2017 U.S. Goodwill Impairment Study

November 2017

INSIDE

INTRODUCTION

Duff & Phelps and the Financial Executives Research Foundation ("FERF") first published the results of their comprehensive Goodwill Impairment Study in 2009. This inaugural study examined U.S. publicly-traded companies' recognition of goodwill impairment at the height of the financial crisis (the end of 2008 and the beginning of 2009), and featured a comparative analysis of the goodwill impairments of over 5,000 companies (by industry), as well as the findings of a survey of Financial Executives International ("FEI") members.

Now in its ninth year of publication, the 2017 U.S. Goodwill Impairment Study (the "2017 Study") continues to examine general and industry goodwill impairment trends of 8,400+ U.S. publicly-traded companies through December 2016. The 2017 Study also reports the results of this year's annual survey of FEI members, which continues to track the level of usage of the optional qualitative goodwill impairment test (a.k.a. "Step 0") by its members.

The accounting model for goodwill under U.S. GAAP has been simplified through the issuance in January 2017 of Accounting Standards Update (ASU) No. 2017-04, *Intangibles — Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment*. The new guidance eliminated Step 2 of the quantitative two-step test, and changed the computation of goodwill impairment (if any) to be based on the difference between the fair value and carrying amount of the reporting unit. The 2017 Study features an interview conducted by FERF with Gary Roland, Managing Director at Duff & Phelps, discussing the highlights of this year's survey, including FEI members' expectations regarding the impact of the new ASU on their goodwill impairment testing.

View the 2017 U.S. Goodwill Impairment Study Online
Duff & Phelps' Goodwill Impairment Studies are online back to 2012.
Access historical studies covering the U.S., Europe, and Canada.
www.duffandphelps.com/GWIStudies

Purpose of the 2017 Study

- To report and examine the general and industry trends of goodwill and goodwill impairment of U.S. companies.
- To report the 2017 results of the annual goodwill impairment survey of FEI members (the "2017 Survey").

Highlights of the 2017 Study

M&A activity was extremely robust in 2016, despite a decline from 2015 – a record year in M&A. While deal value dropped by 20% from the prior year, from a historic perspective 2016 was still one of the top years for M&A activity.* This led to $278 billion of goodwill being added to U.S. companies' balance sheets, the second-highest level since we began tracking this information in 2008.

Total goodwill impairment ("GWI") recorded by U.S. public companies was cut in half, from $56.9 billion in 2015 to $28.5 billion in 2016, reflecting an improved outlook for the global economy. The number of GWI events also dropped from 350 to 288 for the same period. Therefore, average GWI per event declined by nearly 40%, from $163 million in 2015 to $99 million in 2016.

Diving deeper into the details, we find that nine out of the ten industries analyzed saw their aggregate GWI amounts decrease – Healthcare being the only exception. The top three industries in 2016 with the highest decline in GWI are as follows, in order of magnitude ($ billions):

- Energy ($18.2 to $7.2)
- Information Technology ($12.9 to $4.1)
- Industrials ($7.7 to $4.5)

Although Energy was the hardest-hit industry for three consecutive years, it saw a notable improvement in 2016. The amount of GWI in Energy dropped by 60% from 2015, while the number of events dropped from 65 to 27, a nearly 60% decline. Oil prices began their downward trajectory in mid-2014, reaching a 12-year low in early 2016. Oil prices have since made a recovery, with Brent crude oil doubling from the January low of $29 to $57 at year-end 2016, though still far below the peak level reached in 2014. Nevertheless, four of the top ten largest impairment events of 2016 were still in Energy, a reflection of how deeply the industry suffered both in magnitude and number of GWI events.

The plunge in the 2016 aggregate impairment amount was also consistent with general trends observed in financial markets. While at the beginning of 2016 the world economy faced faltering growth and financial market turbulence, by year-end the picture had changed materially. There was a marked change in investor sentiment towards the end of November 2016, which was accompanied initially by a rise in global interest rates, a sharp narrowing of credit spreads, a strengthening of the U.S. dollar, and a rally in equity markets to record highs. Even though in 2016 the U.S. economy expanded at its slowest pace since 2011, investors appeared to expect that the combination of new pro-growth policies and still-accommodative monetary policies by major central banks would help drive growth in 2017.

Highlights of the 2017 Survey

The 2017 Survey continued to monitor FEI members' use of the optional qualitative test when testing goodwill for impairment (a.k.a. "Step 0"). The results of the 2017 Survey suggest that the use of Step 0 may be stabilizing. In this year's survey, the use of Step 0 by public companies decreased to 52% (from 59% in 2016), while private companies' use fell to 45% (from 50%). Despite the halt in the upward trend that had been observed since 2013, the overall usage is still very high, with about 50% of all respondents applying Step 0. For additional discussion on Step 0 usage and other survey highlights, refer to the special article "**FASB Simplifies Goodwill Impairment Testing: FERF's Q&A with Gary Roland of Duff & Phelps**" starting on page 4.

FASB issued ASU 2017-04 in January 2017, eliminating Step 2 of the goodwill impairment test. Half of the FEI survey respondents have not yet assessed the impact of the new ASU on the frequency and magnitude of their goodwill impairments. Of those respondents who evaluated the new ASU, a significant proportion (70%) expected a minimal impact. For further survey highlights, refer to pages 6 and 7.

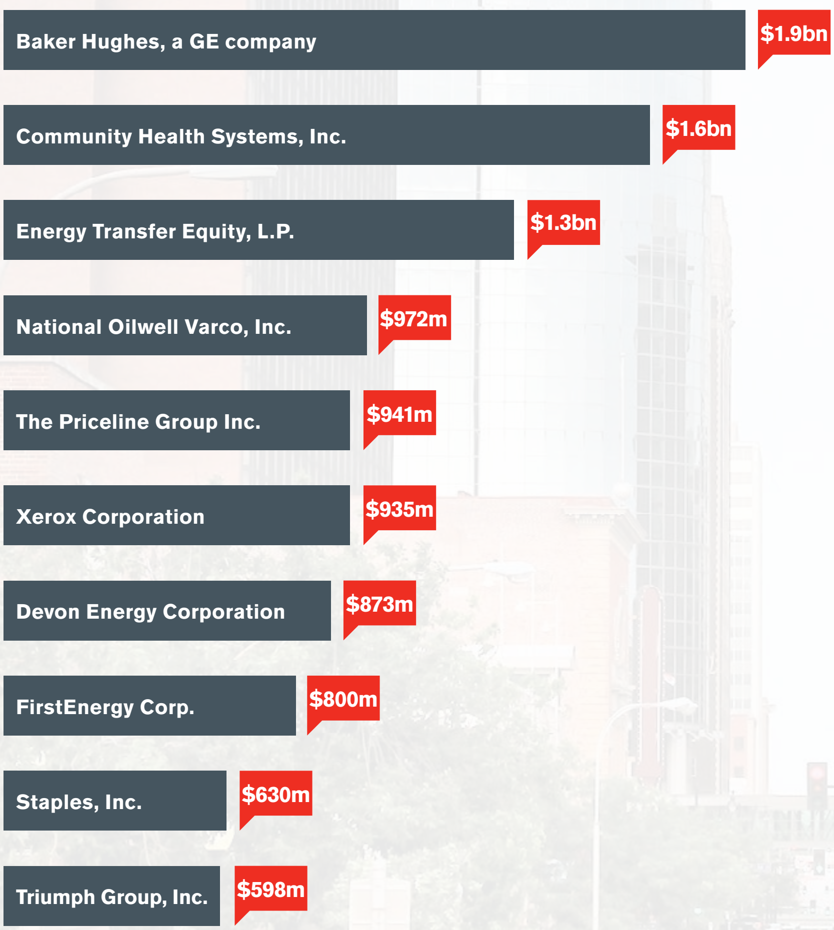
* M&A activity based on transactions closed in each year, where U.S. publicly-traded companies acquired a 50% or greater interest.

2017 Study: Third Year of Expanded Company Base Set

We first expanded the company base set in 2015, using S&P Global's Capital IQ database as the primary source of data. The 2017 Study continues with this methodology. The primary difference in the current methodology compared to the prior one is that the selection process no longer requires companies to have stock return data over the previous 5-year period. This change expanded the universe to 8,400+ public companies. A detailed description of the 2017 Study methodology is included in the **Appendix**.

As with prior studies, calendar years (not "most recent fiscal years") were used to examine impairments during a specific period of time, regardless of company-specific choices of fiscal years.

TOP 10 GOODWILL IMPAIRMENTS IN 2016*



* Financial data for all companies in the 2017 Study was adjusted, when applicable, to a calendar year end (rather than the most recent fiscal year-end). Financial data was also adjusted to include goodwill impairment amounts disclosed within discontinued operations or disposal groups, when identified.

FASB SIMPLIFIES GOODWILL IMPAIRMENT TESTING: FERF'S Q&A WITH GARY ROLAND OF DUFF & PHELPS

In January of 2017, the Financial Accounting Standards Board (FASB) issued an Accounting Standards Update designed to simplify the accounting for goodwill impairment.

ASU 2017-04 (Intangibles — Goodwill and Other (Topic 350): Simplifying the Test for Goodwill Impairment) was designed to reduce the complexity and potential costs associated with goodwill impairment, in part, by eliminating Step 2 of the current impairment test, which requires the calculation of the implied fair value of goodwill.

Under the new standard, effective in 2020 for calendar-year public business entities that are SEC filers, companies will base impairment charges on the excess of a reporting unit's carrying amount over its fair value determined in Step 1 of the impairment test.

The current optional qualitative Step 0, in which companies determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, will remain in place.

To discuss this year's survey findings and the implications for financial preparers, FERF spoke with Gary Roland, a Duff & Phelps Managing Director.

FERF: Can you describe some of the highlights of the results of this year's survey?

Gary Roland: One of the primary goals of this study is to monitor the use of the qualitative Step 0 in the goodwill impairment test and how frequently companies are taking advantage of that. We've been asking that question for a number of years.

Until now, the use of Step 0 has been increasing steadily for both public and private companies. It peaked last year with 59 percent of public companies and 50 percent of private companies using Step 0, according to the 2016 survey.

In this year's survey, it dropped off a little bit. The public companies' use fell from 59 to 52 percent, which is in line with the 2015 results. The private companies' use dropped from 50 percent to 45 percent. So, in summary, there's been a distinct increase in the frequency of use of Step 0 over time as a general trend, and maybe a little settling out in this year's survey.

FERF: Any thoughts what may be influencing the consistent use of Step 0?

Roland: I think when Step 0 was first introduced in 2011, there may have been a lack of clarity around how it should be applied. Subsequently, the AICPA came out with guidance around how to perform a qualitative assessment under Step 0. Auditors also became more comfortable with the nature and the amount of work needed to be done to support the "more-likely-than-not" assertion of the qualitative Step 0 test, so there's an enhanced level of comfort with that aspect of the test.

Also, to the extent that the market's done well and companies have produced favorable results in recent years, the prevalence of impairments may be reduced as compared to earlier. With that in place, it makes the qualitative assessment easier to use, and companies have greater confidence in the outcome.

On that same note, we've also observed respondents' preference for using Step 1, which is the quantitative goodwill impairment test.

In 2015, that started at 45 percent for all respondents and it declined to 28 percent in 2016, and clicked up just a little bit to 31 percent this year. It seems that the preference for using a quantitative test has stabilized around 30 percent.

So, in very broad terms, almost a third of public company respondents and about half of private company respondents prefer using Step 1 as it might be easier to implement as part of their strategic planning process.

FERF: Are there any industry preferences for using Step 0 versus Step 1?

Roland: We can say more broadly that companies that are in an industry sector that might be doing very well in the marketplace tend to believe they have a greater cushion when multiples of book value are higher. That may tend to encourage people to think more about using Step 0, rather than just looking to what their industry peers are doing. Market performance is a big factor in that decision.

FERF: Have we seen any effects from the elimination of Step 2 in the survey so far?

Roland: There were a number of questions that tried to gauge the degree to which companies were evaluating the potential impact of eliminating Step 2 now. It didn't seem that there was an overwhelming rush to evaluate the impact at this point in time.

A third of public companies and two-thirds of private companies in the study planned on not adopting the ASU that eliminates Step 2 until the respective effective dates.

Roughly two-thirds of public companies, and one-third of private companies, will consider adopting it before the effective date. A company's current performance and the mix of assets (including any unrecognized assets, and for the recognized assets, whether they have appreciated or depreciated in value) may have a bearing on the company's desire to early adopt. It's hard to say without getting into the specifics of each particular company.

Regarding the ramifications of the ASU, 50 percent of respondents have not evaluated the impact of eliminating Step 2 on the frequency or the magnitude of their impairments. We tried to see if they had considered the potential effect of eliminating Step 2 on how often they might take an impairment, or the size of those impairments. Half of them haven't gotten to a point where they're evaluating. They know the ASU is there, but haven't fully focused on it.

About 70 percent of the respondents that actually have assessed the impact don't believe there's going to be much of an effect on the frequency or the magnitude of their impairments. People are forming very early opinions, but I'm not sure how much in-depth analysis has gone into that.

FERF: Have you talked to companies that are considering adopting it early? What are some of the factors that may go into that decision?

Roland: Eliminating Step 2 takes away a good deal of the cost associated with the goodwill impairment test by limiting the measure to the Step 1 analysis vs. the carrying amount. That ends the process there, should you elect to do that.

However, companies can get different outcomes if they apply Step 2 or if they don't. First, failing Step 1 will always result in a goodwill impairment under the new one-step test, which was not always the case under the two-step model. Second, the magnitude of any impairment can differ under a one-step test vs. the two-step test. This has a lot to do with the underlying assets that are sitting in the reporting unit. When you perform a Step 2 analysis, you determine the fair value of those assets, which would impact the amount of implied goodwill. Compared to the two-step test, a higher impairment may result under the one-step test when the fair value of long-lived assets is below their carrying amount. And conversely, a lower impairment may result under the one-step test when there are significant unrecognized or appreciated intangible assets.

FERF: Have you talked to any companies that have started a transition effort yet?

Roland: We are entering the season now. Most companies tend to do their impairment testing in the third or fourth quarter as part of their annual planning timeframe, so unless there has been a triggering event or another need to test goodwill for impairment, many have not been faced with this decision. We're in a transition at this point and people are evaluating whether to early adopt or to adopt the standard when they are required to.

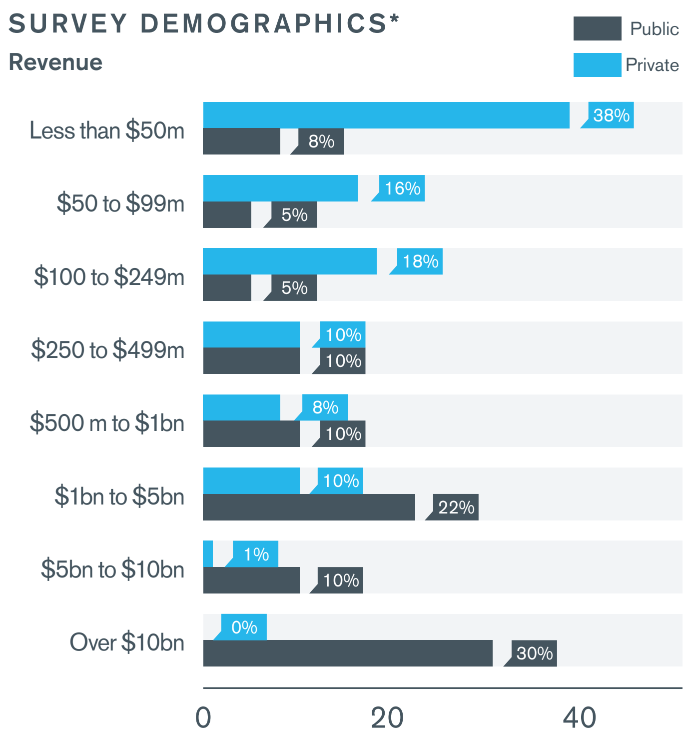
Gary Roland is a Managing Director of Duff & Phelps and a part of the firm's Office of Professional Practice.

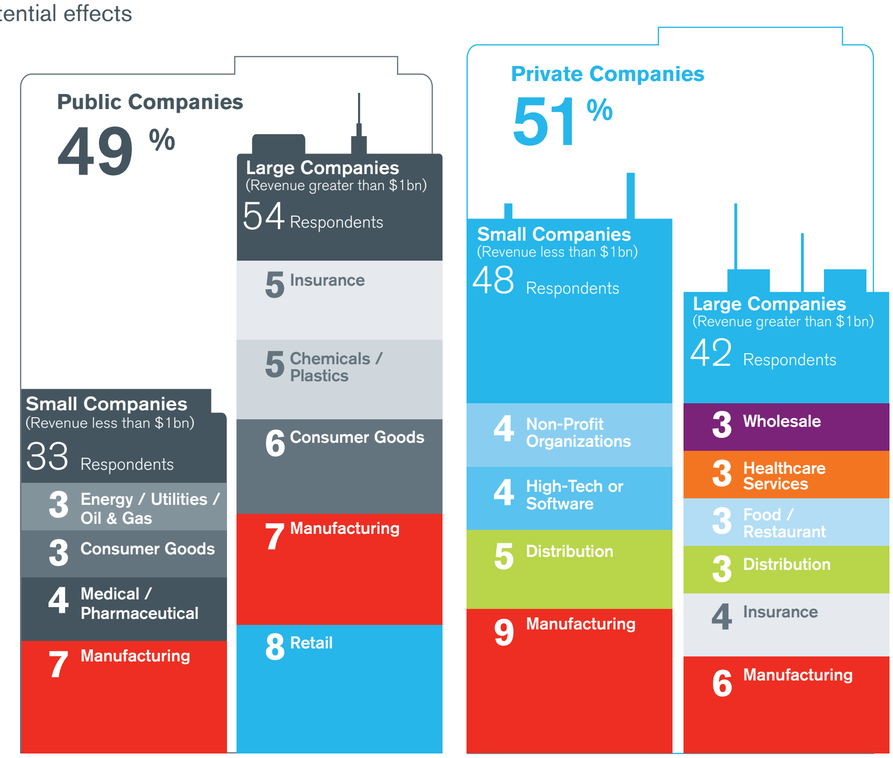
2017 SURVEY RESULTS

During the summer of 2017, an electronic survey on goodwill impairments was conducted using a sample of FEI members representing both public and private companies. This survey is performed annually and provides insight into goodwill impairments and members' views on related topics.

In January 2017, FASB issued ASU 2017-04, which eliminates Step 2 of the current goodwill impairment test under ASC Topic 350, *Intangibles — Goodwill and Other*. Under the simplified model, a goodwill impairment is calculated based on the difference between the carrying amount of the reporting unit and its fair value, but not to exceed the carrying amount of goodwill allocated to that reporting unit. The current optional qualitative Step 0, in which companies determine whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, will remain in place.

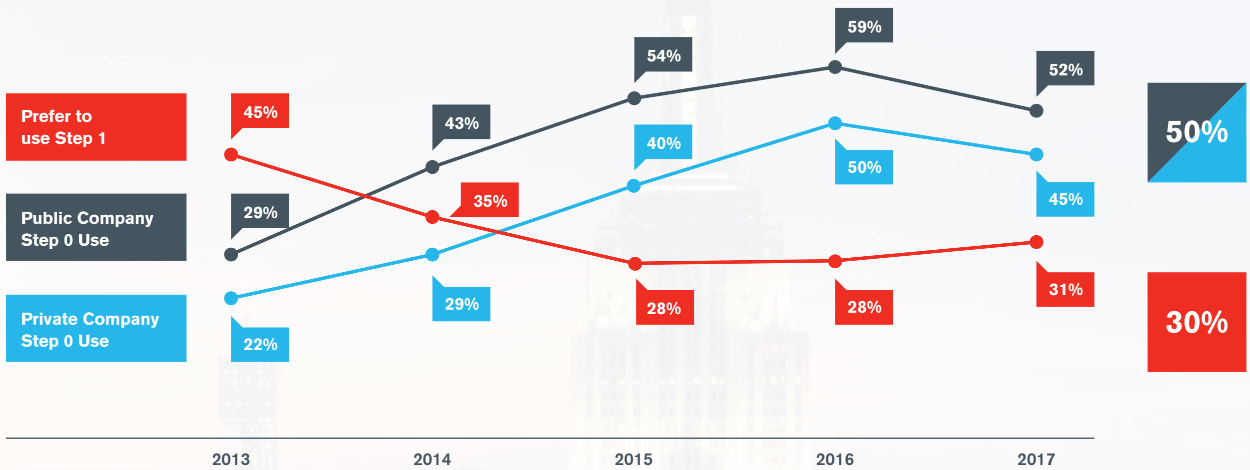
This year's survey focused on FEI member's expectations of how this new ASU would impact their goodwill impairment testing, while continuing to monitor their use of the qualitative Step 0. See article "**FASB Simplifies Goodwill Impairment Testing: FERF's Q&A with Gary Roland of Duff & Phelps**" on pages 4-5 for additional discussion on the potential effects of the new ASU.





* The Survey Demographics are based on responses to survey questions 1, 2 and 3. Totals may not foot due to rounding differences.

STEP 0 USE



88%

of respondents ***did not recognize a goodwill impairment*** during their most recent annual reporting period

79%

of respondents that ***applied Step 0*** had ***no impairment*** for the reporting units tested

ASU 2017-04

29% of *public companies* and **64%** of *private companies*

will not adopt ASU 2017-04, the elimination of Step 2, until the effective date

Approximately **50%**

of respondents ***have not yet assessed the impact*** of ASU 2017-04 ***on the frequency or magnitude of goodwill impairments***

Approximately **70%**

of respondents that have assessed the impact of ASU 2017-04 ***do not believe there will be a change in the magnitude or frequency of goodwill impairments***

2017 Survey Results*

	Public			Private			
	< $1bn	> $1bn	All Public	< $100mm	> $100mm	All Private	Overall
(4) How many reporting units do you have as of the most recent reporting period? (N = 177)							
1	33%	6%	16%	50%	45%	48%	32%
2 to 5	48%	46%	47%	40%	36%	38%	42%
6 to 10	15%	31%	25%	4%	7%	6%	15%
More than 10	3%	17%	11%	6%	12%	9%	10%
	100%	100%	100%	100%	100%	100%	100%
(5) Has your company recognized a goodwill impairment(s) during your most recent annual reporting period? (N = 173)							
Yes	19%	9%	13%	7%	15%	10%	12%
No	81%	91%	87%	93%	85%	90%	88%
	100%	100%	100%	100%	100%	100%	100%
(6) Do you anticipate any goodwill impairment(s) during an upcoming interim or annual test? (N = 173)							
Yes	16%	7%	10%	7%	5%	6%	8%
No	84%	93%	90%	93%	95%	94%	92%
	100%	100%	100%	100%	100%	100%	100%
(7) When performing goodwill impairment analyses, do you apply the optional qualitative assessment (Step 0)? (N = 162)							
Yes, for selected reporting units	3%	21%	15%	5%	13%	9%	12%
Yes, for all reporting units	31%	21%	24%	23%	30%	26%	25%
Yes, however we did not apply Step 0 in our most recent analysis because we refreshed our quantitative analysis	17%	11%	13%	5%	8%	6%	10%
Yes, however we did not apply Step 0 in our most recent analysis because we used a fair value indication from a recent transaction	0%	0%	0%	3%	5%	4%	2%
No, we prefer the quantitative test and proceed directly to Step 1	34%	28%	30%	33%	33%	33%	31%
No, Step 0 was considered but not applied due to lack of practical guidance	7%	0%	2%	13%	8%	10%	6%
No, Step 0 was considered but not deemed to be cost effective	7%	19%	15%	20%	5%	13%	14%
	100%	100%	100%	100%	100%	100%	100%
(8) For those reporting units to which you applied Step 0, did you conclude that: (N=78)							
There was no impairment for any of the reporting units tested under Step 0	54%	84%	74%	94%	79%	85%	79%
A Step 1 analysis was required for **some** reporting units	23%	12%	16%	0%	21%	13%	14%
A Step 1 analysis was required for **all** reporting units	23%	4%	11%	6%	0%	3%	6%
	100%	100%	100%	100%	100%	100%	100%
(9) If you have never applied Step 0 to any reporting units, will you be considering its use in future periods? (See note on the following page) (N = 80)							
Yes	29%	50%	42%	46%	50%	48%	45%
No	71%	50%	58%	54%	50%	52%	55%
	100%	100%	100%	100%	100%	100%	100%

2017 Survey Results*

	Public			Private			
	< $1bn	> $1bn	All Public	< $100mm	> $100mm	All Private	Overall
(10) FASB has eliminated Step 2 of the goodwill impairment test by issuing ASU 2017-04. Under this ASU, a goodwill impairment charge is based on the difference between the carrying amount of the reporting unit and its fair value, not to exceed the amount of goodwill allocated to it. When do you plan to adopt this ASU? (N = 170)							
Will early adopt in 2017/ have already early adopted	28%	30%	29%	5%	20%	12%	21%
Evaluating whether to early adopt	44%	41%	42%	16%	33%	24%	33%
Will not adopt until the effective date	28%	30%	29%	80%	48%	64%	46%
	100%	100%	100%	100%	100%	100%	100%
(11) The *magnitude* of a goodwill impairment may differ under the new one-step model when compared with the two-step test. All else equal, for your company generally, you would expect an impairment charge under the new one-step model to be... (N = 172)							
Smaller	3%	15%	10%	2%	7%	5%	8%
Larger	6%	11%	9%	4%	2%	3%	6%
About the same	34%	28%	30%	18%	49%	33%	31%
Impact not yet assessed	56%	46%	50%	76%	41%	59%	55%
	100%	100%	100%	100%	100%	100%	100%
(12) The *frequency* of goodwill impairment may differ under the new one-step model when compared with the two-step test. All else equal, for your company generally, you would expect to recognize impairments under the new one-step model... (N = 172)							
More frequently	6%	11%	9%	2%	5%	3%	6%
Less frequently	9%	7%	8%	4%	7%	6%	7%
At a similar rate	34%	54%	47%	22%	49%	35%	41%
Impact not yet assessed	50%	28%	36%	71%	39%	56%	46%
	100%	100%	100%	100%	100%	100%	100%
(13) For reporting units with zero or negative carrying amounts, ASU 2017-04 requires a comparison of the fair value of the reporting unit with its carrying amount, and a disclosure of the goodwill balance allocated to the reporting unit. Given this, for reporting units with a zero or negative carrying amount, you plan to: (N = 172)							
Perform the test on an enterprise value level, and disclose the amount of goodwill	6%	0%	2%	2%	2%	2%	2%
Only disclose the amount of goodwill	3%	0%	1%	4%	0%	2%	2%
Decision not yet made	21%	19%	20%	31%	34%	33%	26%
Not Applicable - do not have reporting units with zero or negative carrying amounts	70%	81%	77%	62%	63%	63%	70%
	100%	100%	100%	100%	100%	100%	100%

* Totals may not foot due to rounding differences.

Note to Question 9: There were 121 total responses when asked if they had never used Step 0 would they use it in the future. However 41 of the 121 responded that they had used Step 0 in question 7. The 41 were excluded and the responses are based on the remaining 80 who said no to question 7 as well.

SUMMARY STATISTICS BY INDUSTRY (TABLE 1)

Table 1 summarizes the annual amount of GWI and number of GWI events by industry, the proportion of companies within each industry that carry goodwill, and the percentage of those that recorded a GWI. This format allows for a ready comparison of data across industries over time.*

Industries are listed in descending order of their total GWI amounts for 2016. For example, Energy tops the list with its $7.2 billion aggregate impairment.

Additionally, the graphs on the right in Table 1 provide a quick comparison of (i) the preponderance of companies with goodwill within each industry; and (ii) the proportion of those companies that have recorded a GWI. For example:

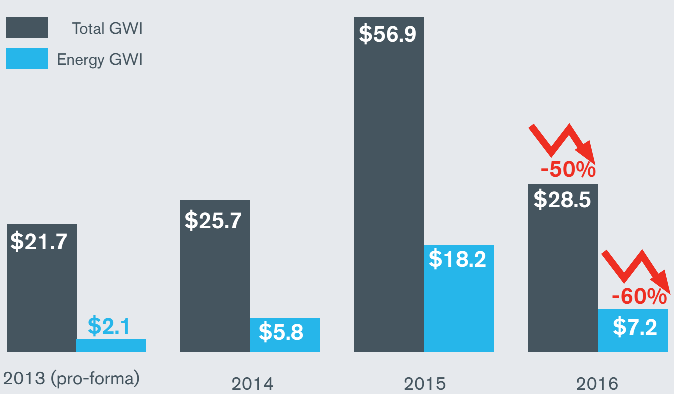
In light of the dataset expansion introduced in the 2015 Study, a "2013 Pro Forma" column is included in Table 1 to provide a basis for comparison to the dataset for subsequent years. (Refer to the Appendix for a description of the 2017 Study methodology.)

Goodwill Impairments

The *first row* of Table 1 data for each industry presents the annual dollar amounts of GWI ($ billions), immediately followed by the number of impairment events (shown in parentheses).

Total GWI cut in half in 2016, following improvement in economic outlook

Energy is top industry for 3rd consecutive year



Percent of Total Companies that Recorded GWI

The *second row* in Table 1 provides the proportion of companies within each industry that recorded a GWI.

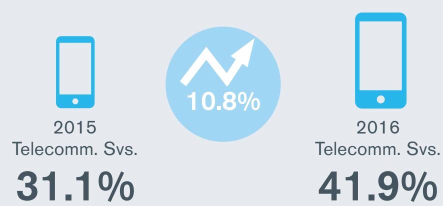
Energy saw largest decline in the proportion of companies recording an impairment

Percent of Companies with Goodwill

Since companies that do not carry goodwill on their books are also not susceptible to a GWI, for perspective, the *third row* in Table 1 provides the proportion of companies with goodwill within each industry.

All Industries register an increase in companies carrying goodwill in 2016, reflecting a stellar year for M&A.

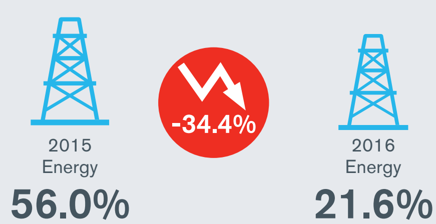
Industry with the largest gain



Percent of Companies with Goodwill Recording a GWI

The *fourth row* in Table 1 indicates the percentage of the companies with goodwill that recorded a GWI. This differs from the first row, where the percentages are based on all companies in each industry, rather than limited to those that carry goodwill on their balance sheets.

Industry with largest decline in number of companies with goodwill that recorded a GWI



* The information covering the period between 2013 and 2015 was carried forward from prior studies.

† The number of events is broadly defined in this study: it captures whether a company has recorded any goodwill impairments in any given year (i.e., either "yes" or "no"). Thus, while a company could have recorded multiple goodwill impairments during a calendar year, it will still be considered a single event for purposes of this study.

2016 GOODWILL IMPAIRMENT (TABLE 1)

2016 (Companies)		2013	2013 Pro Forma	2014	2015	2016	2016: Companies with GW	2016: Percent Recording GWI
	Goodwill Impairments: $ billions (number of events) / Percent of Total Companies that Recorded GWI / Percent of Companies with Goodwill / Percent of Companies with Goodwill that Recorded GWI							
Energy (648)	Goodwill Impairments: $ billions (number of events)	2.2 (14)	2.1 (19)	5.8 (32)	18.2 (65)	7.2 (27)	19%	22%
	Percent of Total Companies that Recorded GWI	4.4%	2.7%	4.6%	9.6%	4.2%		
	Percent of Companies with Goodwill	32.1%	20.1%	20.0%	17.1%	19.3%		
	Percent of Companies with Goodwill that Recorded GWI	13.6%	13.6%	23.0%	56.0%	21.6%		
Consumer Discretionary (1,185)	Goodwill Impairments: $ billions (number of events)	2.9 (35)	3.1 (46)	2.8 (61)	7.6 (51)	5.4 (58)	41%	12%
	Percent of Total Companies that Recorded GWI	5.7%	3.7%	4.9%	4.2%	4.9%		
	Percent of Companies with Goodwill	53.4%	34.3%	34.5%	35.0%	41.0%		
	Percent of Companies with Goodwill that Recorded GWI	10.6%	10.7%	14.1%	12.0%	11.9%		
Industrials (1,108)	Goodwill Impairments: $ billions (number of events)	3.0 (45)	3.2 (61)	3.5 (69)	7.7 (74)	4.5 (59)	46%	12%
	Percent of Total Companies that Recorded GWI	7.4%	5.5%	6.2%	6.9%	5.3%		
	Percent of Companies with Goodwill	59.2%	39.3%	39.4%	40.3%	46.0%		
	Percent of Companies with Goodwill that Recorded GWI	12.4%	14.0%	15.8%	17.1%	11.6%		
Information Technology (1,466)	Goodwill Impairments: $ billions (number of events)	1.4 (45)	1.6 (58)	3.6 (66)	12.9 (65)	4.1 (44)	42%	7%
	Percent of Total Companies that Recorded GWI	5.7%	3.8%	4.3%	4.4%	3.0%		
	Percent of Companies with Goodwill	53.7%	35.0%	36.2%	37.1%	42.0%		
	Percent of Companies with Goodwill that Recorded GWI	10.6%	10.8%	11.9%	11.8%	7.2%		
Healthcare (1,272)	Goodwill Impairments: $ billions (number of events)	3.4 (21)	3.6 (34)	0.4 (29)	1.3 (28)	3.1 (39)	31%	10%
	Percent of Total Companies that Recorded GWI	3.3%	2.7%	2.3%	2.2%	3.1%		
	Percent of Companies with Goodwill	41.0%	26.3%	27.6%	27.9%	30.8%		
	Percent of Companies with Goodwill that Recorded GWI	8.0%	10.4%	8.5%	8.0%	9.9%		
Utilities (143)	Goodwill Impairments: $ billions (number of events)	0.4 (2)	0.4 (3)	0.2 (5)	2.3 (6)	1.4 (6)	47%	9%
	Percent of Total Companies that Recorded GWI	2.1%	1.9%	3.1%	4.0%	4.2%		
	Percent of Companies with Goodwill	56.7%	37.3%	39.1%	43.0%	46.9%		
	Percent of Companies with Goodwill that Recorded GWI	3.6%	5.0%	7.9%	9.2%	9.0%		
Financials and Real Estate (1,425)	Goodwill Impairments: $ billions (number of events)	1.0 (13)	1.0 (22)	3.1 (40)	1.4 (24)	1.2 (15)	43%	3%
	Percent of Total Companies that Recorded GWI	0.8%	1.5%	2.7%	1.6%	1.1%		
	Percent of Companies with Goodwill	29.4%	33.6%	35.1%	37.4%	42.5%		
	Percent of Companies with Goodwill that Recorded GWI	2.9%	4.4%	7.7%	4.4%	2.5%		
Materials (602)	Goodwill Impairments: $ billions (number of events)	4.5 (8)	4.6 (18)	2.7 (18)	2.8 (18)	1.0 (19)	23%	14%
	Percent of Total Companies that Recorded GWI	2.9%	2.7%	2.7%	2.9%	3.2%		
	Percent of Companies with Goodwill	43.8%	20.2%	19.8%	19.9%	23.1%		
	Percent of Companies with Goodwill that Recorded GWI	6.7%	13.5%	13.8%	14.6%	13.7%		
Consumer Staples (467)	Goodwill Impairments: $ billions (number of events)	1.0 (9)	1.0 (10)	3.5 (18)	2.5 (18)	0.8 (19)	33%	12%
	Percent of Total Companies that Recorded GWI	4.6%	2.1%	3.9%	3.9%	4.1%		
	Percent of Companies with Goodwill	49.5%	24.6%	26.3%	25.7%	33.0%		
	Percent of Companies with Goodwill that Recorded GWI	9.4%	8.7%	14.6%	15.0%	12.3%		
Telecomm. Services (105)	Goodwill Impairments: $ billions (number of events)	1.1 (1)	1.1 (3)	0.1 (3)	0.1 (1)	0.0 (2)	42%	5%
	Percent of Total Companies that Recorded GWI	1.7%	2.7%	2.7%	1.0%	1.9%		
	Percent of Companies with Goodwill	53.3%	34.5%	31.8%	31.1%	41.9%		
	Percent of Companies with Goodwill that Recorded GWI	3.1%	7.9%	8.6%	3.1%	4.5%		
Total (8,421)	Goodwill Impairments: $ billions (number of events)	20.9 (193)	21.7 (274)	25.7 (341)	56.9 (350)	28.5 (288)	37%	9%
	Percent of Total Companies that Recorded GWI	3.7%	3.1%	3.9%	4.1%	3.4%		
	Percent of Companies with Goodwill	43.4%	31.1%	31.9%	32.5%	37.3%		
	Percent of Companies with Goodwill that Recorded GWI	8.6%	10.1%	12.3%	12.7%	9.2%		

SUMMARY STATISTICS BY INDUSTRY (TABLE 2)

Table 1 captured the total amount of GWI and the frequency of events by industry. In Table 2, the focus shifts to the respective industries' (i) relative importance of goodwill to the overall asset base (goodwill intensity); (ii) magnitude of annual impairment relative to the carrying amount of goodwill; and (iii) magnitude of such impairment in relation to total assets (the last two ratios being measures of loss intensity).

		Intensity Measure	How?	Why?
Goodwill Intensity	Which industries had/have the most goodwill on their balance sheets?	GW/TA	Goodwill as a percentage of total assets, measured at year end	Indicates how significant an industry's goodwill is in relation to total assets.
Loss Intensity	Which industries' goodwill got hit hardest by impairments?	GWI/GW	Goodwill impairments (total) as a percentage of the prior year's total goodwill	Indicates how impairments impacted each industry's goodwill.
Loss Intensity	Which industries' balance sheets got hit hardest by impairments?	GWI/TA	Goodwill impairments (total) as a percentage of the prior year's total assets	Indicates how impairments impacted each industry's total assets.

Goodwill intensity, defined here as goodwill as a percentage of total assets (GW/TA), measures the proportion of an industry's total assets represented by goodwill. Since goodwill arises as a result of a business combination, goodwill intensity is greater in industry sectors with significant M&A activity.

The first loss intensity measure, goodwill impairment to goodwill (GWI/GW), indicates the magnitude of goodwill impairments. In other words, it measures the proportion of an industry's goodwill that is impaired each year.

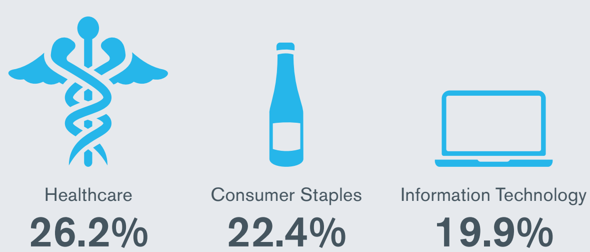
These first two metrics are captured visually for 2016 on the graphs on the right of Table 2. For example:

The second loss intensity measure, goodwill impairments to total assets (GWI/TA), quantifies the percent of an industry's total asset base that was impaired.

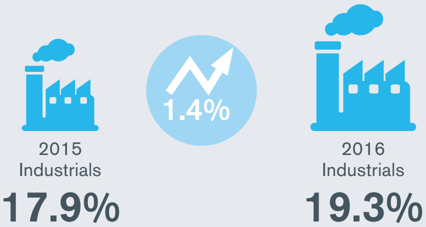
Goodwill Intensity

The *first row* in Table 2 illustrates Goodwill to Total Assets (GW/TA) reported over time for each industry, with 2016 specifically highlighted in the gray circle of the graphic displayed farthest on the right.

Top 3 Industries with most Goodwill in their asset base



Industrials showed a notable increase in GW/TA (with 7 out of 10 Industries seeing a rise in goodwill intensity)

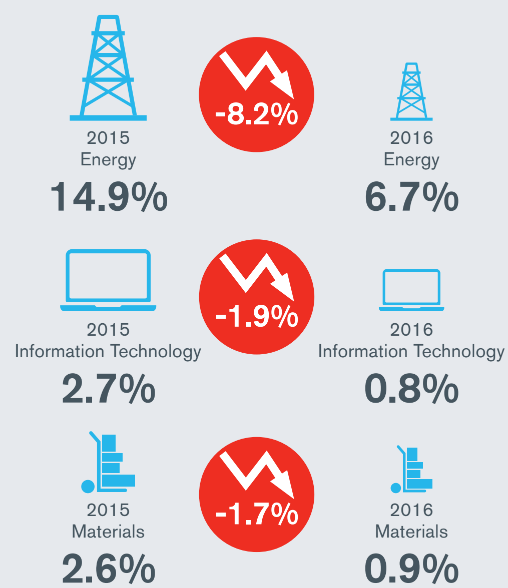


Goodwill Impairment to Goodwill

The *second row* of Table 2 presents the first measure of loss intensity (GWI/GW) recognized for each industry over time, with 2016 metrics displayed in the triangle portion of the graphic located on the far right.

9 out of 10 Industries saw a decline in GWI/GW.

Industries with notable decreases include



Goodwill Impairment to Total Assets

This second measure of loss intensity is presented in the third row of Table 2 for each industry. Goodwill impairment charges represent a relatively small proportion of a company's total asset base.

2016 GOODWILL IMPAIRMENT (TABLE 2)

2016 (Companies)	Measure	2013	2013 Pro Forma	2014	2015	2016	2016 GW/TA	2016 GWI/GW
Energy (648)	Goodwill Intensity (GW/TA)	4.5%	5.0%	5.0%	5.0%	4.7%	5%	6.7%
	Loss Intensity (GWI/GW)	2.2%	1.9%	4.9%	14.9%	6.7%		
	Loss Intensity (GWI/TA)	0.1%	0.1%	0.2%	0.7%	0.3%		
Consumer Discretionary (1,185)	Goodwill Intensity (GW/TA)	14.2%	13.8%	13.6%	13.7%	13.7%	14%	1.8%
	Loss Intensity (GWI/GW)	1.0%	1.1%	0.9%	2.4%	1.8%		
	Loss Intensity (GWI/TA)	0.1%	0.1%	0.1%	0.3%	0.2%		
Industrials (1,108)	Goodwill Intensity (GW/TA)	16.2%	16.4%	16.5%	17.9%	19.3%	19%	1.0%
	Loss Intensity (GWI/GW)	0.8%	0.8%	0.8%	1.9%	1.0%		
	Loss Intensity (GWI/TA)	0.1%	0.1%	0.1%	0.3%	0.2%		
Information Technology (1,466)	Goodwill Intensity (GW/TA)	18.8%	18.6%	19.3%	19.9%	19.9%	20%	0.8%
	Loss Intensity (GWI/GW)	0.4%	0.4%	0.9%	2.7%	0.8%		
	Loss Intensity (GWI/TA)	0.1%	0.1%	0.2%	0.5%	0.2%		
Healthcare (1,272)	Goodwill Intensity (GW/TA)	23.1%	22.9%	23.0%	26.0%	26.2%	26%	0.7%
	Loss Intensity (GWI/GW)	0.9%	1.0%	0.1%	0.3%	0.7%		
	Loss Intensity (GWI/TA)	0.2%	0.2%	0.0%	0.1%	0.2%		
Utilities (143)	Goodwill Intensity (GW/TA)	4.8%	4.8%	4.5%	4.5%	5.3%	5%	2.1%
	Loss Intensity (GWI/GW)	0.6%	0.6%	0.3%	3.5%	2.1%		
	Loss Intensity (GWI/TA)	0.0%	0.0%	0.0%	0.2%	0.1%		
Financials and Real Estate (1,425)	Goodwill Intensity (GW/TA)	1.8%	1.6%	1.5%	1.6%	1.8%	2%	0.2%
	Loss Intensity (GWI/GW)	0.2%	0.3%	0.8%	0.3%	0.2%		
	Loss Intensity (GWI/TA)	0.0%	0.0%	0.0%	0.0%	0.0%		
Materials (602)	Goodwill Intensity (GW/TA)	12.8%	12.9%	13.5%	14.9%	15.3%	15%	0.9%
	Loss Intensity (GWI/GW)	4.3%	4.5%	2.6%	2.6%	0.9%		
	Loss Intensity (GWI/TA)	0.6%	0.6%	0.3%	0.4%	0.1%		
Consumer Staples (467)	Goodwill Intensity (GW/TA)	20.1%	20.8%	20.0%	22.0%	22.4%	22%	0.2%
	Loss Intensity (GWI/GW)	0.4%	0.4%	1.3%	0.9%	0.2%		
	Loss Intensity (GWI/TA)	0.1%	0.1%	0.3%	0.2%	0.1%		
Telecomm. Services (105)	Goodwill Intensity (GW/TA)	18.7%	16.8%	17.9%	19.2%	19.6%	20%	0.0%
	Loss Intensity (GWI/GW)	0.8%	0.8%	0.1%	0.1%	0.0%		
	Loss Intensity (GWI/TA)	0.2%	0.2%	0.0%	0.0%	0.0%		
Total (8,421)	Goodwill Intensity (GW/TA)	6.2%	6.3%	6.4%	7.0%	7.2%	7%	1.0%
	Loss Intensity (GWI/GW)	0.8%	0.9%	1.0%	2.1%	1.0%		
	Loss Intensity (GWI/TA)	0.1%	0.1%	0.1%	0.1%	0.1%		

2016 INDUSTRY SPOTLIGHTS

In contrast to Tables 1 and 2, the Industry Spotlights allow the reader a more in-depth look at the 2016 statistics for the respective industries. Industry Spotlights cover ten industry sectors. They provide a focus on relevant metrics and statistics for the respective industries.

Note that starting with the 2015 Study we enhanced our methodology, resulting in an expanded company base set of 8,700+ publicly-traded companies (compared to 5,153 in 2013). For context, the graphic on the top right of each Spotlight displays data for calendar year 2013 under both the prior (2013) and the current methodology (2013 pro forma). The timeframe for the graphic on the top left of each Spotlight starts with 2013 pro forma data.

Market-to-Book Ratio

While not a sole or definitive indicator of impairment, a company's market capitalization should not be ignored during a goodwill impairment test. Understanding the dynamics of the market-to-book ratios is informative, but the fact that an individual company has a ratio below 1.0 does not by default result in failing either Step 1 or 2 of the goodwill impairment test. Reporting unit structures, their respective performance, and where the goodwill resides are a few of the critical factors that must be considered in the impairment testing process.

A low market-to-book ratio will, however, likely create challenges in supporting the Step 0 "more-likely-than-not" (greater than a 50% likelihood) conclusion that the fair value of a reporting unit is not less than its carrying amount, required for a qualitative assessment.

Guide

The guide below provides a brief description of the components of the Industry Spotlights.

Goodwill Trends

Provides the goodwill amounts for year-end 2013 pro forma and 2016, as well as the aggregate goodwill additions and impairments over that period.

Market-to-Book Ratio Distribution

Highlights the number of companies in the industry (shown in percentages terms) with a market-to-book ratio below and above 1.0. The blue shaded area to the left of the needle further separates the number of companies with a ratio above and below 0.5. Although not predictive in and of itself, companies with a low market-to-book ratio would be at a greater risk of impairment.

Size of Industry

Represents the size of the industry relative to the combined size of all the companies included in the 2017 Study sample, measured in terms of market capitalization.

Impairment History

Annual amounts and number of goodwill impairment events. To enable transitional comparisons, data for 2013 has been provided under both the prior methodology and the current methodology that expanded the dataset (2013 pro forma). The industry market-to-book ratio (red line) provides some context for the annual impairment measures, although it is not predictive in and of itself.

Summary Statistics

Goodwill Intensity (GW/TA), Goodwill Impairment to Goodwill (GWI/GW), Companies with Goodwill and the percentage of those that recorded goodwill impairment reported for calendar year 2016 are depicted here and also in Tables 1 and 2.

Index

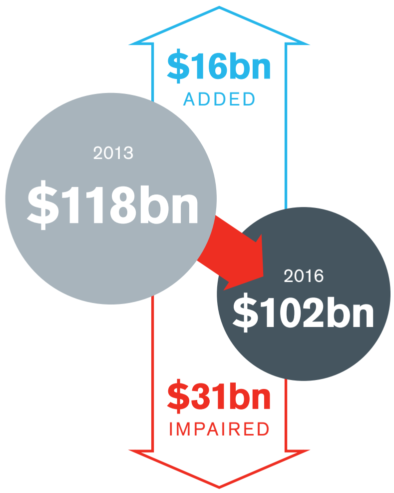
Five-year index of the industry sector and the S&P 500 Index. Summarizes the relative performance of the industry: reflects what a $1 investment in the beginning of 2012 would be worth at the end of 2016.

2016 Industry Spotlight

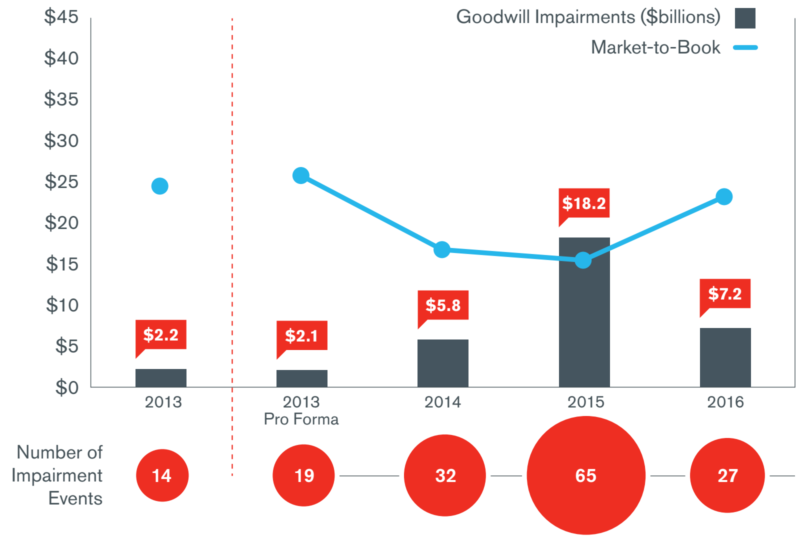
Energy

GICS Code 10

Goodwill Trends 2013 Pro Forma – 2016

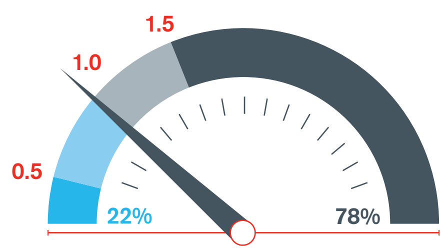


Impairment History



Market-to-Book Ratio Distribution

(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

648
Companies

4.7%
Goodwill to Total Assets (GW/TA)

6.7%
Percent of Goodwill Impaired (GWI/GW ratio)

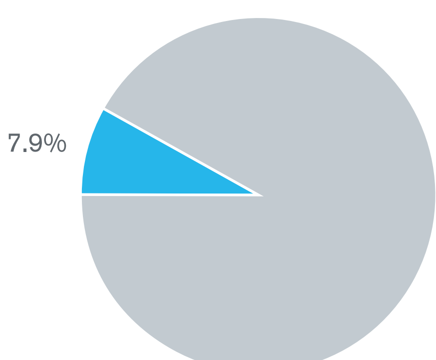
19.3%
Companies with Goodwill

21.6%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

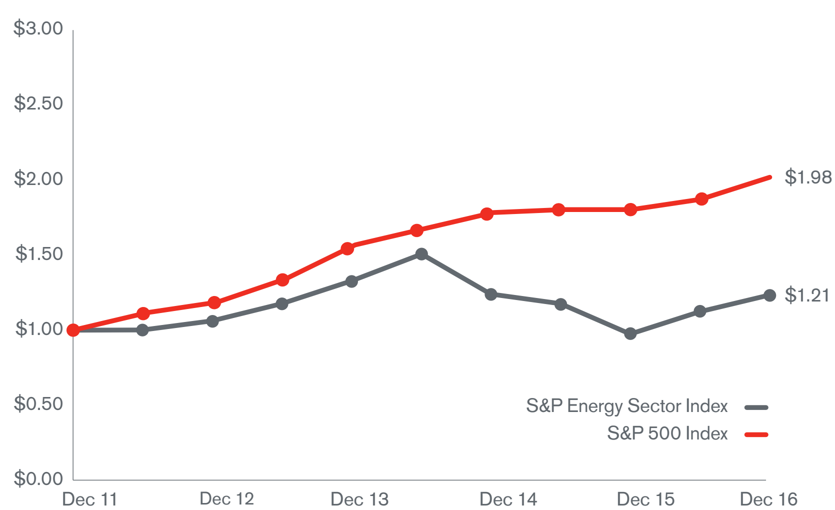
1.8
Market-to-Book Ratio (median)

Size of Industry

(Relative to Study's Total Market Cap)



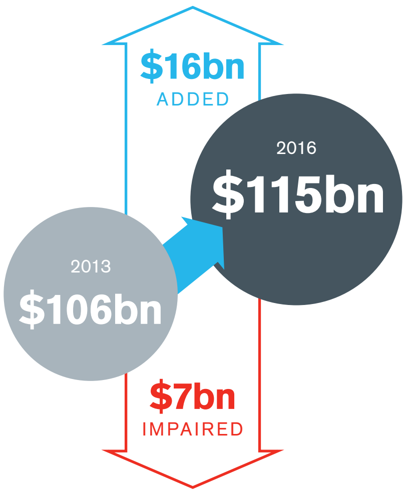
Index (Year End 2011 = $1)



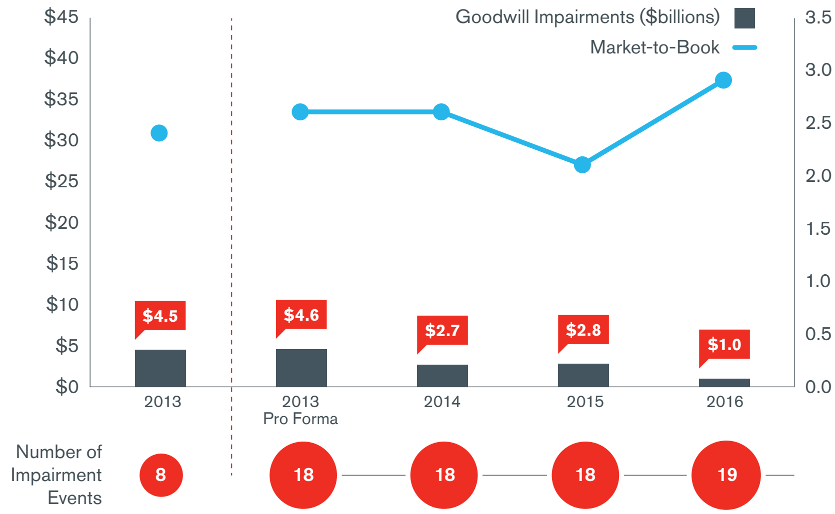
2016 Industry Spotlight

Materials
GICS Code 15

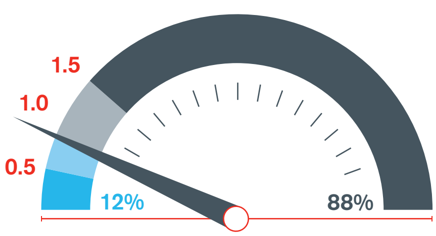
Goodwill Trends 2013 Pro Forma – 2016



Impairment History



Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

602
Companies

15.3%
Goodwill to Total Assets (GW/TA)

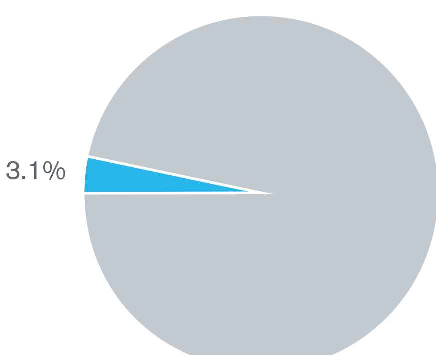
0.9%
Percent of Goodwill Impaired (GWI/GW ratio)

23.1%
Companies with Goodwill

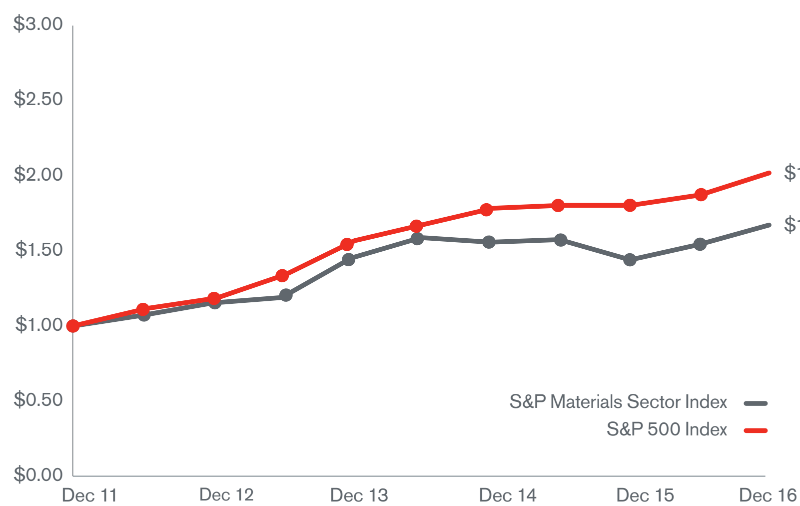
13.7%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

2.9
Market-to-Book Ratio (median)

Size of Industry
(Relative to Study's Total Market Cap)



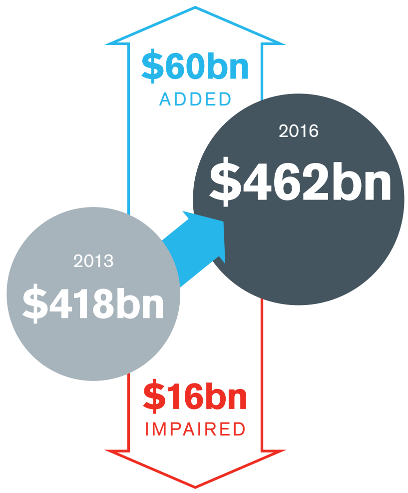
Index (Year End 2011 = $1)



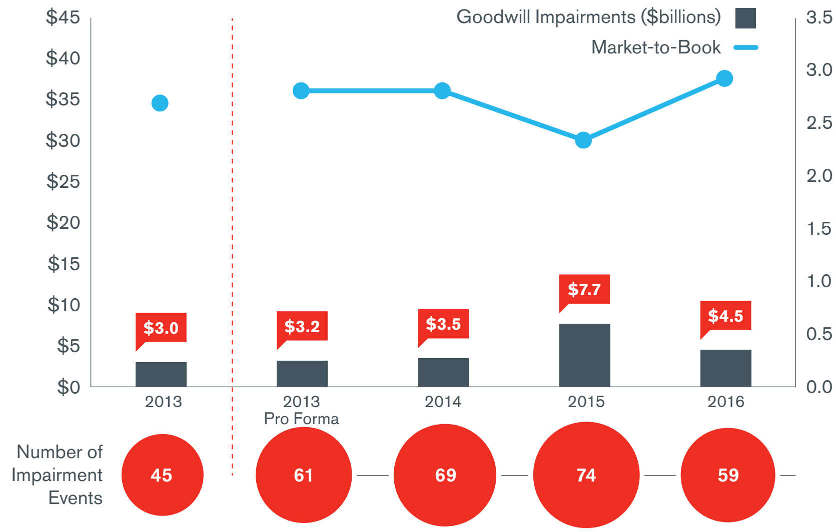
2016 Industry Spotlight

Industrials
GICS Code 20

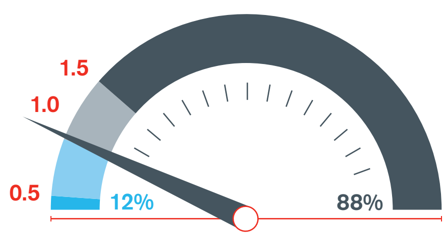
Goodwill Trends 2013 Pro Forma – 2016



Impairment History



Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

1,108
Companies

19.3%
Goodwill to Total Assets (GW/TA)

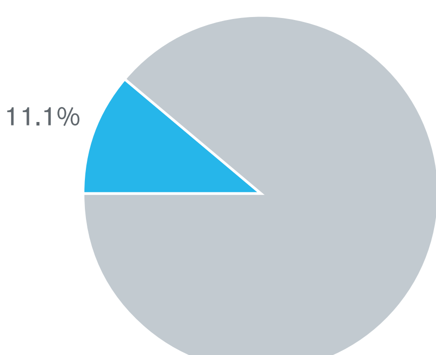
1.0%
Percent of Goodwill Impaired (GWI/GW ratio)

46.0%
Companies with Goodwill

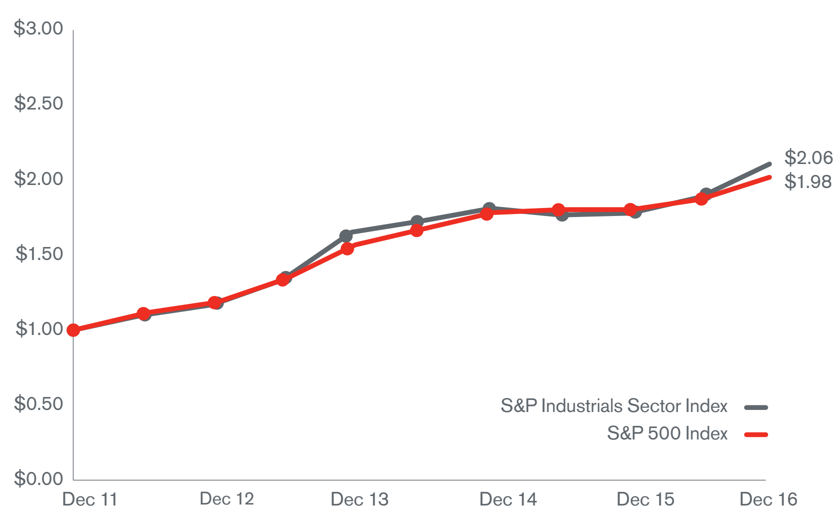
11.6%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

2.5
Market-to-Book Ratio (median)

Size of Industry
(Relative to Study's Total Market Cap)



Index (Year End 2011 = $1)

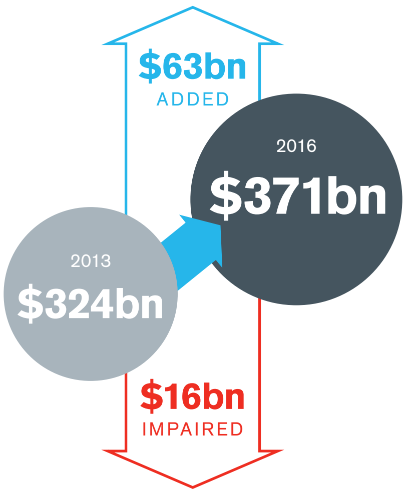


2016 Industry Spotlight

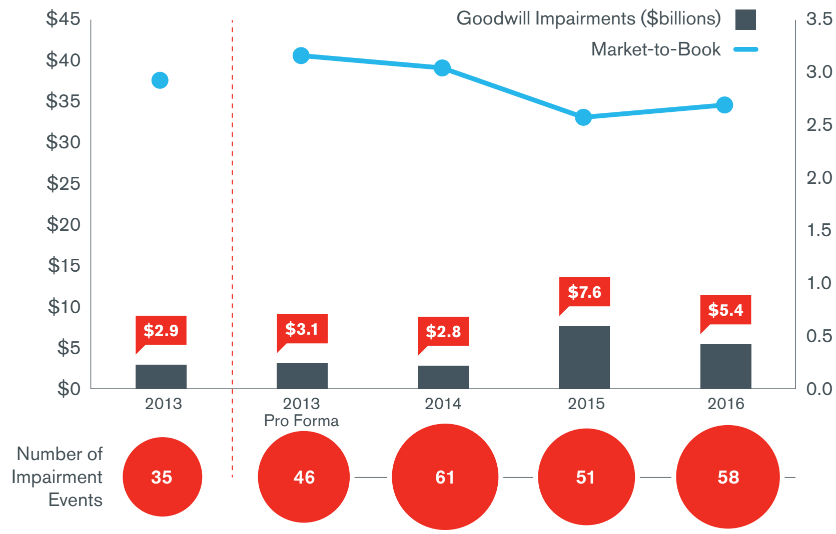
Consumer Discretionary

GICS Code 25

Goodwill Trends 2013 Pro Forma – 2016

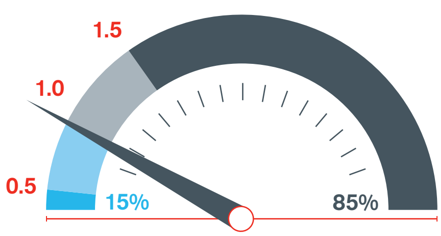


Impairment History



Market-to-Book Ratio Distribution

(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

1,185
Companies

13.7%
Goodwill to Total Assets (GW/TA)

1.8%
Percent of Goodwill Impaired (GWI/GW ratio)

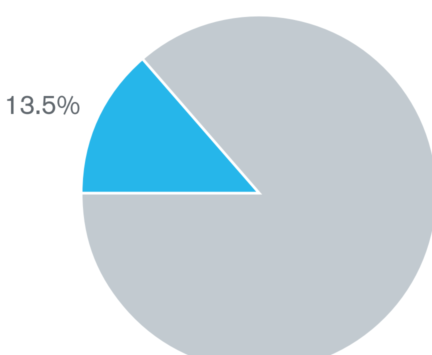
41.0%
Companies with Goodwill

11.9%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

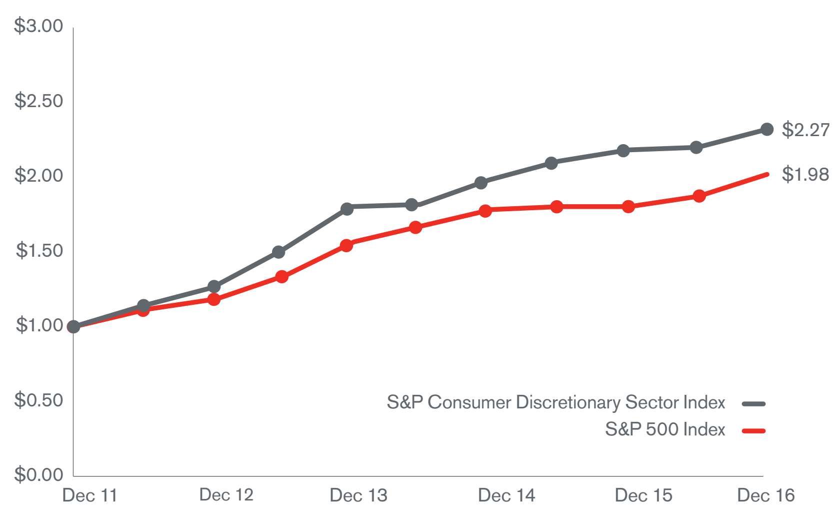
2.3
Market-to-Book Ratio (median)

Size of Industry

(Relative to Study's Total Market Cap)



Index (Year End 2011 = $1)

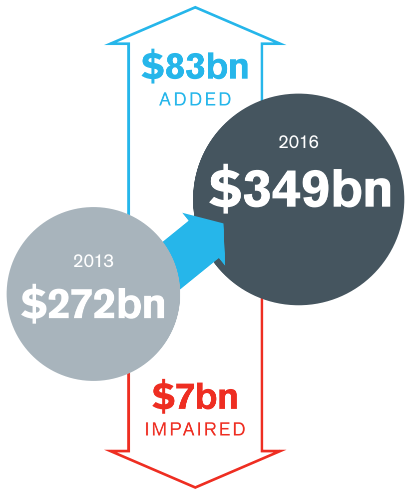


2016 Industry Spotlight

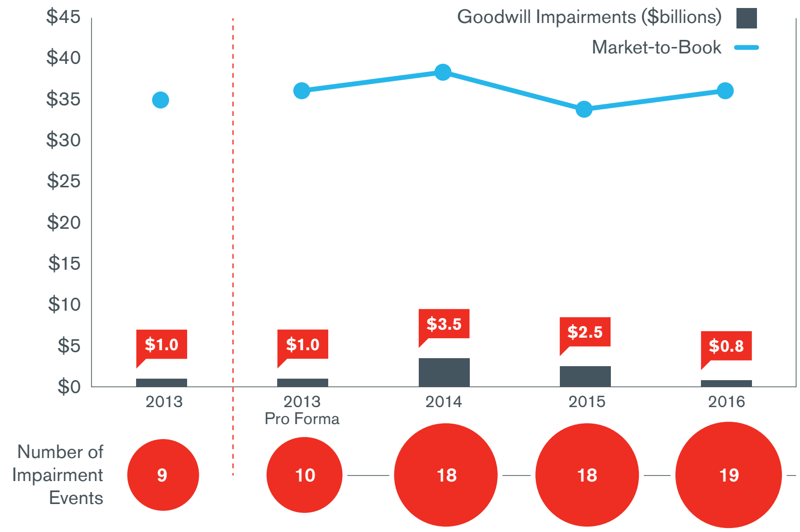
Consumer Staples

GICS Code 30

Goodwill Trends 2013 Pro Forma – 2016

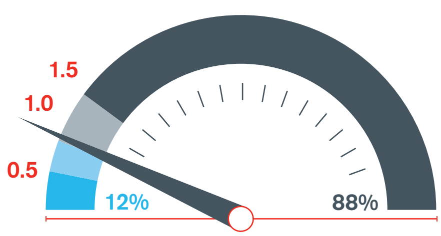


Impairment History



Market-to-Book Ratio Distribution

(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

467
Companies

22.4%
Goodwill to Total Assets (GW/TA)

0.2%
Percent of Goodwill Impaired (GWI/GW ratio)

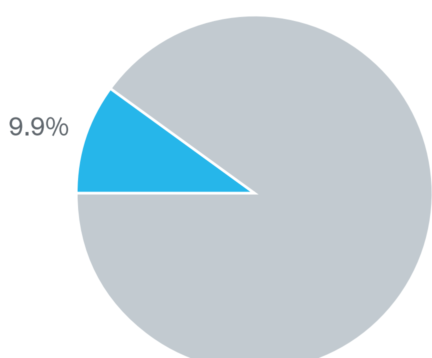
33%
Companies with Goodwill

12.3%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

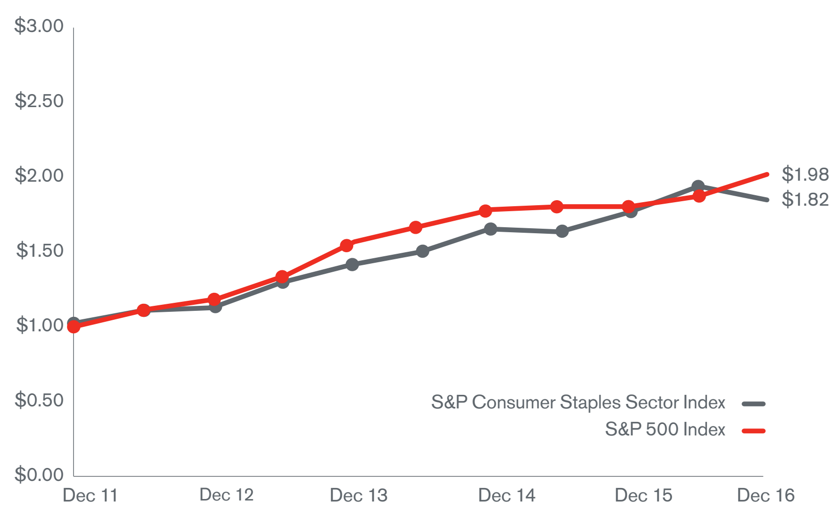
3.2
Market-to-Book Ratio (median)

Size of Industry

(Relative to Study's Total Market Cap)



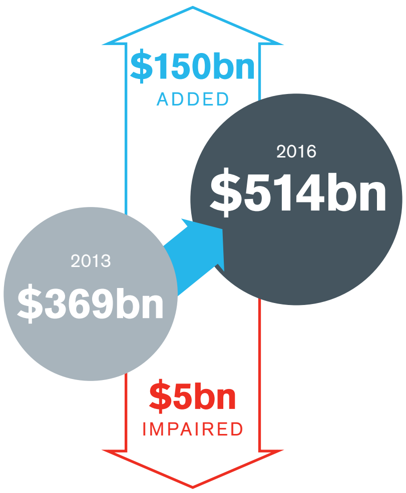
Index (Year End 2011 = $1)



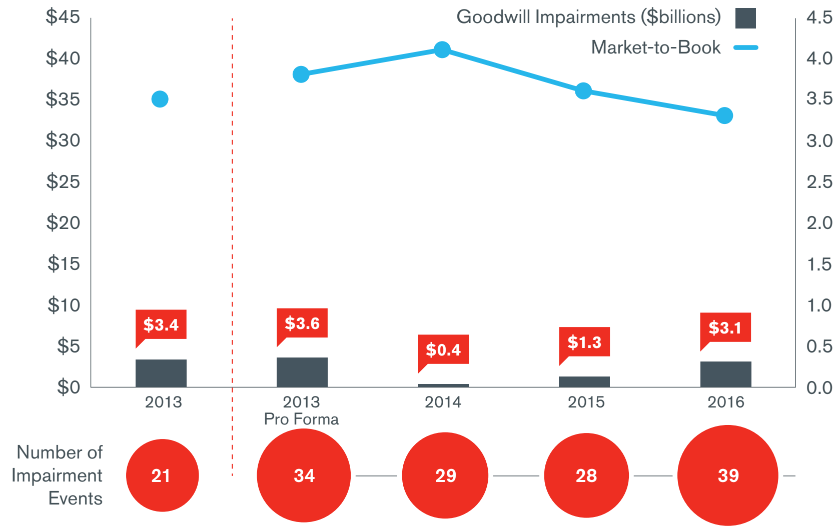
2016 Industry Spotlight

Healthcare
GICS Code 35

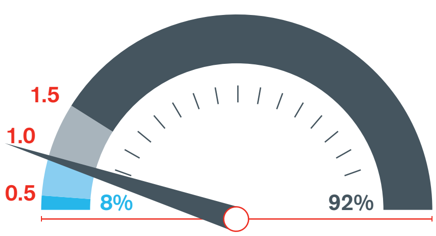
Goodwill Trends 2013 Pro Forma – 2016



Impairment History



Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

1,272
Companies

26.2%
Goodwill to Total Assets (GW/TA)

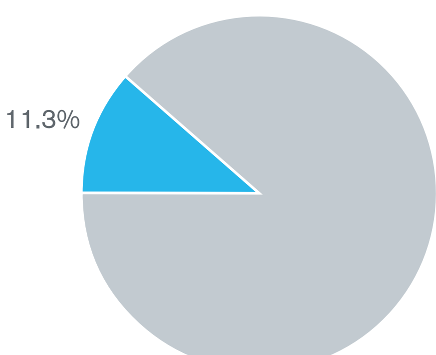
0.7%
Percent of Goodwill Impaired (GWI/GW ratio)

30.8%
Companies with Goodwill

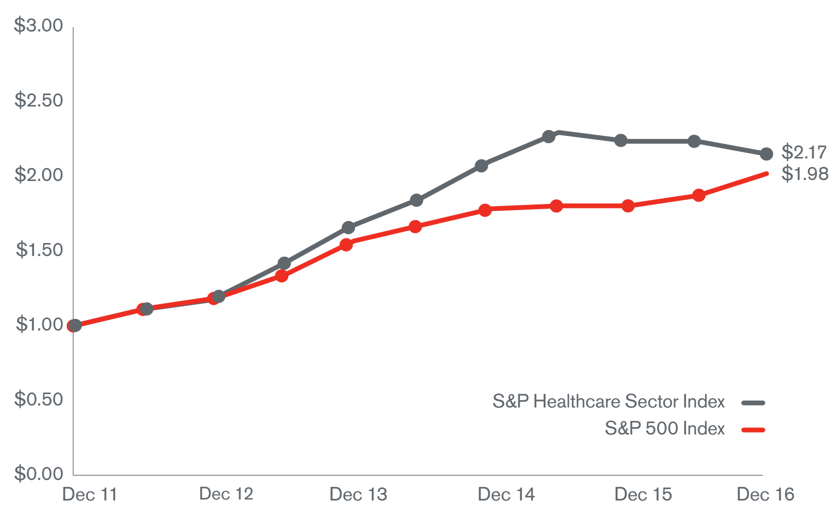
9.9%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

3.3
Market-to-Book Ratio (median)

Size of Industry
(Relative to Study's Total Market Cap)



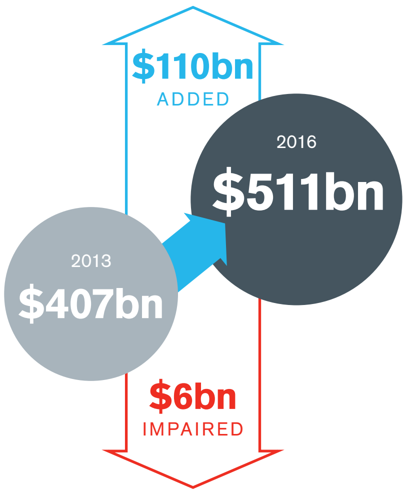
Index (Year End 2011 = $1)



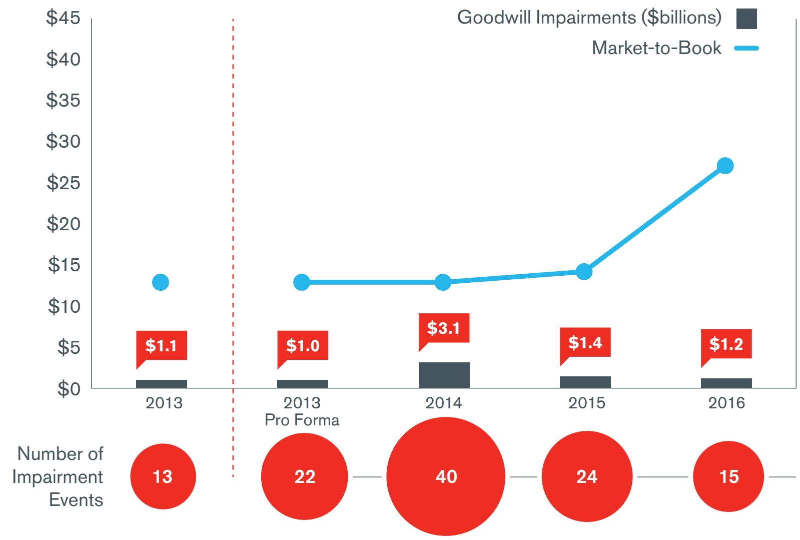
2016 Industry Spotlight

Financials
GICS Code 40

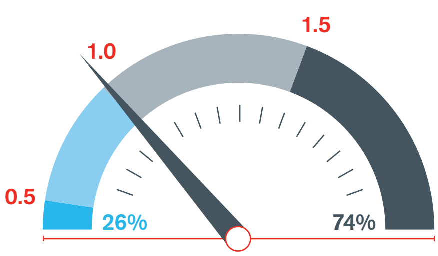
Goodwill Trends 2013 Pro Forma – 2016



Impairment History



Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

1,425
Companies

1.8%
Goodwill to Total Assets (GW/TA)

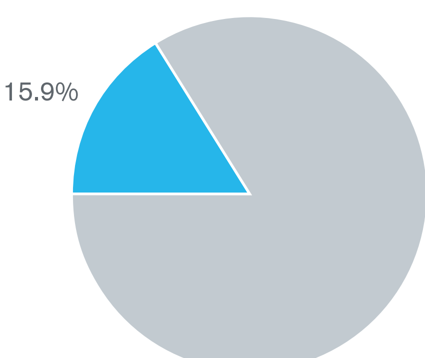
0.2%
Percent of Goodwill Impaired (GWI/GW ratio)

42.5%
Companies with Goodwill

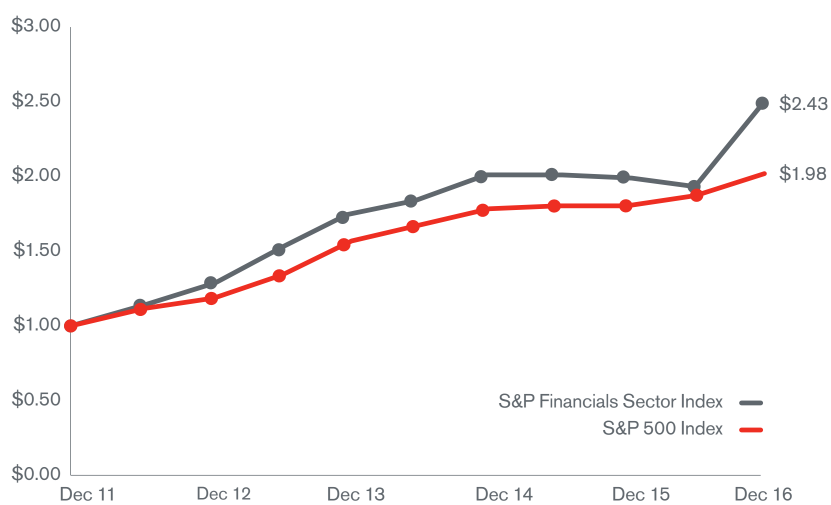
2.5%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

2.1
Market-to-Book Ratio (median)

Size of Industry
(Relative to Study's Total Market Cap)



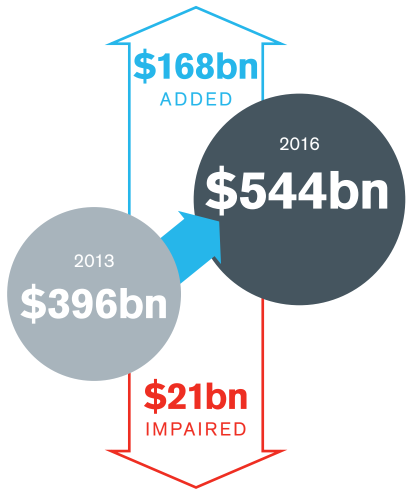
Index (Year End 2011 = $1)



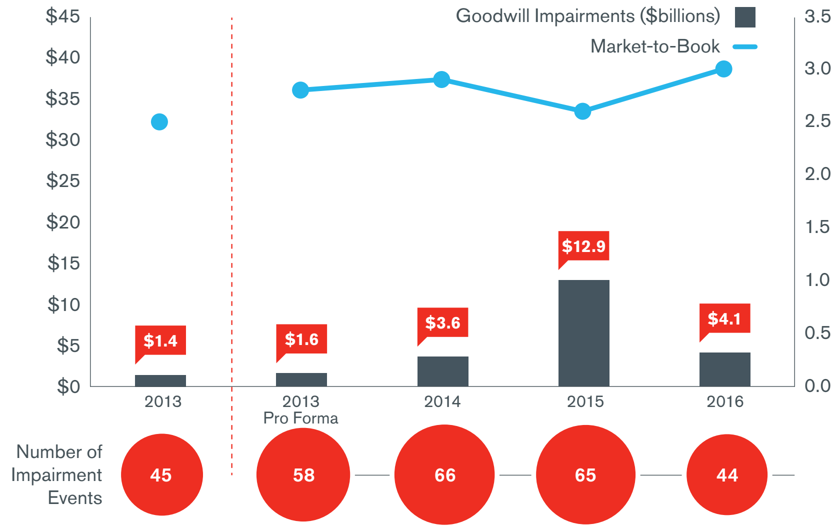
2016 Industry Spotlight

Information Technology
GICS Code 45

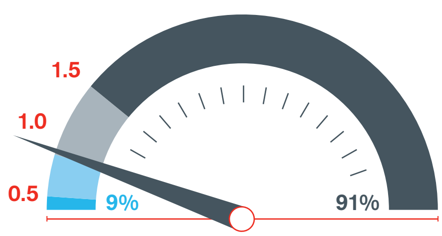
Goodwill Trends 2013 Pro Forma – 2016



Impairment History



Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

1,466
Companies

19.9%
Goodwill to Total Assets (GW/TA)

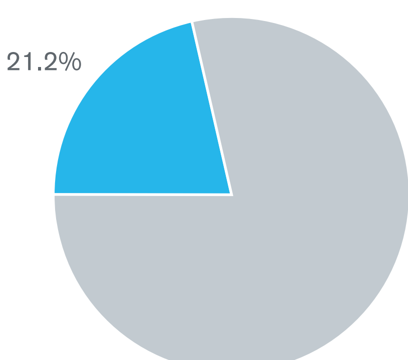
0.8%
Percent of Goodwill Impaired (GWI/GW ratio)

42.0%
Companies with Goodwill

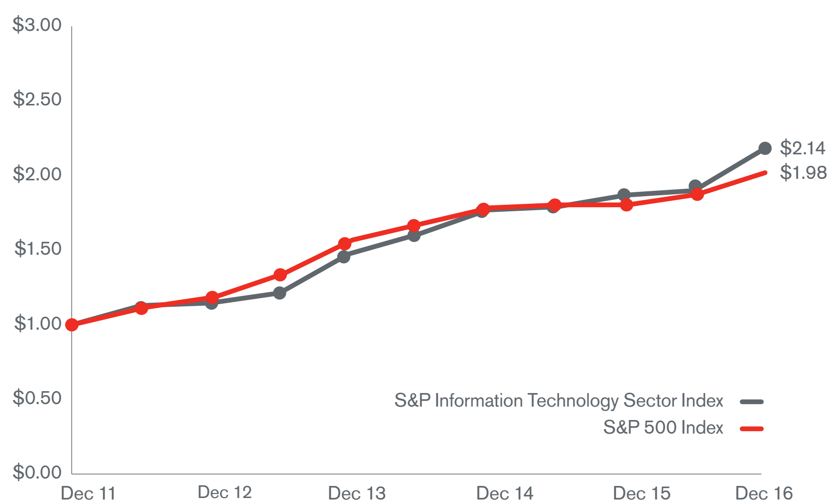
7.2%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

3.0
Market-to-Book Ratio (median)

Size of Industry
(Relative to Study's Total Market Cap)



Index (Year End 2011 = $1)

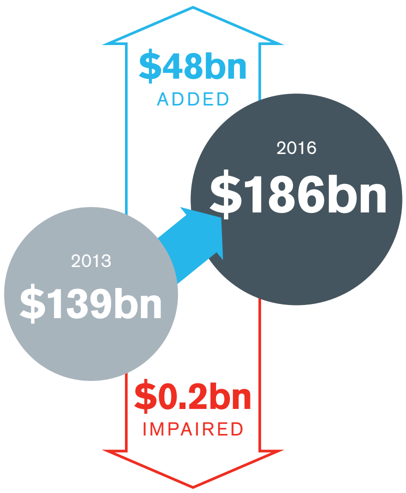


2016 Industry Spotlight

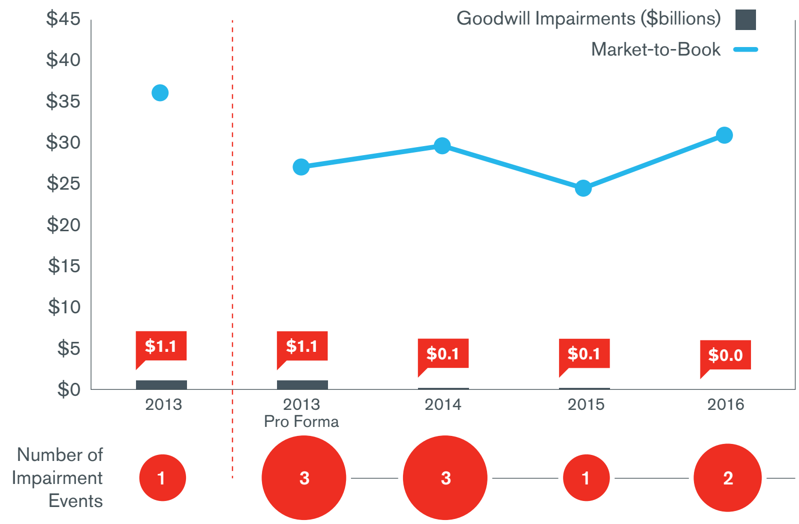
Telecommunication Services

GICS Code 50

Goodwill Trends 2013 Pro Forma – 2016

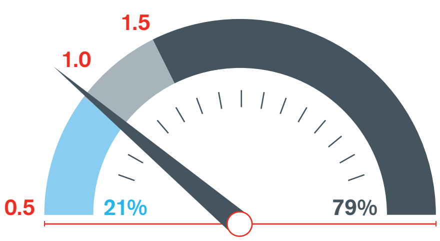


Impairment History



Market-to-Book Ratio Distribution

(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

105
Companies

19.6%
Goodwill to Total Assets (GW/TA)

0.0%
Percent of Goodwill Impaired (GWI/GW ratio)

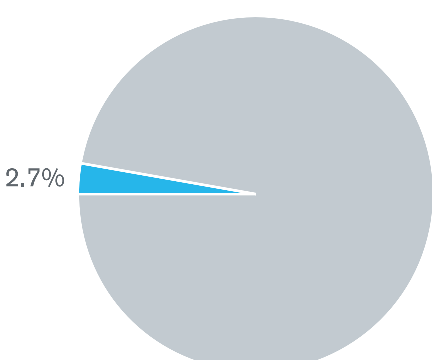
41.9%
Companies with Goodwill

4.5%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

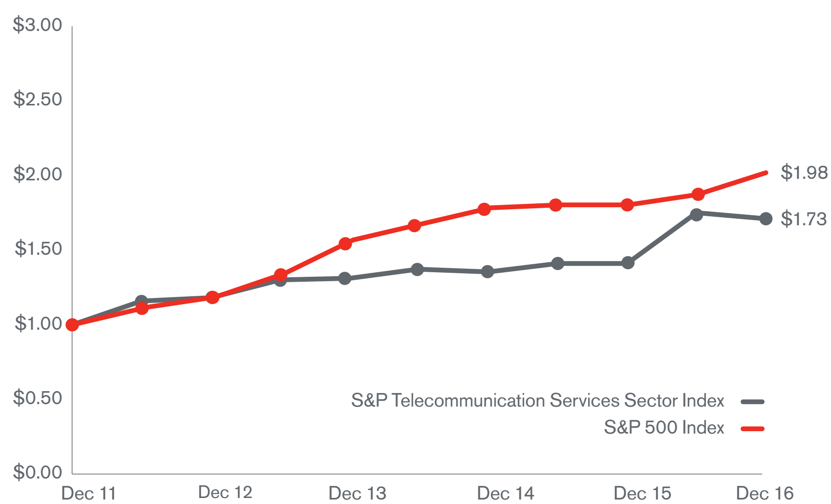
2.4
Market-to-Book Ratio (median)

Size of Industry

(Relative to Study's Total Market Cap)



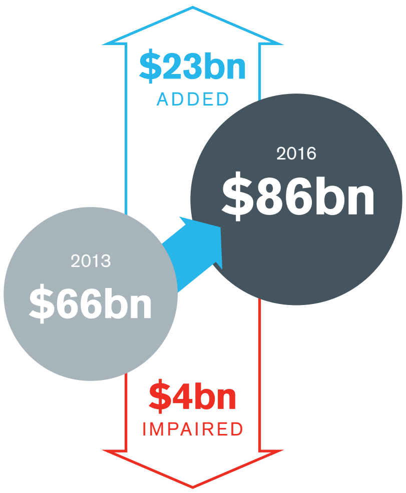
Index (Year End 2011 = $1)



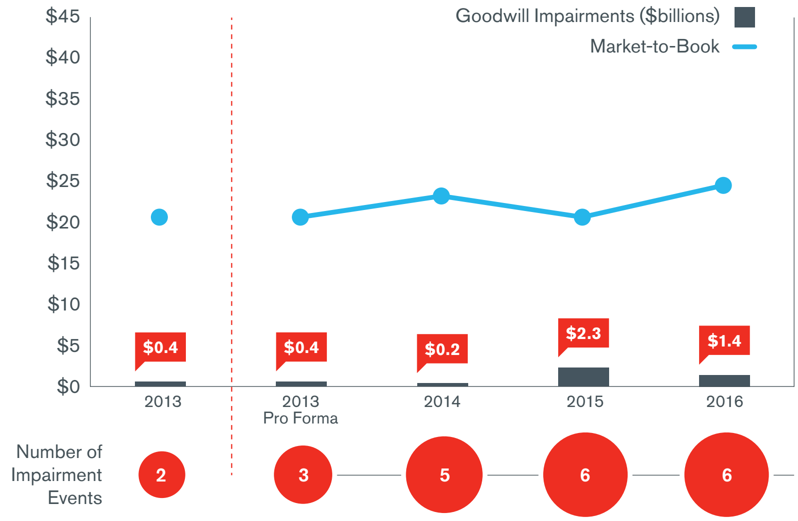
2016 Industry Spotlight

Utilities
GICS Code 55

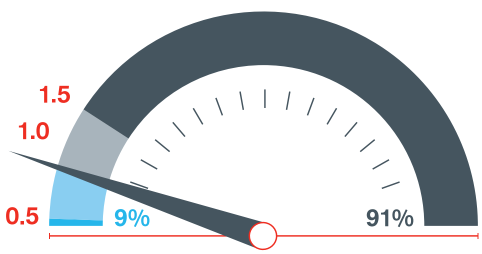
Goodwill Trends 2013 Pro Forma – 2016



Impairment History



Market-to-Book Ratio Distribution
(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

143
Companies

5.3%
Goodwill to Total Assets (GW/TA)

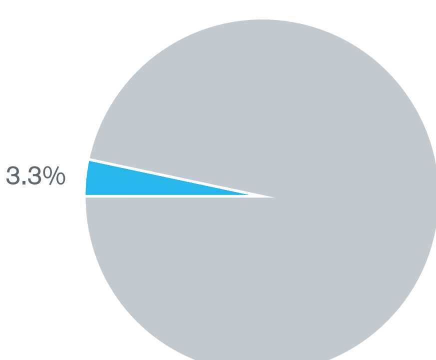
2.1%
Percent of Goodwill Impaired (GWI/GW ratio)

46.9%
Companies with Goodwill

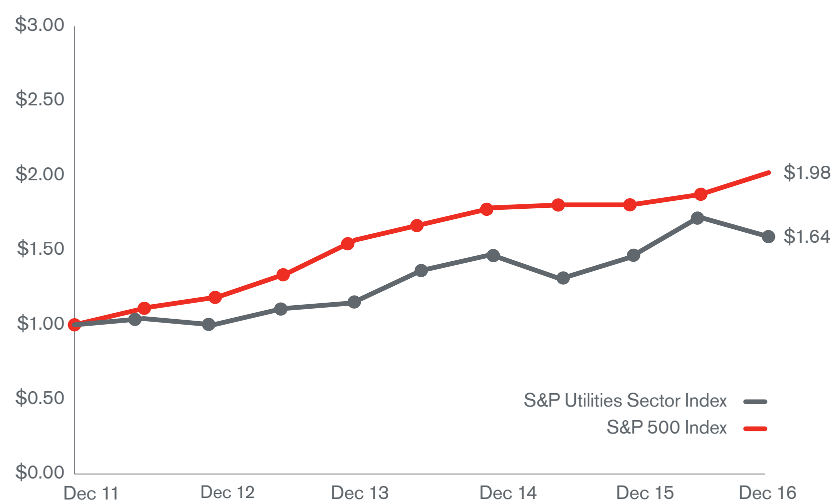
9.0%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

1.9
Market-to-Book Ratio (median)

Size of Industry
(Relative to Study's Total Market Cap)



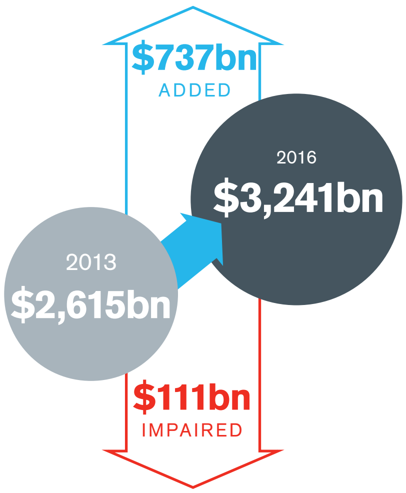
Index (Year End 2011 = $1)



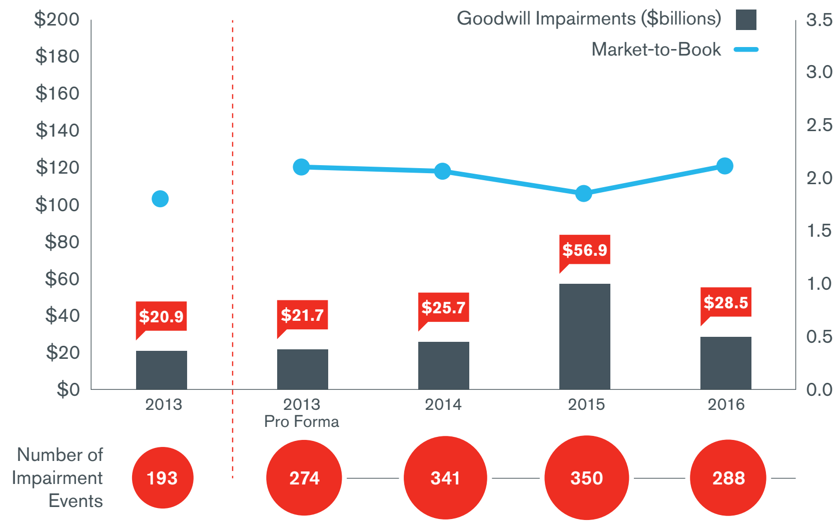
2016 Industry Spotlight

2016 Composite Industry Spotlight

Goodwill Trends 2013 Pro Forma – 2016

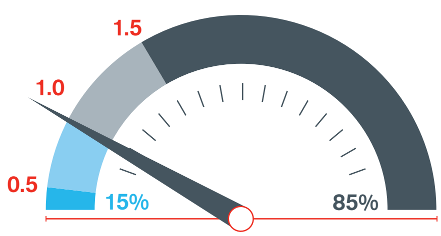


Impairment History



Market-to-Book Ratio Distribution

(Based on Number of Companies)



(Percentages of Companies Below / Above 1.0)

8,421
Companies

7.2%
Goodwill to Total Assets (GW/TA)

1.0%
Percent of Goodwill Impaired (GWI/GW ratio)

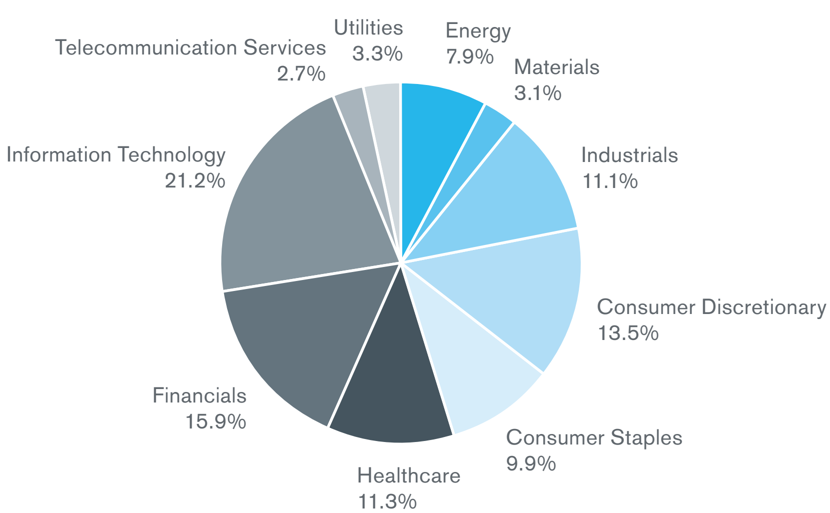
37.3%
Companies with Goodwill

9.2%
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2016

2.1
Market-to-Book Ratio (median)

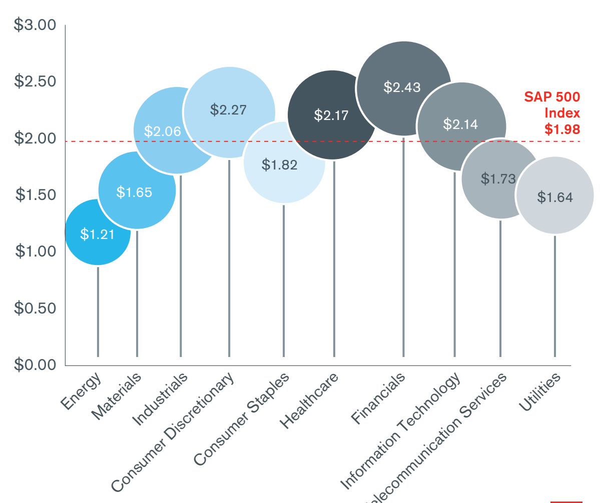
Size of Industry

(Relative to Study's Total Market Cap)



Cumulative 5-year Total Return by Industry from 2012 to 2016 Index

(Year End 2011 = $1)



GOODWILL IMPAIRMENTS BY SUB-INDUSTRY
CALENDAR YEAR 2016

Goodwill Intensity:

- Goodwill to Total Assets (GW/TA)

Loss Intensity:

- Goodwill Impairment to Goodwill (GWI/GW)

List of Industries by Sub-Industry, as defined by Global Industry Classification Standard (GICS)

GICS Code	GICS Sub-Industry Name	Number Co.'s	% of Co.'s with GW	GW/TA	GWI/GW	% of Co's with GW that Recorded GWI	Goodwill Impairment (in $millions)	Market-to-Book Ratio
	Energy						**$7,201 (industry total)**	
10101010	Oil and Gas Drilling	10	30%	0.7%	–	–	–	1.2
10101020	Oil and Gas Equipment and Services	92	28%	10.0%	18.4%	38.5%	$3,486	1.7
10102010	Integrated Oil and Gas	6	17%	0.7%	–	–	–	1.9
10102020	Oil and Gas Exploration and Production	367	4%	2.3%	9.0%	25.0%	$1,149	2.1
10102030	Oil and Gas Refining and Marketing	68	25%	6.3%	3.6%	17.6%	$474	1.5
10102040	Oil and Gas Storage and Transportation	64	61%	9.8%	3.6%	25.6%	$2,091	2.4
10102050	Coal and Consumable Fuels	41	12%	0.6%	–	–	–	1.8
	Materials						**$966 (industry total)**	
15101010	Commodity Chemicals	61	23%	13.2%	–	–	–	2.9
15101020	Diversified Chemicals	9	56%	17.0%	0.0%	20.0%	$2	3.0
15101030	Fertilizers and Agricultural Chemicals	31	19%	14.4%	0.7%	33.3%	$65	2.0
15101040	Industrial Gases	4	75%	11.0%	–	–	–	6.2
15101050	Specialty Chemicals	79	43%	22.4%	2.6%	17.6%	$743	3.1
15102010	Construction Materials	19	37%	31.1%	–	–	–	3.4
15103010	Metal and Glass Containers	13	62%	33.4%	0.2%	25.0%	$27	6.0
15103020	Paper Packaging	16	56%	18.8%	0.0%	11.1%	$3	4.1
15104010	Aluminum	11	27%	1.1%	18.2%	33.3%	$62	1.4
15104020	Diversified Metals and Mining	132	2%	11.5%	–	–	–	3.7
15104025	Copper	5	20%	0.1%	–	–	–	3.7
15104030	Gold	99	–	–	–	–	–	2.8
15104040	Precious Metals and Minerals	44	–	–	–	–	–	2.1
15104045	Silver	9	–	–	–	–	–	1.8
15104050	Steel	42	36%	8.5%	0.9%	33.3%	$54	1.4
15105010	Forest Products	12	25%	1.8%	16.3%	33.3%	$12	3.0
15105020	Paper Products	16	44%	8.5%	–	–	–	1.7
	Industrials						**$4,455 (industry total)**	
20101010	Aerospace and Defense	99	49%	23.9%	0.6%	16.3%	$751	2.4
20102010	Building Products	40	63%	17.1%	0.2%	8.0%	$14	3.5
20103010	Construction and Engineering	54	52%	25.0%	0.0%	10.7%	$6	2.3
20104010	Electrical Components and Equipment	120	23%	20.2%	0.6%	17.9%	$88	2.0
20104020	Heavy Electrical Equipment	39	15%	15.0%	0.1%	16.7%	$0	2.0
20105010	Industrial Conglomerates	11	64%	16.9%	0.7%	28.6%	$707	3.5
20106010	Construction Machinery and Heavy Trucks	38	68%	8.8%	4.9%	15.4%	$780	2.3
20106015	Agricultural and Farm Machinery	14	43%	3.7%	0.0%	16.7%	$1	3.2
20106020	Industrial Machinery	160	46%	30.8%	1.5%	13.7%	$719	2.8
20107010	Trading Companies and Distributors	81	42%	17.3%	0.8%	11.8%	$117	2.0

GOODWILL IMPAIRMENTS BY SUB-INDUSTRY
CALENDAR YEAR 2016

List of Industries by Sub-Industry, as defined by Global Industry Classification Standard (GICS)

GICS Code	GICS Sub-Industry Name	Number Co.'s	% of Co.'s with GW	GW/TA	GWI/GW	% of Co's with GW that Recorded GWI	Goodwill Impairment (in $millions)	Market-to-Book Ratio
	Industrials (continued)							
20201010	Commercial Printing	19	42%	16.7%	12.9%	12.5%	$528	3.1
20201050	Environmental and Facilities Services	128	23%	40.3%	0.6%	24.1%	$156	2.5
20201060	Office Services and Supplies	32	44%	23.3%	4.2%	21.4%	$248	2.5
20201070	Diversified Support Services	46	35%	29.2%	0.0%	6.3%	$2	2.5
20201080	Security and Alarm Services	10	20%	9.2%	–	–	–	6.1
20202010	Human Resource and Employment Services	46	46%	19.3%	1.7%	4.8%	$66	2.3
20202020	Research and Consulting Services	77	32%	49.9%	0.5%	16.0%	$75	2.5
20301010	Air Freight and Logistics	23	57%	16.6%	0.2%	7.7%	$26	2.6
20302010	Airlines	15	40%	11.1%	–	–	–	3.3
20303010	Marine	6	50%	14.2%	–	–	–	1.5
20304010	Railroads	9	33%	0.9%	–	–	–	2.7
20304020	Trucking	32	38%	3.4%	5.5%	8.3%	$172	1.9
20305010	Airport Services	4	50%	27.1%	–	–	–	1.6
20305020	Highways and Railtracks	1	–	–	–	–	–	–
20305030	Marine Ports and Services	4	–	–	–	–	–	4.3
	Consumer Discretionary						$5,424 (industry total)	
25101010	Auto Parts and Equipment	81	28%	9.5%	0.1%	8.7%	$6	2.8
25101020	Tires and Rubber	3	67%	3.1%	–	–	–	1.8
25102010	Automobile Manufacturers	13	31%	0.3%	0.1%	25.0%	$0	2.5
25102020	Motorcycle Manufacturers	6	17%	0.5%	–	–	–	5.3
25201010	Consumer Electronics	30	13%	21.1%	2.5%	50.0%	$37	2.9
25201020	Home Furnishings	18	50%	21.5%	0.1%	11.1%	$4	2.2
25201030	Homebuilding	37	43%	3.1%	0.4%	12.5%	$11	1.1
25201040	Household Appliances	19	16%	14.9%	0.2%	33.3%	$6	2.9
25201050	Housewares and Specialties	12	58%	100.1%	–	–	–	1.8
25202010	Leisure Products	53	34%	16.5%	10.0%	16.7%	$393	3.1
25203010	Apparel, Accessories and Luxury Goods	67	33%	16.7%	0.9%	13.6%	$80	1.5
25203020	Footwear	14	36%	2.3%	13.8%	40.0%	$114	2.3
25203030	Textiles	6	50%	1.6%	–	–	–	2.6
25301010	Casinos and Gaming	54	39%	10.0%	4.1%	23.8%	$407	2.1
25301020	Hotels, Resorts and Cruise Lines	33	36%	24.6%	–	–	–	2.9
25301030	Leisure Facilities	35	34%	18.7%	–	–	–	3.5
25301040	Restaurants	94	54%	13.4%	0.3%	7.8%	$45	3.5
25302010	Education Services	48	38%	25.0%	1.7%	16.7%	$105	1.5
25302020	Specialized Consumer Services	34	35%	19.6%	0.0%	8.3%	$0	2.7
25401010	Advertising	67	16%	34.5%	0.3%	18.2%	$39	1.9
25401020	Broadcasting	34	65%	28.8%	3.4%	45.5%	$1,218	2.2
25401025	Cable and Satellite	13	46%	28.1%	–	–	–	4.4
25401030	Movies and Entertainment	109	17%	37.2%	–	–	–	2.6
25401040	Publishing	31	42%	27.4%	2.3%	15.4%	$140	2.0
25501010	Distributors	45	18%	25.5%	1.3%	25.0%	$46	2.8
25502020	Internet and Direct Marketing Retail	70	23%	21.1%	8.9%	25.0%	$1,211	3.0
25503010	Department Stores	7	43%	5.9%	4.3%	33.3%	$197	1.9
25503010	Department Stores	7	43%	6.2%	–	–	–	1.6

GOODWILL IMPAIRMENTS BY SUB-INDUSTRY
CALENDAR YEAR 2016

List of Industries by Sub-Industry, as defined by Global Industry Classification Standard (GICS)

GICS Code	GICS Sub-Industry Name	Number Co.'s	% of Co.'s with GW	GW/TA	GWI/GW	% of Co's with GW that Recorded GWI	Goodwill Impairment (in $millions)	Market-to-Book Ratio
	Consumer Discretionary (continued)							
25503020	General Merchandise Stores	9	56%	13.5%	–	–	–	3.4
25504010	Apparel Retail	47	34%	5.7%	1.6%	6.3%	$71	1.9
25504020	Computer and Electronics Retail	7	43%	9.0%	7.2%	33.3%	$151	1.1
25504030	Home Improvement Retail	8	63%	4.0%	–	–	–	7.3
25504040	Specialty Stores	40	48%	9.3%	16.1%	21.1%	$1,141	1.6
25504050	Automotive Retail	30	53%	10.2%	0.0%	6.3%	$1	2.9
25504060	Home Furnishing Retail	11	55%	12.0%	–	–	–	1.8
	Consumer Staples						**$805 (industry total)**	
30101010	Drug Retail	11	27%	31.7%	–	–	–	2.3
30101020	Food Distributors	24	33%	27.4%	0.0%	12.5%	$0	2.4
30101030	Food Retail	18	50%	10.8%	0.3%	11.1%	$15	2.1
30101040	Hypermarkets and Super Centers	3	67%	7.1%	–	–	–	3.9
30201010	Brewers	6	50%	63.0%	0.0%	33.3%	$0	3.7
30201020	Distillers and Vintners	20	25%	39.2%	–	–	–	5.7
30201030	Soft Drinks	45	24%	16.8%	0.0%	9.1%	$10	8.3
30202010	Agricultural Products	34	21%	8.2%	–	–	–	1.4
30202030	Packaged Foods and Meats	123	34%	32.0%	0.6%	21.4%	$744	3.4
30203010	Tobacco	27	26%	22.9%	0.0%	14.3%	$3	2.4
30301010	Household Products	25	48%	25.9%	0.0%	8.3%	$11	5.0
30302010	Personal Products	131	15%	36.8%	0.4%	21.1%	$22	2.3
	Healthcare						**$3,086 (industry total)**	
35101010	Healthcare Equipment	225	28%	30.9%	0.1%	9.4%	$84	3.8
35101020	Healthcare Supplies	60	45%	50.0%	0.1%	7.4%	$9	3.6
35102010	Healthcare Distributors	25	32%	20.7%	1.1%	12.5%	$290	2.8
35102015	Healthcare Services	102	34%	54.3%	0.5%	28.6%	$323	2.6
35102020	Healthcare Facilities	47	47%	28.6%	4.7%	13.6%	$2,021	2.0
35102030	Managed Healthcare	21	57%	27.5%	–	–	–	2.2
35103010	Health Care Technology	80	28%	35.4%	3.1%	9.1%	$161	2.9
35201010	Biotechnology	450	19%	15.9%	0.3%	9.2%	$118	3.3
35202010	Pharmaceuticals	209	19%	23.7%	0.1%	10.0%	$43	4.0
35203010	Life Sciences Tools and Services	53	51%	51.0%	0.1%	11.1%	$37	4.2
	Financials/Real Estate						**$1,152 (industry total)**	
40101010	Diversified Banks	12	67%	2.1%	–	–	–	1.0
40101015	Regional Banks	696	47%	2.6%	0.5%	1.2%	$368	1.3
40102010	Thrifts and Mortgage Finance	190	34%	0.1%	6.0%	1.5%	$320	1.1
40201020	Other Diversified Financial Services	7	29%	0.1%	–	–	–	0.6
40201030	Multi-Sector Holdings	15	27%	13.3%	0.0%	25.0%	$24	1.1
40201040	Specialized Finance	25	8%	0.3%	–	–	–	2.0
40202010	Consumer Finance	39	51%	2.2%	0.2%	10.0%	$44	1.4
40203010	Asset Management and Custody Banks	98	8%	2.6%	–	–	–	3.8
40203020	Investment Banking and Brokerage	49	49%	1.1%	0.4%	8.3%	$84	2.4
40203030	Diversified Capital Markets	1	–	–	–	–	–	1.1
40203040	Financial Exchanges & Data	18	78%	18.6%	0.0%	7.1%	$12	7.6
40204010	Mortgage REITs	42	17%	0.2%	–	–	–	0.9

GOODWILL IMPAIRMENTS BY SUB-INDUSTRY
CALENDAR YEAR 2016

List of Industries by Sub-Industry, as defined by Global Industry Classification Standard (GICS)

GICS Code	GICS Sub-Industry Name	Number Co.'s	% of Co.'s with GW	GW/TA	GWI/GW	% of Co's with GW that Recorded GWI	Goodwill Impairment (in $millions)	Market-to-Book Ratio
	Financials/Real Estate (continued)							
40301010	Insurance Brokers	13	54%	42.2%	0.1%	14.3%	$18	2.9
40301020	Life and Health Insurance	24	42%	0.6%	1.8%	10.0%	$260	1.0
40301030	Multi-line Insurance	12	58%	0.3%	–	–	–	1.1
40301040	Property and Casualty Insurance	51	51%	3.1%	0.1%	3.8%	$19	1.5
40301050	Reinsurance	3	67%	0.4%	–	–	–	1.2
60101010	Diversified REITs	4	25%	1.2%	–	–	–	1.8
60101020	Industrial REITs	–	–	–	–	–	–	–
60101030	Hotel and Resort REITs	3	67%	3.1%	–	–	–	1.1
60101040	Office REITs	1	100%	0.5%	–	–	–	1.2
60101050	Healthcare REITs	–	–	–	–	–	–	–
60101060	Residential REITs	3	–	–	–	–	–	1.6
60101070	Retail REITs	–	–	–	–	–	–	–
60101080	Specialized REITs	7	57%	29.3%	–	–	–	2.8
60102010	Diversified Real Estate Activities	14	7%	0.1%	–	–	–	2.1
60102020	Real Estate Operating Companies	54	6%	0.2%	–	–	–	1.8
60102030	Real Estate Development	30	3%	0.4%	6.1%	100.0%	$4	1.2
60102040	Real Estate Services	14	36%	32.5%	–	–	–	3.4
	Information Technology						$4,059 (industry total)	
45101010	Internet Software and Services	404	26%	18.2%	1.6%	10.6%	$898	3.8
45102010	IT Consulting and Other Services	90	34%	34.7%	0.7%	19.4%	$339	2.4
45102020	Data Processing and Outsourced Services	75	61%	30.5%	0.2%	4.3%	$148	4.2
45103010	Application Software	236	33%	41.5%	0.1%	5.2%	$37	4.5
45103020	Systems Software	72	39%	28.7%	0.1%	3.6%	$92	4.1
45103030	Home Entertainment Software	23	22%	46.0%	0.0%	20.0%	$2	4.1
45201020	Communications Equipment	121	36%	24.5%	1.0%	9.1%	$431	2.0
45202030	Technology Hardware, Storage and Peripherals	72	29%	10.0%	1.2%	9.5%	$991	2.5
45203010	Electronic Equipment and Instruments	133	29%	33.0%	0.5%	7.9%	$39	2.7
45203015	Electronic Components	33	52%	17.2%	1.4%	11.8%	$110	2.3
45203020	Electronic Manufacturing Services	32	47%	5.3%	0.2%	6.7%	$3	2.0
45203030	Technology Distributors	43	33%	15.2%	0.0%	7.1%	$0	1.5
45301010	Semiconductor Equipment	48	50%	11.2%	3.4%	4.2%	$255	2.0
45301020	Semiconductors	84	56%	15.0%	2.0%	10.6%	$715	3.2
	Telecommunications Services						$3 (industry total)	
50101010	Alternative Carriers	45	18%	24.3%	–	–	–	3.0
50101020	Integrated Telecommunication Services	37	43%	22.4%	0.0%	12.5%	$3	2.0
50102010	Wireless Telecommunication Services	23	26%	6.0%	–	–	–	1.8
	Utilities						$1,394 (industry total)	
55101010	Electric Utilities	33	55%	5.6%	2.1%	11.1%	$803	1.8
55102010	Gas Utilities	21	62%	12.6%	2.2%	7.7%	$191	2.1
55103010	Multi-Utilities	18	83%	5.5%	0.0%	6.7%	$7	2.0
55104010	Water Utilities	25	24%	4.7%	–	–	–	2.6
55105010	Independent Power Producers and Energy Traders	13	46%	4.1%	10.8%	16.7%	$337	1.3
55105020	Renewable Electricity	33	6%	2.6%	8.2%	50.0%	$56	1.1

APPENDIX

COMPANY BASE SET SELECTION AND METHODOLOGY

The 2017 Study focused on financial data for U.S.-based publicly-traded companies filing under U.S. GAAP. The primary sources of data for the 2017 Study were the S&P Global's Capital IQ database and individual company annual and interim financial reports.*

The following procedures were used to arrive at the 2017 Study dataset, which was used to calculate all ratios and summary statistics throughout the 2017 Study.

- American Depositary Receipts (ADRs), exchange traded funds (ETFs), and Closed End Funds were excluded from S&P Global's Capital IQ database leaving 8,546 U.S.-based, U.S.-traded companies as of April 12, 2017.
- From this set, further excluded were companies that were either identified as consolidated subsidiaries of other companies also within the dataset, or were not deemed to be publicly traded U.S. firms in 2016, resulting in a base set of 8,421 companies.
- The current methodology was first applied in the 2015 Study. Compared to the prior methodology, it removed from the company selection process the requirement that companies have stock returns data over the prior 5-year period. The 5-years returns data selection criterion had been deemed relevant in previous studies, which were performed shortly after the financial crisis of 2008-2009. To bridge methodologies and allow for year-to-year comparisons, we created a 2013 pro forma year using the new selection methodology. Specifically, starting with the 2014 dataset of companies, we recalculated the 2013 goodwill impairments and accompanying metrics for the same company set; further adjustments were made as appropriate to arrive at the 2013 pro forma figures.†
- Financial data for all companies in the 2017 Study was adjusted, when applicable, to a calendar year-end (rather than the most recent fiscal year-end) to examine impairments over a specific period of time, regardless of company-specific choices of fiscal year. Financial data was also adjusted to include goodwill impairment amounts disclosed within discontinued operations or disposal groups when identified.

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† For example, to the extent companies in the 2014 dataset acquired companies previously included in the 2013 dataset, the latter would not show in the 2014 screening process. We therefore included the goodwill impairments taken by the respective acquirees in 2013 under the prior methodology in the 2013 pro forma amounts (approximately $600 million). In addition, Citizens Financial Group's (Citizens) 2013 impairment of $4.4 billion was excluded from the 2013 pro forma total because the company was a subsidiary of Royal Bank of Scotland in 2013 and did not trade publicly in the U.S. until 2014; thus, while Citizens is part of the 2014 dataset, it was a non-U.S. company in 2013. Separately, General Motors' (GM) goodwill impairment of $541 million taken in 2013 was also excluded from the statistics as it did not meet the study criteria. The purpose of the studies is to report impairments of goodwill with economic substance, resulting from deterioration in economic conditions and/or operating performance. The GM charge pertains to goodwill with no economic basis, created upon GM's emergence of bankruptcy, as stated in the company's 2010 10-K filing. Further, GM's impairment was strictly attributable to a reversal of a deferred tax asset valuation allowance related to this goodwill. The treatment of the 2013 GM impairment is also consistent with the treatment of GM impairments of the same nature in prior studies (e.g. $27 billion in 2012). On a net basis, the various adjustments to 2013 resulted in adding $800 million of goodwill impairment to the 2013 pro forma amounts compared to those reported for 2013 using the prior methodology.

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