)

Reissuance Restatements by Accelerated Filers

Restatements with Form 8-K, Item 4.02 Disclosure



Restatements With Prior Form 8-K, Item 4.02 Disclosure

Disclosure Year	Total Restatements	Total Restatements From 10-K Filers	Restatements from 10-K Accelerated Filers with an 8-K, Item 4.02
2005	1,582	1,431	461
2006	1,869	1,716	386
2007	1,276	1,156	223
2008	968	928	135
2009	831	791	84
2010	852	812	57
2011	845	800	75
2012	854	817	63
2013	877	820	79
2014	859	825	58
2015	757	719	58
2016	683	620	47
2017	580	506	29
2018	554	506	34
2019	484	419	32

Notes

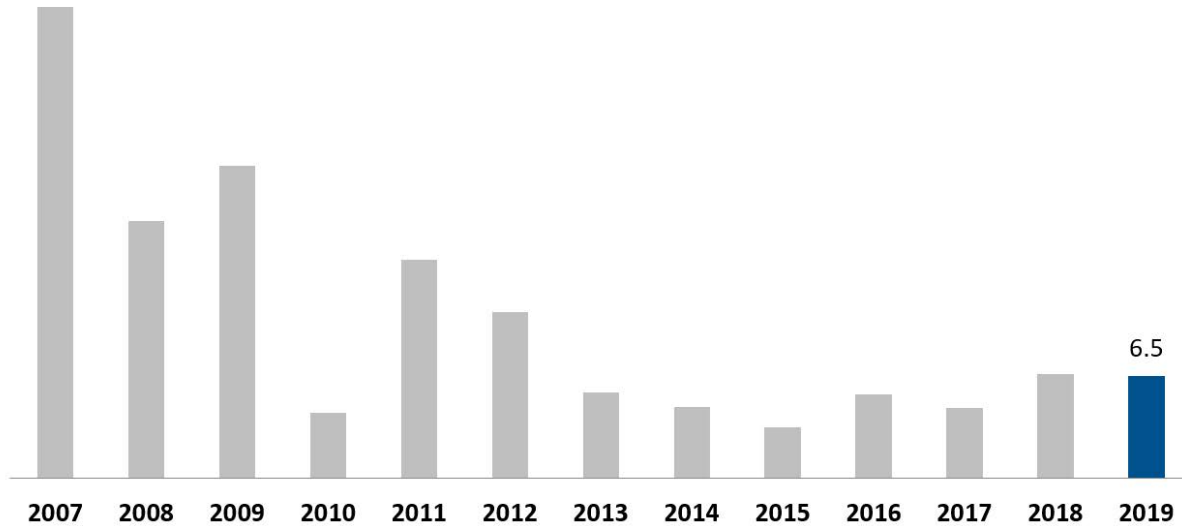
- 1) The research is based on a database download of March 6, 2020.
- 2) In response to Section 409 of the Sarbanes-Oxley Act of 2002, entitled “Real Time Issuer Disclosures,” the SEC identified new reportable items that must be disclosed in an 8-K within four business days. This new set of disclosure requirements became effective on August 23, 2004 and applied to all registrants that file 10-Ks for annual reports. One of the new reportable events that triggers a disclosure is the conclusion that a past financial statement should “no longer be relied upon.” Such a disclosure must be given in the Item 4.02 of the Form 8-K.
- 3) When a company concludes that it must issue a financial restatement that will undermine reliance on one or more past financial statements, the company must file a disclosure in an 8-K, Item 4.02. Audit Analytics uses the term “Reissuance Restatement” when past reliance is undermined.

RESTATEMENT ANALYSIS

AVERAGE NUMBER OF DAYS TO RESTATE

(A HISTORICAL REVIEW OF COMPANIES TRADED ON THE NYSE, NASDAQ, OR NYSE MKT (FORMERLY AMEX))

Average Number of Days to File a Restatement



Average Number of Days to File a Restatement

Disclosure Year	Days
2007	30.1
2008	16.4
2009	20.0
2010	4.1
2011	13.9
2012	10.6
2013	5.5
2014	4.5
2015	3.2
2016	5.4
2017	4.5
2018	6.6
2019	6.5

Notes

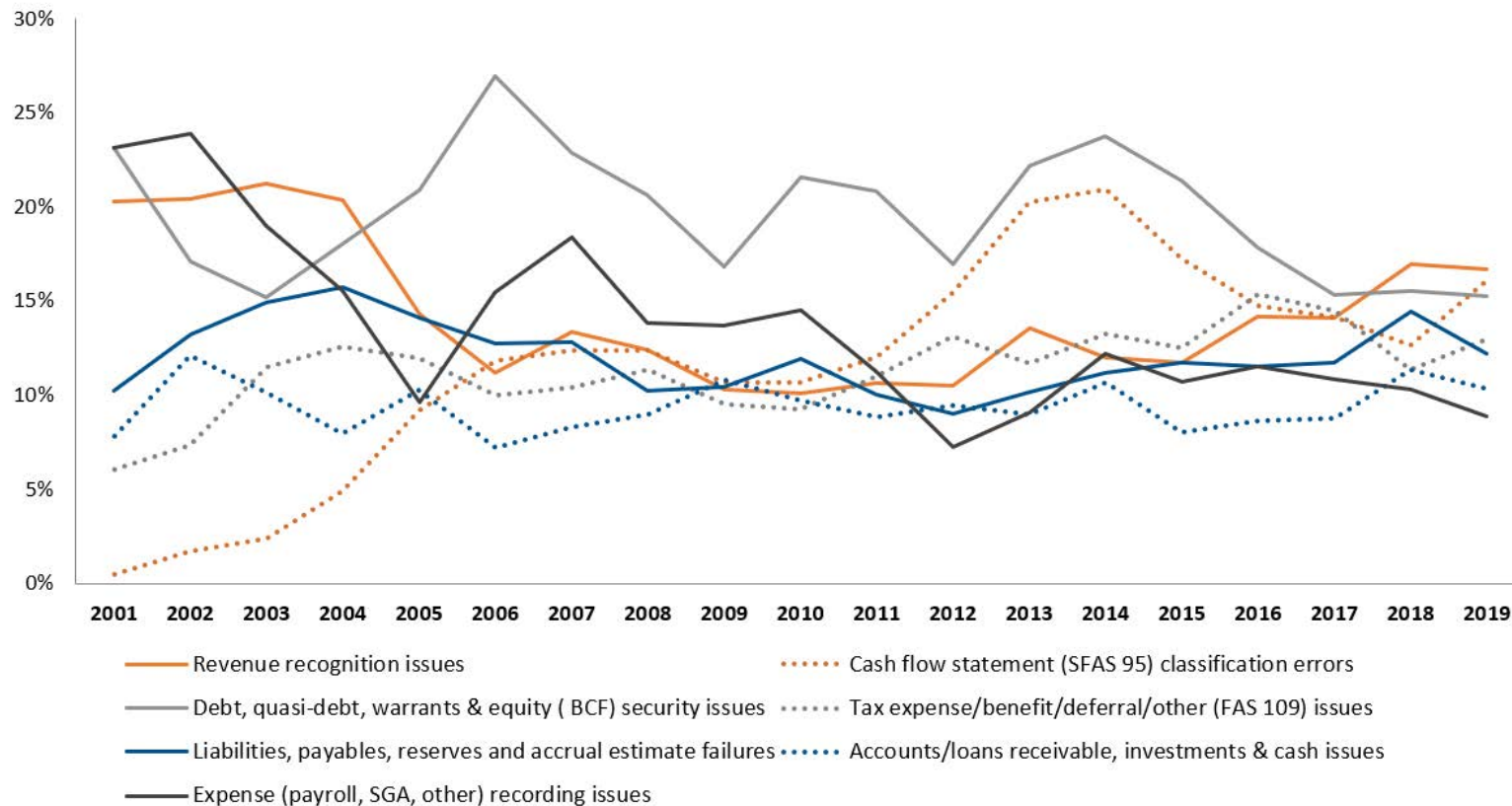
- 1) The research is based on a database download of March 6, 2020.
- 2) The durations above are calculated by applying zero days to any Revision Restatement (a restatement that need not be disclosed in a Form 8-K, Item 4.02).
- 3) This analysis provides results that would increase if performed at a later date because the results do not include restatements disclosed but not yet reissued. A restatement not yet reissued has an increased likelihood of adding a data point with a larger duration than the present average. Audit Analytics, nevertheless, provides this information because each year shown was created in the same manner and thus the years are comparable.

RESTATEMENT ISSUES ANALYSIS

HISTORICAL PERCENTAGE OF TOP SEVEN ISSUES OF 2019

Frequency of Issue Occurrence in Restatements

Historical Percentage of Seven Issues in 2019



Frequency of Issue Occurrence in Restatements - Top Issues in 2019

Accounting Issue Restated	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Revenue recognition issues	20.3%	20.5%	21.3%	20.4%	14.3%	11.2%	13.4%	12.4%	10.3%	10.1%	10.7%	10.5%	13.6%	12.0%	11.8%	14.2%	14.1%	17.0%	16.7%
Cash flow statement (SFAS 95) classification errors	0.5%	1.7%	2.4%	4.9%	9.2%	11.9%	12.4%	12.4%	10.7%	10.7%	12.1%	15.5%	20.3%	21.0%	17.3%	14.8%	14.1%	12.6%	16.1%
Debt, quasi-debt, warrants & equity (BCF) security issues	23.2%	17.1%	15.2%	18.1%	20.9%	27.0%	22.9%	20.7%	16.8%	21.6%	20.8%	17.0%	22.2%	23.7%	21.4%	17.9%	15.3%	15.5%	15.3%
Tax expense/benefit/deferral/other (FAS 109) issues	6.1%	7.3%	11.5%	12.6%	12.0%	10.0%	10.4%	11.4%	9.5%	9.3%	11.0%	13.1%	11.7%	13.3%	12.5%	15.4%	14.5%	11.4%	13.0%
Liabilities, payables, reserves and accrual estimate failures	10.2%	13.3%	14.9%	15.8%	14.1%	12.7%	12.9%	10.2%	10.5%	12.0%	10.1%	9.0%	10.1%	11.2%	11.8%	11.6%	11.7%	14.4%	12.2%
Accounts/loans receivable, investments & cash issues	7.8%	12.1%	10.1%	8.0%	10.3%	7.2%	8.3%	9.0%	10.8%	9.7%	8.9%	9.5%	9.0%	10.7%	8.1%	8.6%	8.8%	11.4%	10.3%
Expense (payroll, SGA, other) recording issues	23.2%	23.9%	19.0%	15.5%	9.7%	15.5%	18.4%	13.8%	13.7%	14.6%	11.2%	7.3%	9.1%	12.2%	10.7%	11.6%	10.9%	10.3%	8.9%

RESTATEMENT ISSUES ANALYSIS

BREAKDOWN BY YEAR

Accounting Issue Restated	2001		2002		2003		2004		2005		2006		2007		2008	
	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³
Revenue recognition issues	127	20.3%	142	20.5%	168	21.3%	194	20.4%	227	14.3%	209	11.2%	171	13.4%	120	12.4%
Cash flow statement (SFAS 95) classification errors	3	0.5%	12	1.7%	19	2.4%	47	4.9%	145	9.2%	222	11.9%	158	12.4%	120	12.4%
Debt, quasi-debt, warrants & equity (BCF) security issues	145	23.2%	119	17.1%	120	15.2%	172	18.1%	331	20.9%	504	27.0%	292	22.9%	200	20.7%
Tax expense/benefit/deferral/other (FAS 109) issues	38	6.1%	51	7.3%	91	11.5%	120	12.6%	190	12.0%	187	10.0%	133	10.4%	110	11.4%
Liabilities, payables, reserves and accrual estimate failures	64	10.2%	92	13.3%	118	14.9%	150	15.8%	223	14.1%	238	12.7%	164	12.9%	99	10.2%
Accounts/loans receivable, investments & cash issues	49	7.8%	84	12.1%	80	10.1%	76	8.0%	163	10.3%	135	7.2%	106	8.3%	87	9.0%
Expense (payroll, SGA, other) recording issues	145	23.2%	166	23.9%	150	19.0%	148	15.5%	153	9.7%	290	15.5%	235	18.4%	134	13.8%
Foreign, related party, affiliated, or subsidiary issues	59	9.4%	76	11.0%	93	11.8%	115	12.1%	196	12.4%	209	11.2%	120	9.4%	53	5.5%
Inventory, vendor and/or cost of sales issues	53	8.5%	67	9.7%	75	9.5%	91	9.6%	144	9.1%	134	7.2%	71	5.6%	55	5.7%
Consolidation issues incl Fin 46 variable interest & off-B/S	44	7.0%	49	7.1%	78	9.9%	97	10.2%	138	8.7%	143	7.7%	57	4.5%	63	6.5%
Acquisitions, mergers, disposals, re-org acct issues	127	20.3%	103	14.8%	127	16.1%	155	16.3%	247	15.6%	272	14.6%	166	13.0%	113	11.7%
EPS, ratio and classification of income statement issues	28	4.5%	35	5.0%	34	4.3%	52	5.5%	91	5.8%	82	4.4%	64	5.0%	42	4.3%
PPE intangible or fixed asset (value/diminution) issues	69	11.0%	76	11.0%	116	14.7%	132	13.9%	210	13.3%	185	9.9%	94	7.4%	61	6.3%
Deferred, stock-based and/or executive comp issues	92	14.7%	95	13.7%	105	13.3%	111	11.7%	202	12.8%	337	18.0%	179	14.0%	125	12.9%
Lease, SFAS 5, legal, contingency and commitment issues	15	2.4%	44	6.3%	53	6.7%	61	6.4%	281	17.8%	83	4.4%	41	3.2%	18	1.9%
Depreciation, depletion or amortization errors	29	4.6%	43	6.2%	47	5.9%	73	7.7%	231	14.6%	83	4.4%	53	4.2%	34	3.5%
Gain or loss recognition issues	40	6.4%	43	6.2%	54	6.8%	42	4.4%	87	5.5%	68	3.6%	33	2.6%	28	2.9%
Balance sheet classification of assets issues	15	2.4%	19	2.7%	28	3.5%	34	3.6%	64	4.0%	52	2.8%	37	2.9%	22	2.3%
Debt and/or equity classification issues	27	4.3%	31	4.5%	55	7.0%	58	6.1%	58	3.7%	82	4.4%	52	4.1%	23	2.4%
Capitalization of expenditures issues	26	4.2%	53	7.6%	43	5.4%	56	5.9%	224	14.2%	58	3.1%	50	3.9%	32	3.3%
Comprehensive income issues	3	0.5%	1	0.1%	4	0.5%	5	0.5%	34	2.1%	15	0.8%	17	1.3%	7	0.7%
Intercompany, investment in subs./affiliate issues	23	3.7%	35	5.0%	28	3.5%	41	4.3%	86	5.4%	42	2.2%	26	2.0%	20	2.1%
Financial derivatives/hedging (FAS 133) acct issues	16	2.6%	33	4.8%	13	1.6%	26	2.7%	70	4.4%	68	3.6%	36	2.8%	20	2.1%
Pension and other post-retirement benefit issues	2	0.3%	5	0.7%	19	2.4%	20	2.1%	29	1.8%	26	1.4%	25	2.0%	11	1.1%
Total Issues⁴	1,239		1,474		1,718		2,076		3,824		3,724		2,380		1,597	

Notes

- 1) The research is based on a database download of March 6, 2020.
- 2) The data counts all restatements when a registrant files multiple restatements.
- 3) The % columns indicate how many restatements of the particular year affected the listed issue. The percentages are based on a total number of restatements filed: 626 in 2001; 694 in 2002; 790 in 2003; 952 in 2004; 1582 in 2005; 1869 in 2006; 1276 in 2007; 968 in 2008; 831 in 2009; 852 in 2010; 845 in 2011; 854 in 2012; 877 in 2013; and 859 in 2014; 757 in 2015; 683 in 2016; 580 in 2017; 554 in 2018; and 484 in 2019. (See table on page 13: Total Restatements by Year).
- 4) The Total Issues are used for the Average Issues per Restatement graph and table presented on page 19.

RESTATEMENT ISSUES ANALYSIS

BREAKDOWN BY YEAR

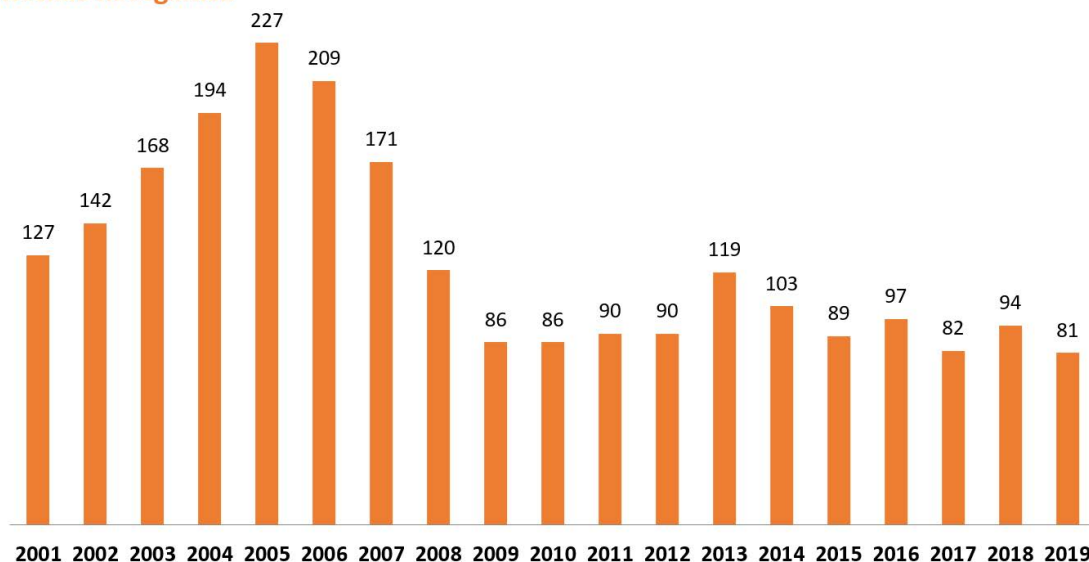
- CONTINUED -

2009		2010		2011		2012		2013		2014		2015		2016		2017		2018		2019	
#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³	#	% ³
86	10.3%	86	10.1%	90	10.7%	90	10.5%	119	13.6%	103	12.0%	89	11.8%	97	14.2%	82	14.1%	94	17.0%	81	16.7%
89	10.7%	91	10.7%	102	12.1%	132	15.5%	178	20.3%	180	21.0%	131	17.3%	101	14.8%	82	14.1%	70	12.6%	78	16.1%
140	16.8%	184	21.6%	176	20.8%	145	17.0%	195	22.2%	204	23.7%	162	21.4%	122	17.9%	89	15.3%	86	15.5%	74	15.3%
79	9.5%	79	9.3%	93	11.0%	112	13.1%	103	11.7%	114	13.3%	95	12.5%	105	15.4%	84	14.5%	63	11.4%	63	13.0%
87	10.5%	102	12.0%	85	10.1%	77	9.0%	89	10.1%	96	11.2%	89	11.8%	79	11.6%	68	11.7%	80	14.4%	59	12.2%
90	10.8%	83	9.7%	75	8.9%	81	9.5%	79	9.0%	92	10.7%	61	8.1%	59	8.6%	51	8.8%	63	11.4%	50	10.3%
114	13.7%	124	14.6%	95	11.2%	62	7.3%	80	9.1%	105	12.2%	81	10.7%	79	11.6%	63	10.9%	57	10.3%	43	8.9%
60	7.2%	69	8.1%	54	6.4%	74	8.7%	98	11.2%	100	11.6%	86	11.4%	62	9.1%	59	10.2%	41	7.4%	40	8.3%
47	5.7%	36	4.2%	46	5.4%	49	5.7%	72	8.2%	77	9.0%	60	7.9%	60	8.8%	37	6.4%	58	10.5%	37	7.6%
49	5.9%	54	6.3%	53	6.3%	33	3.9%	61	7.0%	27	3.1%	46	6.1%	39	5.7%	35	6.0%	27	4.9%	33	6.8%
71	8.5%	76	8.9%	86	10.2%	106	12.4%	60	6.8%	56	6.5%	56	7.4%	48	7.0%	52	9.0%	45	8.1%	29	6.0%
36	4.3%	39	4.6%	35	4.1%	30	3.5%	27	3.1%	34	4.0%	26	3.4%	23	3.4%	25	4.3%	23	4.2%	25	5.2%
49	5.9%	63	7.4%	71	8.4%	62	7.3%	50	5.7%	62	7.2%	49	6.5%	51	7.5%	46	7.9%	21	3.8%	23	4.8%
92	11.1%	95	11.2%	71	8.4%	64	7.5%	62	7.1%	56	6.5%	48	6.3%	39	5.7%	40	6.9%	45	8.1%	20	4.1%
11	1.3%	9	1.1%	11	1.3%	17	2.0%	17	1.9%	14	1.6%	17	2.2%	19	2.8%	18	3.1%	18	3.2%	20	4.1%
24	2.9%	24	2.8%	25	3.0%	22	2.6%	26	3.0%	23	2.7%	21	2.8%	15	2.2%	12	2.1%	22	4.0%	11	2.3%
13	1.6%	15	1.8%	14	1.7%	15	1.8%	10	1.1%	16	1.9%	11	1.5%	11	1.6%	13	2.2%	7	1.3%	9	1.9%
9	1.1%	12	1.4%	12	1.4%	27	3.2%	25	2.9%	24	2.8%	18	2.4%	14	2.0%	24	4.1%	14	2.5%	8	1.7%
24	2.9%	18	2.1%	16	1.9%	8	0.9%	11	1.3%	19	2.2%	12	1.6%	6	0.9%	9	1.6%	13	2.3%	7	1.4%
31	3.7%	18	2.1%	13	1.5%	21	2.5%	28	3.2%	19	2.2%	13	1.7%	16	2.3%	14	2.4%	14	2.5%	6	1.2%
4	0.5%	5	0.6%	15	1.8%	9	1.1%	14	1.6%	9	1.0%	7	0.9%	8	1.2%	6	1.0%	8	1.4%	5	1.0%
10	1.2%	8	0.9%	8	0.9%	18	2.1%	12	1.4%	16	1.9%	15	2.0%	14	2.0%	11	1.9%	7	1.3%	4	0.8%
20	2.4%	9	1.1%	11	1.3%	6	0.7%	12	1.4%	10	1.2%	14	1.8%	11	1.6%	4	0.7%	5	0.9%	3	0.6%
6	0.7%	9	1.1%	6	0.7%	6	0.7%	12	1.4%	11	1.3%	7	0.9%	3	0.4%	6	1.0%	3	0.5%	2	0.4%
1,241		1,308		1,263		1,266		1,440		1,467		1,214		1,081		930		884		730	

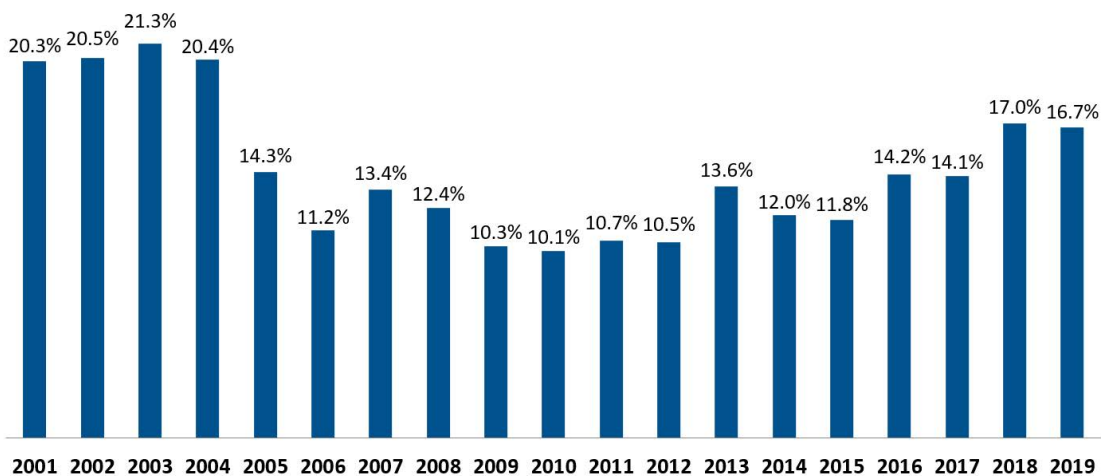
RESTATEMENT ISSUES ANALYSIS

REVENUE RECOGNITION ISSUES

Revenue Recognition



Revenue Recognition Issues as Percentage of All Restatements



Revenue Recognition Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Revenue Restatements	127	142	168	194	227	209	171	120	86	86	90	90	119	103	89	97	82	94	81
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	20.3%	20.5%	21.3%	20.4%	14.3%	11.2%	13.4%	12.4%	10.3%	10.1%	10.7%	10.5%	13.6%	12.0%	11.8%	14.2%	14.1%	17.0%	16.7%

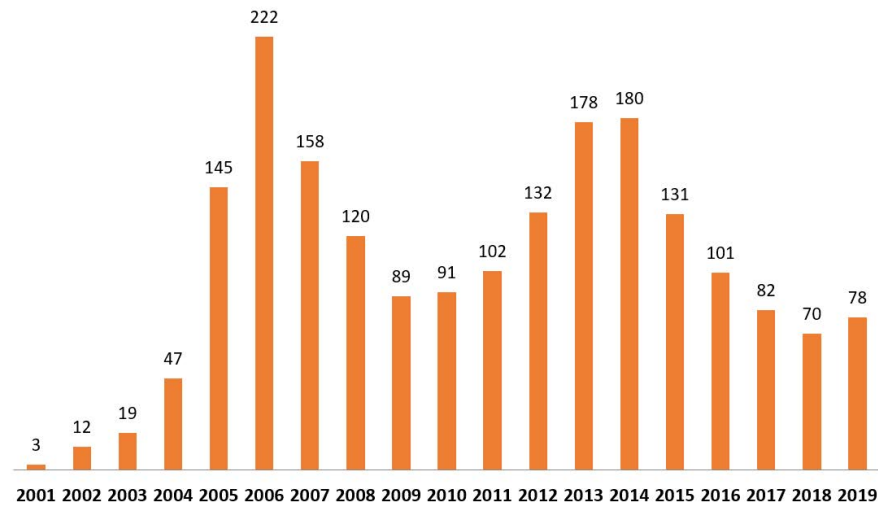
Notes

- 1) The research is based on a database download of March 6, 2020.
- 2) The data counts all restatements when a registrant files multiple restatements.
- 3) The % of All Restatements row is based on a total number of restatements filed for the particular year (see also, table on page 13: Total Restatements by Year).
- 4) 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.

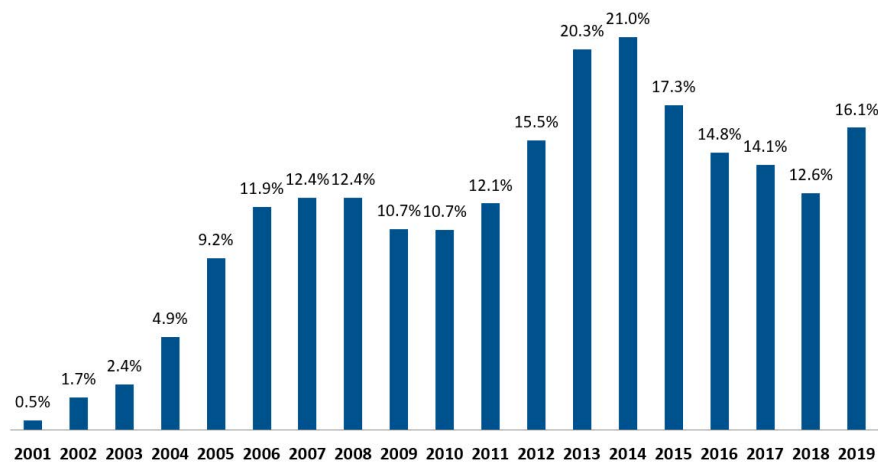
RESTATEMENT ISSUES ANALYSIS

CASH FLOW STATEMENT (SFAS 95) CLASSIFICATION ERRORS

Cash Flow Statement (SFAS 95) Classification Errors



Cash Flow Statement (SFAS 95) Classification Errors as a Percentage of All Restatements



Cash Flow Statement (SFAS 95) Classification Errors

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cash Flow Restatements	3	12	19	47	145	222	158	120	89	91	102	132	178	180	131	101	82	70	78
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	0.5%	1.7%	2.4%	4.9%	9.2%	11.9%	12.4%	12.4%	10.7%	10.7%	12.1%	15.5%	20.3%	21.0%	17.3%	14.8%	14.1%	12.6%	16.1%

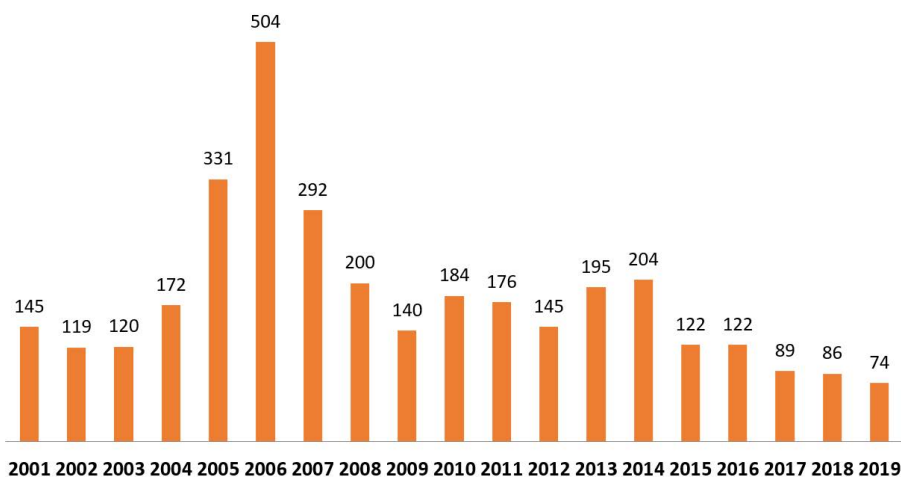
Notes

- 1) The research is based on a database download of March 6, 2020.
- 2) The data counts all restatements when a registrant files multiple restatements.
- 3) The % of All Restatements row is based on a total number of restatements filed for the particular year (see also, table on page 13: Total Restatements by Year).
- 4) Cash Flow Statement Issues consist 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 investments.

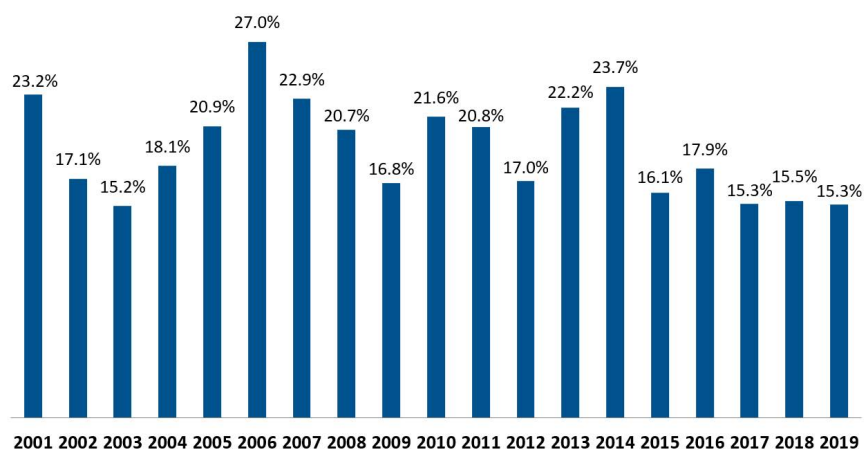
RESTATEMENT ISSUES ANALYSIS

DEBT, QUASI-DEBT, WARRANTS & EQUITY (BCF) SECURITY ISSUES

Debt/Quasi-Debt/Warrants/Equity Accounting



Debt/Quasi-Debt/Warrants/Equity Accounting Issues as a Percentage of All Restatements



Debt/Quasi-Debt/Warrants/Equity Accounting Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Debt Restatements	145	119	120	172	331	504	292	200	140	184	176	145	195	204	122	122	89	86	74
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	23.2%	17.1%	15.2%	18.1%	20.9%	27.0%	22.9%	20.7%	16.8%	21.6%	20.8%	17.0%	22.2%	23.7%	16.1%	17.9%	15.3%	15.5%	15.3%

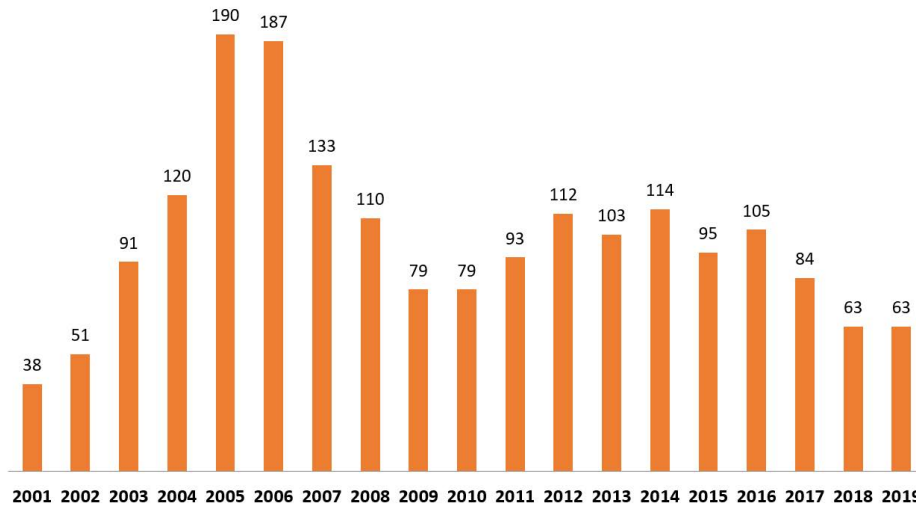
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- 3) The % of All Restatements row are based on a total number of restatements filed for the particular year (see also, table on page 13: Total Restatements by Year).
- 4) Debt, Quasi-Debt, Warrants & Equity (BCF) Security Issues consists of errors 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). 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. Often FAS 123 (financial derivative) requirements are at issue.

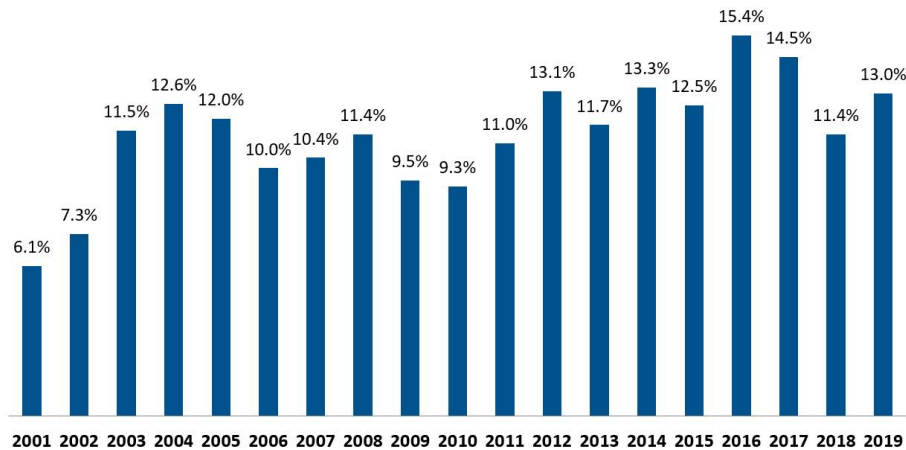
RESTATEMENT ISSUES ANALYSIS

TAX EXPENSE/BENEFIT/DEFERRAL/OTHER (FAS 109) ISSUES

Tax Expense/Benefit/Deferral/ Other (FAS 109)



Tax Expense/Benefit/Deferral/ Other (FAS 109) Issues as a Percentage of All Restatements



Tax Expense/Benefit/Deferral/ Other (FAS 109) Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Tax/Expense Restatements	38	51	91	120	190	187	133	110	79	79	93	112	103	114	95	105	84	63	63
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	6.1%	7.3%	11.5%	12.6%	12.0%	10.0%	10.4%	11.4%	9.5%	9.3%	11.0%	13.1%	11.7%	13.3%	12.5%	15.4%	14.5%	11.4%	13.0%

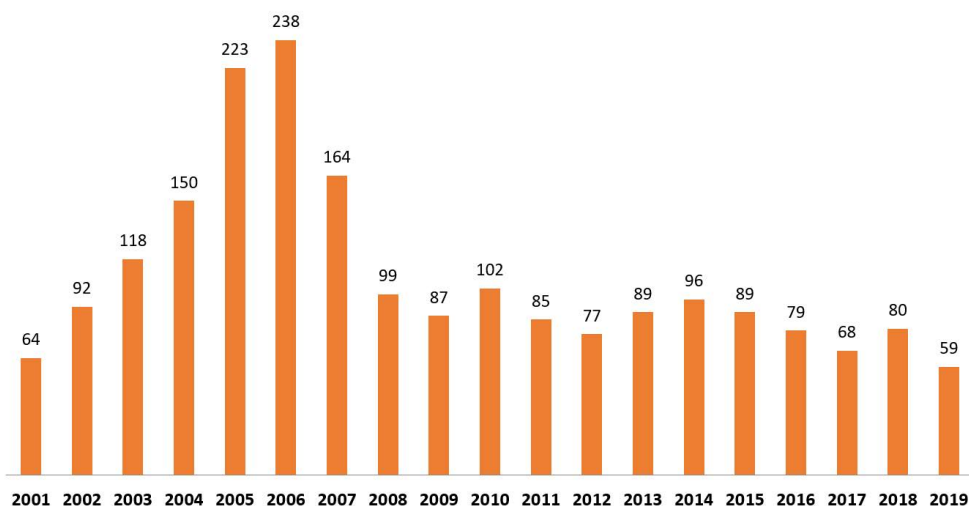
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- 3) The % of All Restatements row is based on a total number of restatements filed for the particular year (see also, table on page 13: Total Restatements by Year).
- 4) Tax Expense/Benefit/Deferral/Other (FAS 109) Issues consist of errors or irregularities 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.

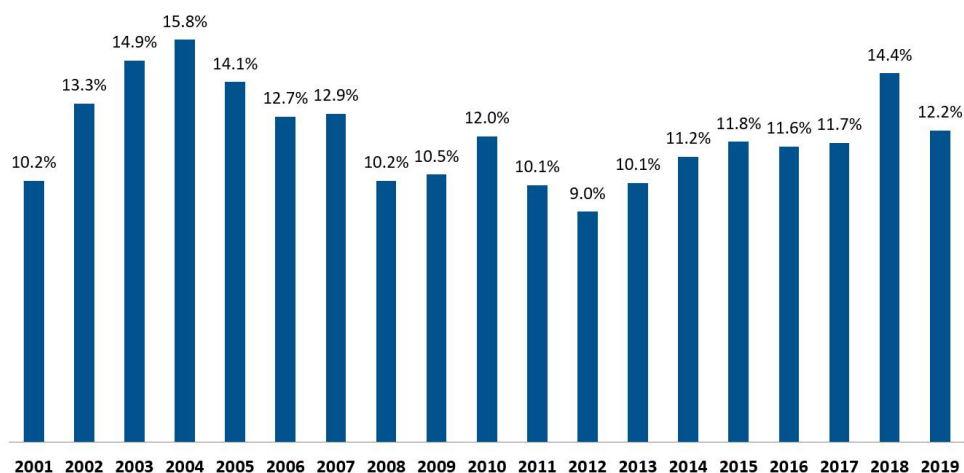
RESTATEMENT ISSUES ANALYSIS

LIABILITIES, PAYABLES, RESERVES AND ACCRUAL ESTIMATE FAILURES

Liabilities/Payables/Reserves/Accrual Estimate Failures



Liabilities/Payables/Reserves/Accrual Estimate Failures Issues as a Percentage of All Restatements



Liabilities/Payables/Reserves/Accrual Estimate Failures Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Liabilities Restatements	64	92	118	150	223	238	164	99	87	102	85	77	89	96	89	79	68	80	59
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	10.2%	13.3%	14.9%	15.8%	14.1%	12.7%	12.9%	10.2%	10.5%	12.0%	10.1%	9.0%	10.1%	11.2%	11.8%	11.6%	11.7%	14.4%	12.2%

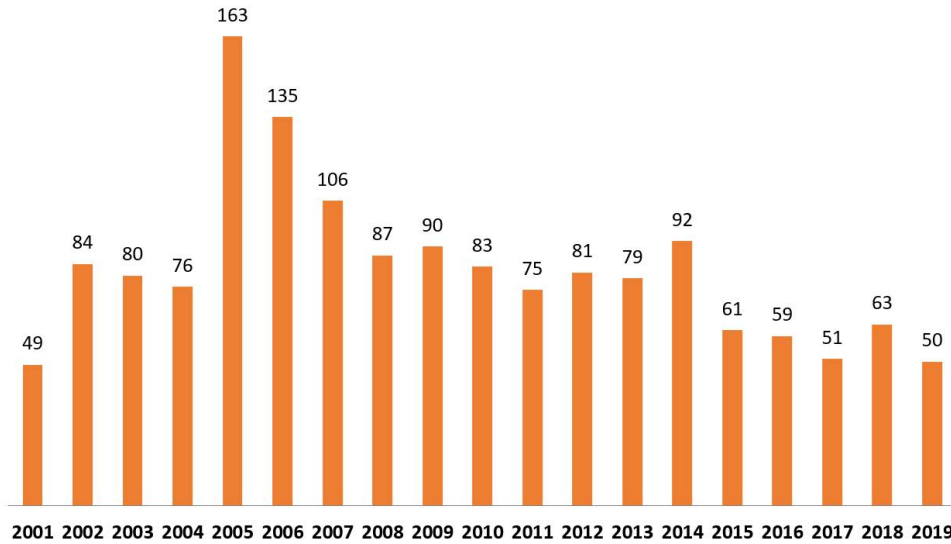
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- 3) The % of All Restatements row are based on a total number of restatements filed for the particular year (see also, table on page 13: Total Restatements by Year).
- 4) Liabilities, Payables, Reserves and Accrual Estimate Failures consist of errors, 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, and capital leases. This category could also include failures to record deferred revenue obligations or normal accruals.

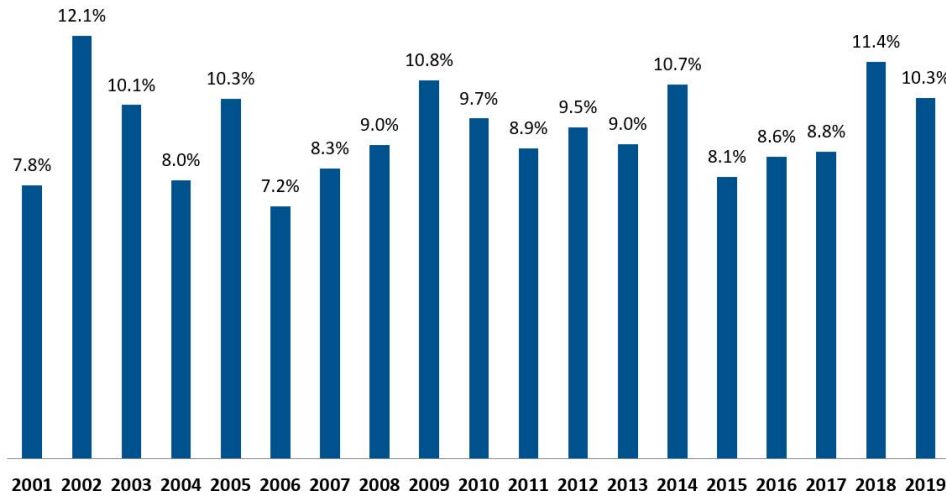
RESTATEMENT ISSUES ANALYSIS

ACCOUNTS/LOANS RECEIVABLE, INVESTMENTS & CASH ISSUES

Accounts/Loans Receivable, Investments & Cash



Accounts/Loans Receivable, Investments & Cash Issues as a Percentage of All Restatements



Accounts/Loans Receivable, Investments & Cash Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Accounts/Loans Receivable	49	84	80	76	163	135	106	87	90	83	75	81	79	92	61	59	51	63	50
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	7.8%	12.1%	10.1%	8.0%	10.3%	7.2%	8.3%	9.0%	10.8%	9.7%	8.9%	9.5%	9.0%	10.7%	8.1%	8.6%	8.8%	11.4%	10.3%

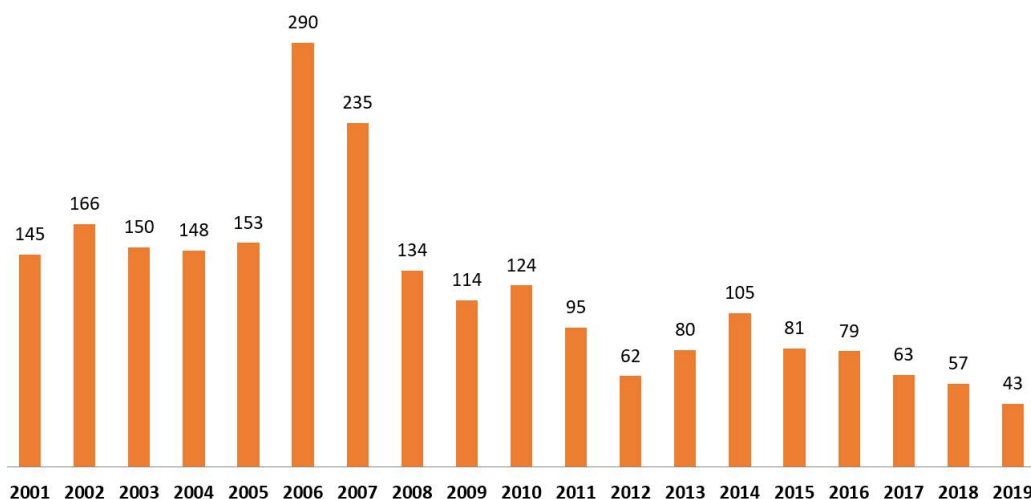
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- 3) The % of All Restatements row is based on a total number of restatements filed for the particular year (see also, table on page 13: Total Restatements by Year).
- 4) Accounts/Loans Receivable, Investments & Cash Issues consist of errors or irregularities 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.

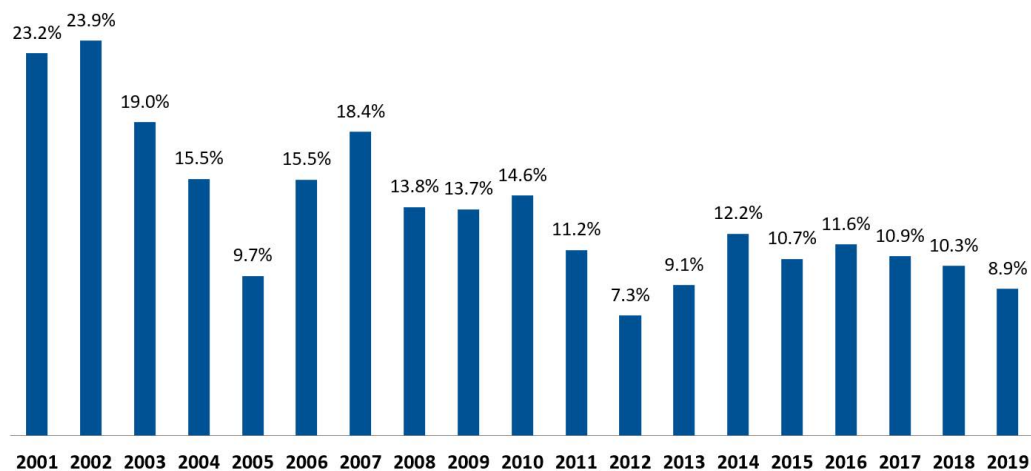
RESTATEMENT ISSUES ANALYSIS

EXPENSE (PAYROLL, SGA, OTHER) RECORDING ISSUES

Expense (Payroll, SGA, Other) Recording



Expense Recording Issues as a Percentage of All Restatements



Expense (Payroll, SGA, Other) Recording Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Expense Restatements	145	166	150	148	153	290	235	134	114	124	95	62	80	105	81	79	63	57	43
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	23.2%	23.9%	19.0%	15.5%	9.7%	15.5%	18.4%	13.8%	13.7%	14.6%	11.2%	7.3%	9.1%	12.2%	10.7%	11.6%	10.9%	10.3%	8.9%

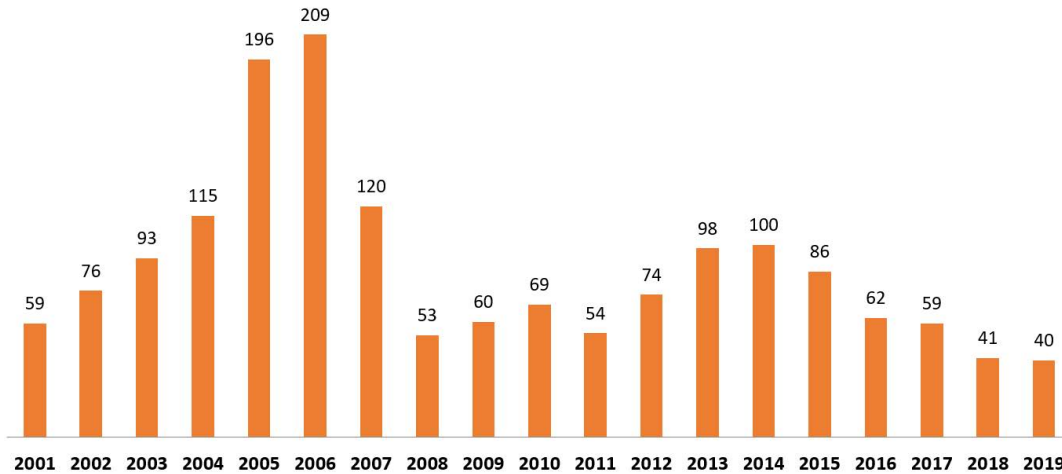
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- 4) Expense (Payroll, SGA, Other) Recording Issues consists of errors or irregularities in approach, theory or calculation associated with the expensing of assets or understatement of liabilities. These issues can arise from any number of areas including failure to record certain expenses, reconcile certain accounts, or record certain payables on a timely basis. Also issues with payroll expenses or SGA expenses are identified with this category.

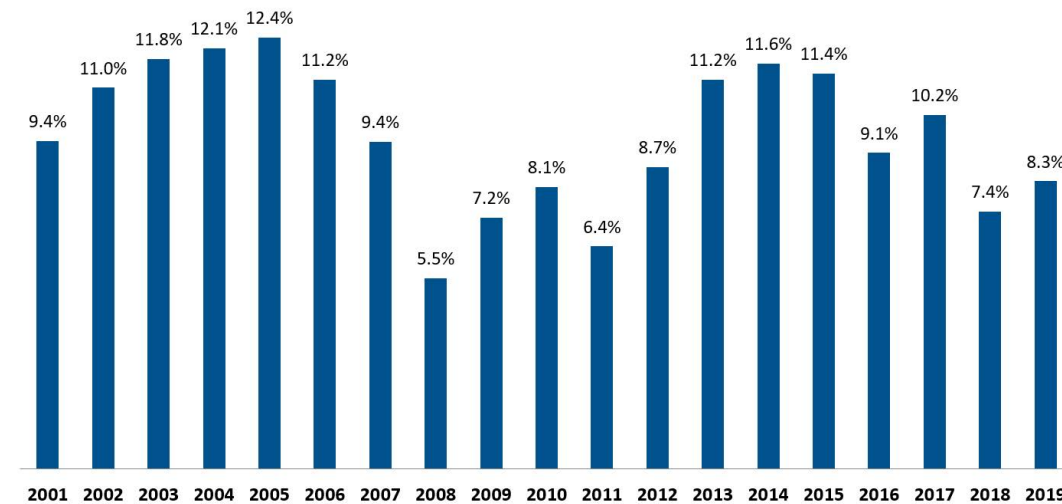
RESTATEMENT ISSUES ANALYSIS

FOREIGN, RELATED PARTY, AFFILIATED, OR SUBSIDIARY

Foreign, Related Party, Affiliated, or Subsidiary



Foreign, Related Party, Affiliated, or Subsidiary Issues as a Percentage of All Restatements



Foreign, Related Party, Affiliated, or Subsidiary Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Inventory Issues	59	76	93	115	196	209	120	53	60	69	54	74	98	100	86	62	59	41	40
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	9.4%	11.0%	11.8%	12.1%	12.4%	11.2%	9.4%	5.5%	7.2%	8.1%	6.4%	8.7%	11.2%	11.6%	11.4%	9.1%	10.2%	7.4%	8.3%

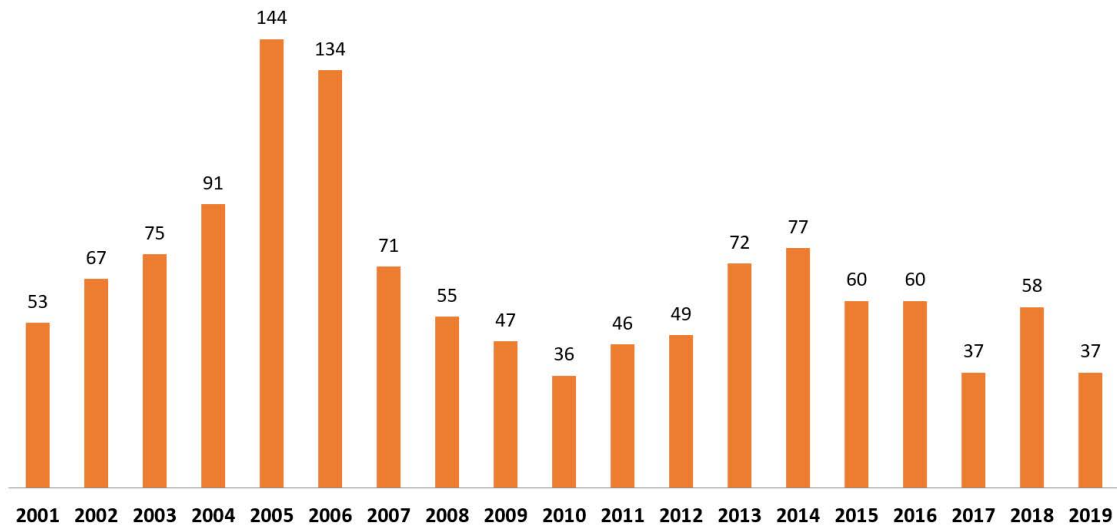
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- 4) Foreign Related Party, Affiliated, or Subsidiary Issues consists primarily of errors, omissions or irregularities associated with disclosures about related, alliance, and/or subsidiary entities.

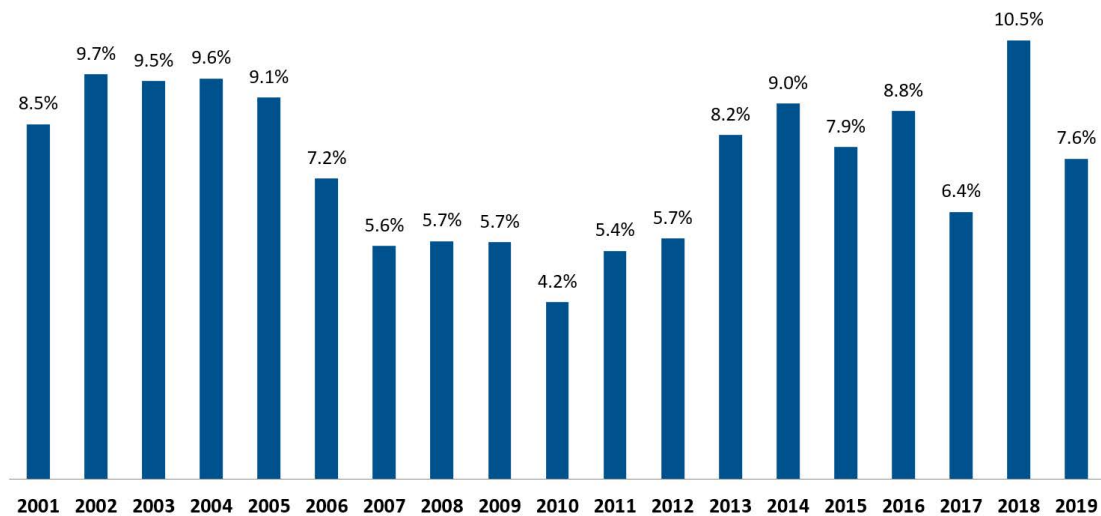
RESTATEMENT ISSUES ANALYSIS

INVENTORY, VENDOR, COST OF SALES

Inventory, Vendor, Cost of Sales



Inventory, Vendor, Cost of Sales Issues as a Percentage of All Restatements



Inventory, Vendor, Cost of Sales Issues

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Inventory Issues	53	67	75	91	144	134	71	55	47	36	46	49	72	77	60	60	37	58	37
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	8.5%	9.7%	9.5%	9.6%	9.1%	7.2%	5.6%	5.7%	5.7%	4.2%	5.4%	5.7%	8.2%	9.0%	7.9%	8.8%	6.4%	10.5%	7.6%

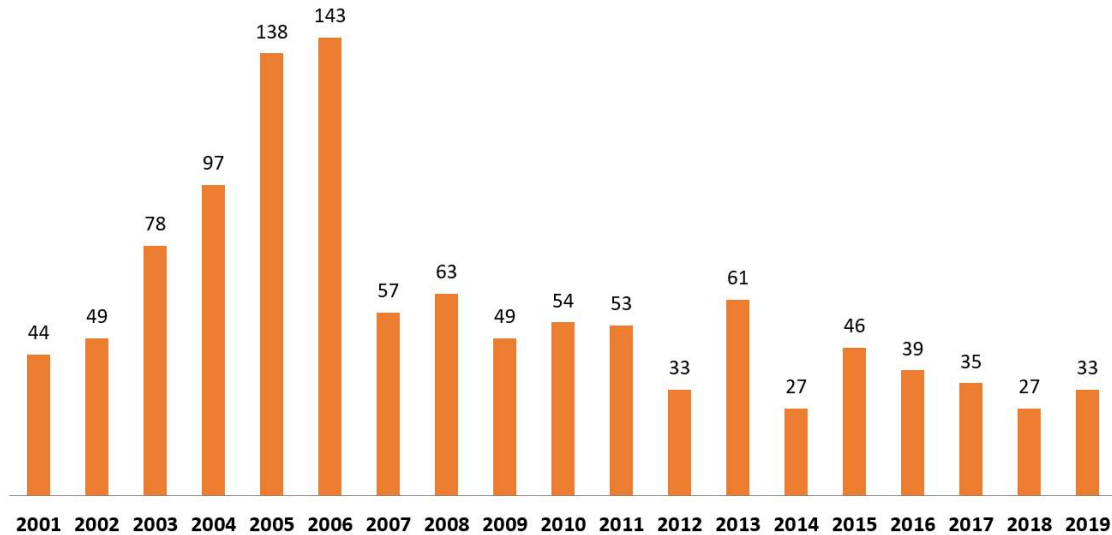
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- 4) Inventory, Vendor, Cost of Sales Issues consist of errors or irregularities in approach, theory or calculation associated with transactions affecting inventory, vendor relationships (including rebates) and/or cost of sales. Such errors primarily are related to the capitalization of activities in inventory or the calculation of balances at year end.

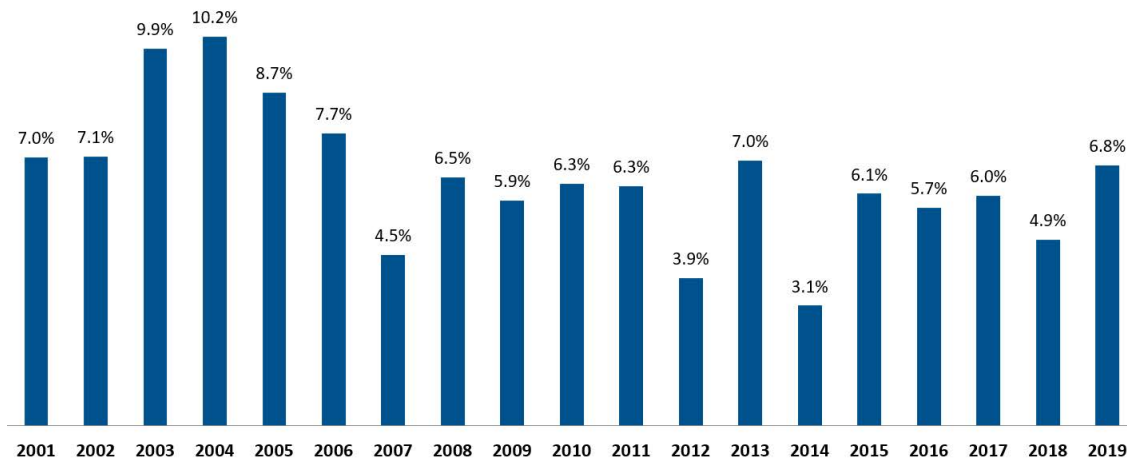
RESTATEMENT ISSUES ANALYSIS

CONSOLIDATION ISSUES

Consolidation Issues Including Fin 46 Variable Interest & Off- Balance Sheet



Consolidation Issues Including Fin 46 Variable Interest & Off-Balance Sheet as a Percentage of All Restatements



Consolidation Issues Including Fin 46 Variable Interest & Off-Balance Sheet

Disclosure Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Acquisitions Restatements	44	49	78	97	138	143	57	63	49	54	53	33	61	27	46	39	35	27	33
Total Restatements	626	694	790	952	1,582	1,869	1,276	968	831	852	845	854	877	859	757	683	580	554	484
% of All Restatements	7.0%	7.1%	9.9%	10.2%	8.7%	7.7%	4.5%	6.5%	5.9%	6.3%	6.3%	3.9%	7.0%	3.1%	6.1%	5.7%	6.0%	4.9%	6.8%

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4) Consolidation Issues, Including Fin 46 Variable Interest & Off-Balance Sheet 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.

RESTATEMENT ANALYSIS

TOP 25 LARGEST RESTATEMENTS DISCLOSED IN 2019

Top 25 Largest Restatements Disclosed in 2019

Company	Disclosure Date	Restated Period Begin	Restated Period Ended	Impact on Net Income
Fangdd Network Group Ltd. [DUO]	2019-04-26	2016-01-01	2017-12-31	\$320,465,990
Baxter International, Inc [BAX]	2019-10-24	2014-01-01	2019-06-30	(\$276,000,000)
Molson Coors Beverage Co [TAP]	2019-02-12	2016-01-01	2018-09-30	(\$247,700,000)
Kraft Heinz Co [KHC]	2019-02-21	2015-01-01	2018-12-30	(\$130,000,000)
Qualcomm Inc DE [QCOM]	2019-01-30	2016-08-01	2018-09-30	(\$121,000,000)
KT CORP [KT]	2019-03-11	2016-01-01	2017-12-31	\$114,174,961
WideOpenWest, Inc. [WOW]	2019-03-07	2016-01-01	2018-09-30	\$102,700,000
Marriott International Inc [MAR]	2019-02-28	2018-01-01	2018-09-30	\$99,000,000
Brigham Minerals, Inc. [MNRL]	2019-03-18	2017-01-01	2017-12-31	\$94,600,000
WEX Inc. [WEX]	2019-03-04	2014-01-01	2018-09-30	(\$90,238,000)
Athene Holding Ltd [ATH]	2019-02-25	2014-01-01	2018-09-30	(\$81,000,000)
Tenneco Inc [TEN]	2019-03-01	2014-01-01	2018-09-30	(\$61,000,000)
Equitable Holdings, Inc. [EQH]	2019-08-09	2018-01-01	2018-09-30	\$52,000,000
China Recycling Energy Corp [CREG]	2019-04-05	2016-01-01	2018-09-30	(\$48,420,525)
FTE Networks, Inc. [FTNW]	2019-04-01	2016-01-01	2018-09-30	(\$47,405,000)
AAC Holdings, Inc. [AACH]	2019-03-19	2015-01-01	2018-09-30	(\$45,179,000)
Thomson Reuters Corp [TRI]	2019-11-04	2018-07-01	2019-06-30	(\$37,000,000)
Armstrong World Industries Inc [AWI]	2019-07-29	2018-10-01	2018-12-31	(\$35,200,000)
Activision Blizzard, Inc. [ATVI]	2019-05-02	2018-01-01	2018-12-31	\$35,000,000
Henry Jack & Associates Inc [JKHY]	2019-08-26	2018-04-01	2018-06-30	(\$27,858,000)
Team Inc [TISI]	2019-03-12	2017-01-01	2018-09-30	\$25,752,000
Copa Holdings, S.A. [CPA]	2019-01-08	2015-01-01	2017-12-31	(\$24,641,000)
Newell Brands Inc. [NWL]	2019-05-08	2018-10-01	2018-12-31	(\$24,600,000)
Iron Mountain Inc. [IRM]	2019-08-01	2017-01-01	2018-12-31	(\$23,100,000)
Marriott Vacations Worldwide Corp [VAC]	2019-03-01	2018-07-01	2018-09-30	\$22,000,000

Contact us for a complete list of restatements disclosed in 2019.

Call us at 508-476-7007 or email at info@auditanalytics.com.

FINANCIAL RESTATEMENT ISSUES

DEFINITIONS

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.

Acquisitions, Mergers, Disposal, Reorganization Accounting 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.

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.

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.

Cash Flow Statement (FAS 95) Classification Errors Issues

Consists of errors or irregularities in approach, theory or calculation that manifested themselves in cash flow statements that are not consistent with GAAP. These misclassifications can affect cash flow from operations, financing, non-cash and other investments. (FAS 95 classification errors)

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.

Consolidation Issues, Including Fin 46 Variable Interest & Off-Balance Sheet

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.

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.

FINANCIAL RESTATEMENT ISSUES

DEFINITIONS

Debt, Quasi-debt, Warrants, Equity (BCF) 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). 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. Often FAS 123 (financial derivative) requirements are at issue.

Deferred, Stock-Based or Executive Compensation 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. A sub-category (FAS 123) has been created to capture only these issues.

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.

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.

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 SGA expenses are identified with this category.

Financial Derivatives, Hedging (FAS 133) Accounting 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.

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.

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 barter.

FINANCIAL RESTATEMENT ISSUES

DEFINITIONS

Intercompany, Investment in Subsidiary/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.

Inventory, Vendor, 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.

Lease, Legal, FAS 5 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.

Liabilities, Payables, Reserves and Accrual 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, and capital leases. These categories could also include failures to record deferred revenue obligations or normal accruals.

Pension Issues

Includes liability and other issues related to pensions.

PPE, Intangible, Fixed Asset 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.

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.

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.

AUDIT, REGULATORY AND DISCLOSURE INTELLIGENCE

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