

October 2012

# 2012 Goodwill Impairment Study

## Introduction

In 2009 Duff & Phelps and the Financial Executives Research Foundation (FERF) first published the results of their comprehensive *Goodwill Impairment Study*. The *2009 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.

The *2010 Goodwill Impairment Study* followed up and expanded on the *2009 Study's* results. In the *2010 Study*, the time horizon over which goodwill impairments were studied was extended to five years, enabling an assessment of goodwill impairment trends over time. In addition, the 2010 and 2011 studies included analyses of the relative performance of companies over the 12-month periods before and after the goodwill impairment charge occurring.<sup>1</sup>

Now in its fourth year of publication, the *2012 Goodwill Impairment Study* continues to examine general goodwill impairment trends, trends within different industries through December 2011, and the relative performance of companies that have impaired their goodwill versus companies that have not done so. "Industry Spotlights" have been introduced in 2012, along with some cross-tabulation analyses of the annual survey of FEI members.

<sup>1</sup> Performance is measured relative to the market. The market is represented in the 2010–2012 Studies by the Standard & Poor's 500 Index.

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# Introduction

## Purpose of the 2012 Study

- To report and examine the general and industry trends of goodwill and goodwill impairment of U.S. companies.
- To analyze the performance of companies that recorded goodwill impairment relative to the performance of the market as a whole.
- To report the 2012 results of the annual goodwill impairment survey of FEI members. The 2012 Survey included queries of FEI members on their decision on whether or not to use the optional ASU 2011-08 *Intangibles-Goodwill and Other (Topic 350): Testing Goodwill for Impairment* qualitative screen when testing goodwill for impairment. In addition, the 2012 Survey captured FEI members' preliminary views regarding the use of the new qualitative assessment option for indefinite-lived intangible assets, recently finalized under ASU 2012-02 *Intangibles-Goodwill and Other (Topic 350): Testing Indefinite-Lived Intangible Assets for Impairment*.

## Highlights of the 2012 Study

- The total amount of goodwill impaired by U.S. companies in calendar year 2011 of \$29 billion tracked closely the \$30 billion of aggregate goodwill impaired in 2010.
- Bank of America (NYSE: BAC) recorded the largest goodwill impairment of all U.S. companies in both 2010 and 2011, at \$12.4 billion and \$3.2 billion, respectively.
- AT&T (NYSE: T) in Telecommunication Services and Dean Foods (NYSE: DF) in Consumer Staples were the next two companies with the highest dollar amount of goodwill impairment.
- For the third year in a row, financial services firms represented the greatest share of total impairments. However, since 2008 Consumer Staples companies have increased their share of total goodwill impairments, which nearly equaled that of financial services firms in 2011 both in share of overall impairments, and in aggregate impairment amount.
- To provide an alternative presentation of the data contained in the *Study*, Industry Spotlights have been introduced in 2012, covering 10 industry sectors. The Industry Spotlights allow the readers to focus on relevant metrics and statistics for the particular industry of their interest. Each spotlight also displays the top three companies that recognized the highest amount of goodwill impairment for that industry during 2011. The new Industry Spotlights can be found in Appendix A.
- The 2012 Survey was conducted after the adoption by most entities of ASU 2011-08. The qualitative assessment option had broad appeal among the respondents, with 52% of private companies and 43% of public companies applying it to some or all of their reporting units. However, this level of actual usage was lower than previously anticipated by the 2011 Survey respondents (69% and 81% for private and public entities, respectively).<sup>2</sup>

<sup>2</sup> Note that this comparison may not be drawn on a fully consistent basis, as the composition of survey respondents may have varied between 2011 and 2012.

# Overview of Goodwill and Goodwill Impairment

Goodwill is “an asset representing the future economic benefits arising from other assets acquired in a business combination or an acquisition by a not-for-profit entity that are not individually identified and separately recognized.”<sup>3</sup>

In general terms, the amount of goodwill recognized is the excess of the consideration transferred (including the fair value of any noncontrolling interest and previously held equity interest, if applicable) over the net acquisition-date amounts of the identifiable assets acquired and liabilities assumed.

## Goodwill Impairment Testing

Goodwill impairment is measured as the excess of the carrying amount of goodwill over its implied fair value.<sup>4</sup> The Financial Accounting Standards Board’s (FASB) standard for the accounting for goodwill, Accounting Standards Codification (ASC) Topic 350 *Intangibles—Goodwill and Other* specifies that goodwill must be tested for impairment at least annually.<sup>5</sup>

## Qualitative Assessment of Goodwill for Impairment

In September 2011, the FASB issued Accounting Standards Update No. 2011-08 *Intangibles—Goodwill and Other (Topic 350): Testing Goodwill for Impairment* (“ASU 2011-08”), providing public and private entities with the option to first assess qualitative factors (“Qualitative Assessment”) to determine whether it is more likely than not (greater than 50% likelihood) that the fair value of a reporting unit is less than its carrying amount. An entity would continue to

the traditional first step of the impairment test if it fails the Qualitative Assessment, while no further analysis would be required if it passes. Qualitative Assessments can be bypassed or resumed in any period.

ASU 2011-08 provides examples of events and circumstances that an entity should consider in making a Qualitative Assessment, none of which are intended to be standalone factors, but that are to be evaluated in the aggregate based on the weight of the evidence. These factors include, but are not limited to:

- Macroeconomic conditions
- Industry and market considerations
- Cost factors
- Overall financial performance
- Other relevant entity-specific events
- Events affecting a reporting unit
- If applicable, a sustained decrease in share price

Recent fair value calculations and the amount by which fair value exceeded the carrying amount of the reporting unit should also be considered. Note that an entity must make a *positive assertion about its conclusion reached* and the events and circumstances taken into consideration, if it concludes that it has passed the Qualitative Assessment.

A guide to relevant goodwill impairment accounting references is provided in Appendix D, “*Quick Accounting Reference Guide.*”

## Qualitative Assessment of Identifiable Indefinite-Lived Intangibles for Impairment

The FASB also simplified the impairment test for indefinite-lived intangible assets by issuing ASU No. 2012-02 *Intangibles—Goodwill and Other (Topic 350): Testing Indefinite-Lived Intangible Assets for Impairment* in July 2012. This aligns the impairment guidance for indefinite-lived intangibles with that for goodwill by providing:

- The option to perform a qualitative (more likely than not) test prior to the quantitative test;
- The ability to bypass or resume the quantitative test in any period;
- Examples of factors to be considered in a qualitative impairment test of indefinite-lived intangibles similar to those used for goodwill.

<sup>3</sup> ASC 805 Glossary.

<sup>4</sup> ASC 350-20-35-11.

<sup>5</sup> ASC 350-20-35-28.

# Description of the Study and Survey

## 2012 Study: Company Base Set Selection and Methodology

The 2012 Study is comprised of four distinct areas of analysis:

1. Goodwill Impairment and Market-to-Book Value
2. Summary Statistics by Industry
3. Returns-Based Analysis
4. Survey Results

With the exception of the survey results section, the primary sources of data for the 2012 Study were the following Standard & Poor's databases: Research Insight © 2012 and S&P Capital IQ © 2012.<sup>6</sup> After excluding American Depositary Receipts (ADRs) and exchange traded funds (ETFs), the Research Insight database included 7,179 U.S.-based, U.S.-traded companies as of June 15, 2012. From this set, companies whose ticker was solely comprised of numbers, companies which did not have a Global Industry Classification Standard (GICS) designation, and companies which did not have returns data and market capitalization data over the study period were excluded, resulting in a base set of 5,004 companies.<sup>7</sup> This base set ("All U.S. Companies"), which represents over 92% of U.S.-based, U.S.-traded market capitalization as of December 2011, was used to calculate all ratios, summary statistics, and portfolio returns throughout the 2012 Study.

It is also important to note that calendar years (rather than "most recent fiscal year") were used in all cases in order to examine impairment values during a specific period of time, regardless of company-specific choices of fiscal years.

In the 2012 Study, returns-based analyses enabling the examination of the relative performance of companies that impaired goodwill versus companies that did not impair goodwill were performed. Moreover, the 2012 Study examined the relative performance of companies with high goodwill "loss intensity" versus companies with low goodwill "loss intensity". However, analyses to gauge the relative performance of companies over the 12-month periods before and after the goodwill impairment charge occurring were not updated from the 2011 Study.

## 2012 Survey

This survey was carried out to better understand the reasons for goodwill impairments and the valuation techniques that were used in the impairment testing process.

During the summer of 2012, an electronic survey on goodwill impairments was conducted using a sample of FEI members representing both public and private companies.

Notably, the 2012 Survey captures FEI members' level of usage of the qualitative goodwill impairment test (a.k.a. "Step 0"), an option that was not available when the 2011 survey was taken. This year's survey also captures FEI members' preliminary views on the new qualitative screen for indefinite-lived intangible assets impairment testing.

Of the companies that applied Step 0 in the latest goodwill impairment test, a majority (86%) also expects to apply it to indefinite-lived intangibles. (Appendix C-1)

The 2012 Survey expanded the cross-tabulation<sup>8</sup> between public and private companies to uncover inter-relationships between certain responses. In certain instances, this feature provided insights into specific subsets of the universe of respondents. For example, of the companies that applied Step 0 in the goodwill impairment test, a majority (86%) also expects to apply it to indefinite-lived intangible assets.

The full results of these cross-tabulation analyses can be found in Appendix C.

<sup>6</sup> Standard & Poor's is a division of The McGraw-Hill Companies.

<sup>7</sup> Tickers in the Standard and Poor's Research Insight database that are comprised solely of numbers are not traded on any major or regional U.S. exchange.

<sup>8</sup> Cross-tabulation is a feature that allows the reader to evaluate any relationship between the responses to two (or more) questions. The cross-tabulation tool only takes into consideration all the respondents that have responded to the same two (or more) questions.

# Goodwill Impairment and Market-to-Book Value

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## Market-to-Book Value Overview

While not a sole or definitive indicator of impairment, a company's market capitalization should not be ignored during a goodwill impairment test. Companies that recognize goodwill impairment charges ostensibly do so as a result of more-than-temporary changes in the financial and operating conditions of their reporting units, often corroborated by associated market capitalization declines. It seems reasonable that companies, which have historically relied upon their stock prices during up markets to justify no impairments in their businesses, should consider the implications of stock price declines as well.<sup>9</sup>

The 2008–2009 financial crisis highlighted the need for companies to consider their market capitalization during the impairment testing process. In a speech made during the crisis<sup>10</sup>, an SEC staff member indicated that “it would not be reasonable for a registrant to simply ignore recent declines in their stock price, as the declines are likely indicative of factors the registrant should consider in their determination of fair value, such as a more-than-temporary repricing of the risk inherent in any company's equity that results in a higher required rate of return or a decline in the market's estimated future cash flows of the company.” Nonetheless, the SEC recognized that the market capitalization of a registrant at a given point in time may not fully capture the fair value of reporting units in the aggregate. The SEC staff member acknowledged in the speech that certain factors need to be considered when market capitalization reconciliations are performed, including understanding recent trends in the registrant's market capitalization and evaluating any “control premium” in excess of that amount.

<sup>9</sup> Mark M. Donahue, MBA. “Impairment Revisited: Beware of goodwill impairment analyses during extreme market conditions,” *The Value Examiner*, September/October 2010, pages 13–16.

<sup>10</sup> Robert G. Fox III, “Remarks before the 2008 AICPA National Conference on Current SEC and PCAOB Developments” (Washington, D.C., December 8, 2008).

# Goodwill Impairment and Market-to-Book Value

Graph 1 plots the median market-to-book ratio for the following portfolios of companies:

1. The 500 largest U.S. publicly-traded companies (“Large U.S. Companies”);
2. 5,004 U.S. publicly-traded companies (“All U.S. Companies”);
3. U.S. publicly-traded companies that recorded a goodwill impairment charge (“GWI Companies”).<sup>11</sup>

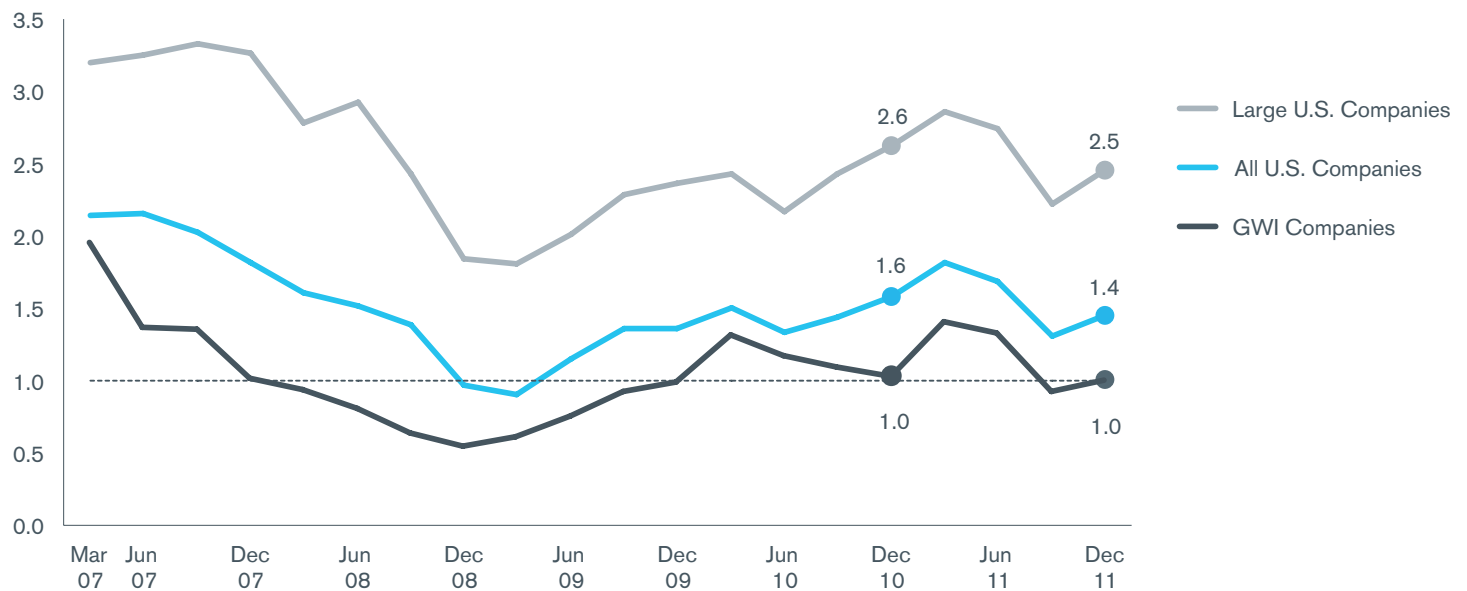
As illustrated in Graph 1, at the height of the financial crisis (the end of 2008 and the beginning of 2009), all three of these portfolios experienced relatively low market-to-book ratios. Around this time, the median (typical) company in the portfolio *GWI Companies* was trading at levels below the reported book value of equity, while the median company in the portfolio *All U.S. Companies* was trading at near parity to book value of equity. This implied that, at least temporarily, the market perceived the reported book values to be too high relative to the underlying value of these companies.

The median *Large U.S. Company's* market-to-book ratio was higher over the entire period

(March 2007–December 2011) relative to the median value of *All U.S. Companies*, but was still significantly depressed at the end of 2008. Rather unsurprisingly, the median *GWI Company* had a lower market-to-book value ratio than both the median of *All U.S. Companies* and the median of *Large U.S. Companies* in any given quarter, and over the entire period.<sup>12</sup>

In 2011, the median market-to-book value of all three portfolios showed volatility throughout the year, with the lowest level reached in September. By the end of 2011, all three portfolios rebounded back to almost the same level seen in the beginning of 2011.

**Graph 1: Median Market-to-Book Ratio for Large U.S. Companies, All U.S. Companies, and GWI Companies**  
March 2007–December 2011, Quarterly



<sup>11</sup> Source: Standard & Poor's Research Insight and Capital IQ databases. Market-to-book is defined as monthly market value divided by the common shareholder's interest in the company, including common stock, capital surplus, retained earnings and treasury stock adjustments. All portfolios reset quarterly. *All U.S. Companies* are represented by the median market-to-book ratio of 5,004 U.S.-based, publicly-traded firms. *Large U.S. Companies* are represented by the median market-to-book ratio of the 500 largest U.S.-based, publicly-traded firms as determined by market capitalization in the quarter measured. *GWI Companies* are represented by the median market-to-book ratio of all companies existing within the *All U.S. Companies* portfolio set that also recognized a goodwill impairment charge in the quarter measured.

<sup>12</sup> Source: Standard & Poor's Research Insight and Capital IQ databases.

# Goodwill Impairment and Market-to-Book Value

While it is instructive to analyze the median market-to-book ratios of companies over time, it is also important to measure the *percentage* of U.S. firms that have market-to-book ratios less than 1.0 over similar periods. As illustrated in Graph 2, the percentage of such companies in each of the three portfolios increased significantly towards the end of 2008.<sup>13</sup>

*Large U.S. Companies* had the lowest percentage of firms with market-to-book ratios less than 1.0 in any given quarter over the entire period (March 2007–December 2011). Even at the peak of the financial crisis, only 21% of *Large U.S. Companies* registered market-to-book value ratios lower than 1.0.

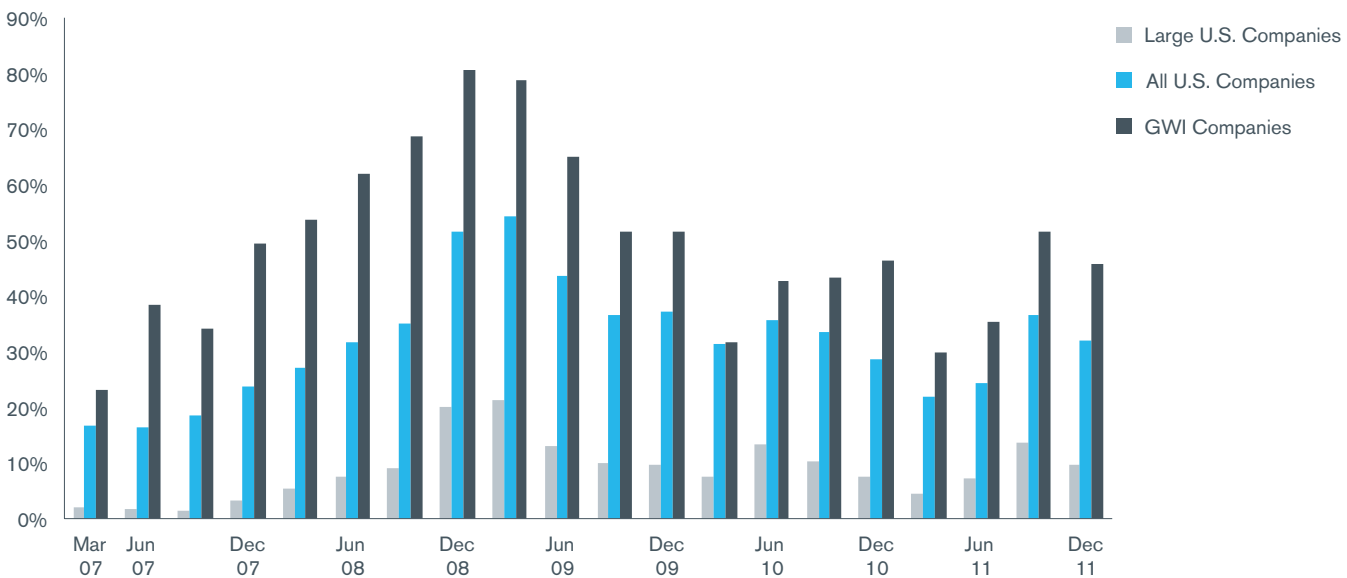
Conversely, and continuing with the pattern observed previously, *GWI Companies* had the highest percentage within their ranks with market-to-book ratios less than 1.0, peaking at over 80% at the height of the financial crisis.

Since the peak of the financial crisis at the end of 2008 and the beginning of 2009, there was a general trend towards a diminishing proportion of companies with a market-to-book ratio lower than 1.0. This was generally true until the beginning of the third quarter of 2011. In the three months ending September 2011, U.S. equity markets declined significantly (e.g., the S&P 500 Index decreased by 13.9%), and consequently the percentage of *Large U.S. Companies*, *All U.S. Companies*, and *GWI Companies* with market-to-book ratios less

than 1.0 increased significantly. Nevertheless, these proportions declined by the end of 2011, as U.S. equity markets recovered in the fourth quarter. *GWI Companies* returned to the December 2010 level, with 46% of firms exhibiting a ratio below 1.0.

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 more likely than not conclusion required from a qualitative assessment.

**Graph 2: Percentage of Large U.S. Companies, All U.S. Companies, and GWI Companies with Market-to-Book Value Ratios Less than 1.0**  
March 2007–December 2011, Quarterly



<sup>13</sup> Source: Standard & Poor's Research Insight and Capital IQ databases.

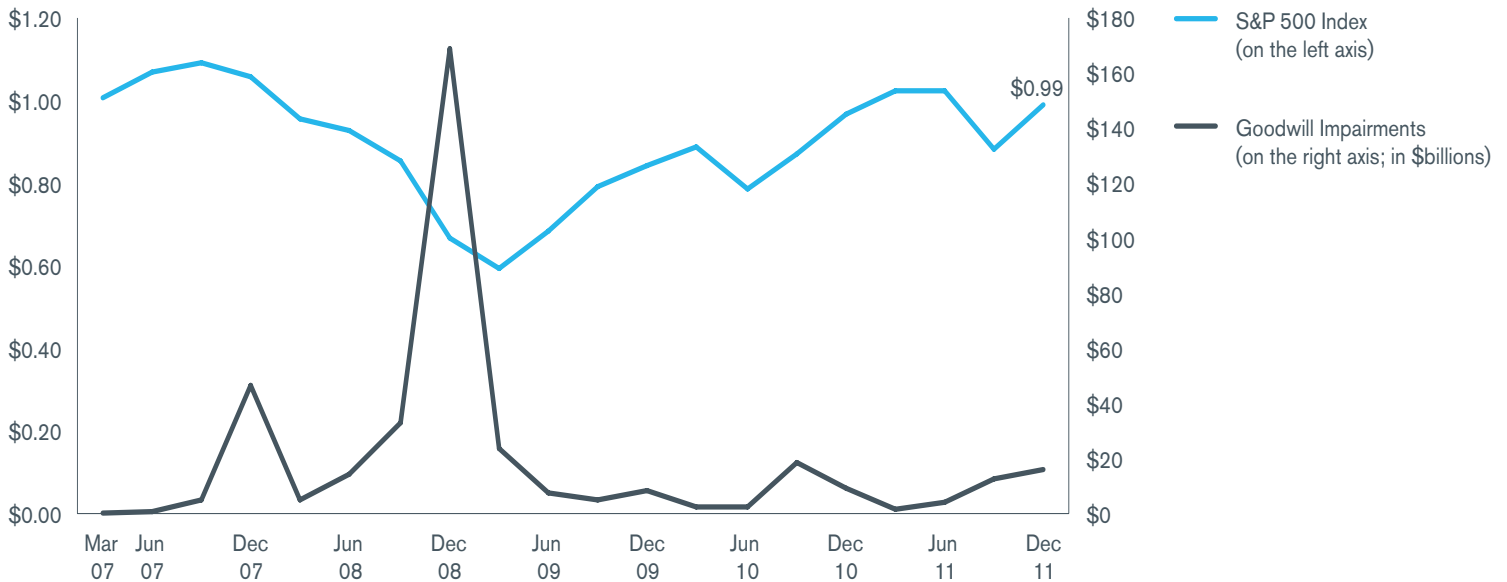
# Goodwill Impairment and Market-to-Book Value

An additional perspective is provided in Graph 3, where the quarterly dollar amount of goodwill impairment charges (on the right axis) is plotted against an index representing the growth of \$1 invested in the S&P 500 Index at year-end 2006 (on the left axis).<sup>14</sup>

It is noteworthy in Graph 3 that a very significant dollar amount of goodwill impairment during the 2007–2011 period occurred just as the financial crisis was reaching its zenith, and the stock market was nearing a low for the period. This, as expected, correlated with the drop in the market-to-book ratios.

Such a decline, along with the SEC staff speech cited earlier, likely had a significant impact on the number and magnitude of goodwill impairment charges at that point in time.

**Graph 3: Goodwill Impairments, U.S. Companies (in \$billions) vs. the S&P 500 Index**  
 (Year-end 2006 = \$1.00)  
 March 2007–December 2011, Quarterly



<sup>14</sup> Source: Standard & Poor's Research Insight and Capital IQ databases. Goodwill impairment in Graph 3 is as of the period to which the impairment charges were attributed.



# Summary Statistics by Industry

In order to assess the relative performance of a subject company and evaluate the impact of industry trends, it is beneficial to understand how other U.S. companies recorded impairments of goodwill within specific industries.<sup>15</sup> This information can facilitate the comparability of financial statements and provide a useful benchmark during the goodwill impairment testing process.

In this section, goodwill impairment information is compiled for U.S. companies over the time period 2007–2011. The analysis includes 5,004 U.S.-based, U.S.-traded companies, as previously described.<sup>16</sup>

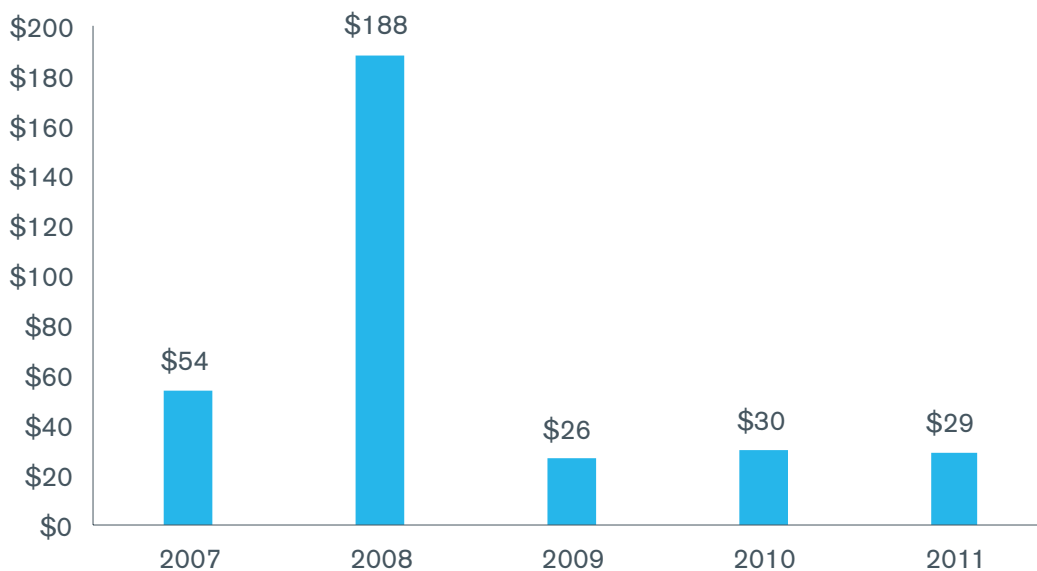
An unprecedented aggregate amount of goodwill impairment was recorded by U.S. companies in calendar year 2008, as illustrated in Graph 4.<sup>17</sup>

In 2009, the amount of goodwill impaired dropped precipitously from approximately \$188 billion in 2008 to \$26 billion in 2009, representing an 86% decline.

Goodwill impairments stabilized at approximately \$30 billion in 2010 and 2011.

The largest goodwill impairments recorded by a single company in calendar years 2010 and 2011 were \$12.4 billion and \$3.2 billion, respectively, both of which were recognized by Bank of America (NYSE: BAC).

**Graph 4: Goodwill Impairments, U.S. Companies (in \$billions)  
2007–2011**



<sup>15</sup> Industries are defined throughout the 2012 Study in accordance with Global Industry Classification Standard (GICS) codes.

<sup>16</sup> Companies that did not have returns and market capitalization data over the period analyzed were eliminated. Accordingly, the companies examined here were the survivors, and most likely have recorded fewer losses relative to including companies that filed for bankruptcy, were acquired, or otherwise ceased to exist as an independent publicly-traded entity.

<sup>17</sup> Source: Standard & Poor's Research Insight and Capital IQ databases.

## Summary Statistics by Industry

Table 1 lists the total dollar value of goodwill impairments (in \$billions) by industry from 2007 to 2011.<sup>18</sup>

All of the industry sectors showed dramatic increases in their respective goodwill impairment amounts from 2007 to 2008, with the exception of Telecommunication Services. This anomaly results primarily from Sprint Nextel's (NYSE: S) write-off of nearly \$30 billion in 2007, attributable to its acquisition of Nextel in 2005. Sprint Nextel's very large 2007 goodwill impairment eclipsed any subsequent Telecommunications Services impairments recorded in 2008.

2009 saw a sharp decline in impairment amounts across all of the industries, with the exception of Utilities.

In 2010, aggregate goodwill impairments increased by roughly \$3 billion, with the largest increases observed in Financials and Healthcare.

In 2011, Financials, despite registering the largest *decrease* in impairment from 2010 to 2011, *still* had the largest aggregate amount of goodwill impairment, at \$5.8 billion.

Consumer Staples, Information Technology, and Telecommunications Services showed the largest *increases* in dollar amount of impairments.

**Table 1: Goodwill Impairments, U.S. Companies, by Industry (in \$billions) 2007–2011**

	2007	2008	2009	2010	2011
Energy	\$5.0	\$35.5	\$0.3	\$1.3	\$1.4
Materials	1.6	15.0	0.3	0.2	1.2
Industrials	2.4	16.3	5.3	2.5	2.8
Consumer Discretionary	7.5	46.3	2.3	1.7	2.9
Consumer Staples	0.0	3.8	2.3	2.2	5.0
Healthcare	0.4	6.2	0.9	3.9	3.7
Financials	1.0	34.8	10.7	14.8	5.8
Information Technology	6.4	28.8	3.1	0.8	3.3
Telecommunications Services	29.8	1.2	0.0	0.4	2.8
Utilities	0.0	0.5	1.3	2.0	0.0
<b>Total</b>	<b>\$54.2</b>	<b>\$188.4</b>	<b>\$26.4</b>	<b>\$29.7</b>	<b>\$29.1</b>

<sup>18</sup> Source: Standard & Poor's Research Insight and Capital IQ databases. For a complete listing of goodwill impairments for calendar year 2011 at the GICS sub-industry level, see Appendix B.

## Summary Statistics by Industry

In Graphs 5a and 5b, goodwill impairments by industry (as a percentage of total goodwill impairments across all industries) are shown for 2010 and 2011.<sup>19</sup>

In 2010, Financials accounted for the largest percentage of goodwill impairment (49.8%), followed by Healthcare (13.1%), Industrials (8.4%), Consumer Staples (7.3%), and Utilities (6.6%).

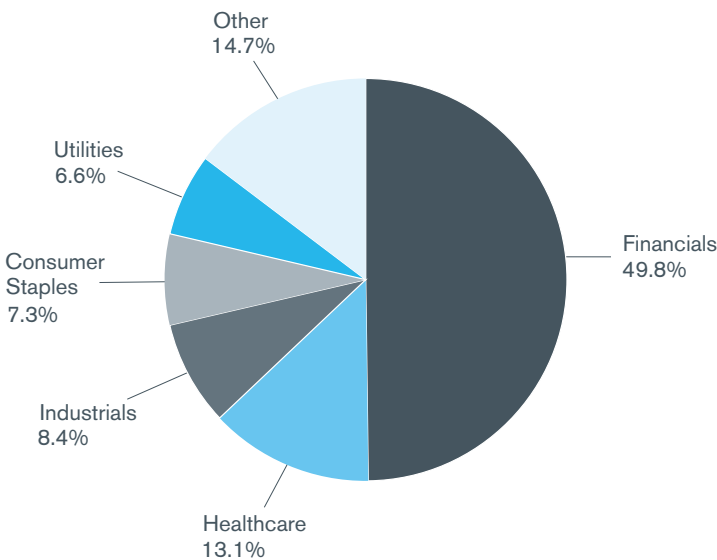
In 2011, Financials' percentage of overall goodwill impairments declined dramatically to 20.1%, yet *still* accounted for the largest percentage of goodwill impairment, followed by Consumer Staples (17.2%), Healthcare (12.8%), Information Technology (11.5%), and then Consumer Discretionary (10.0%).

After Financials, Utilities showed the largest *decrease* in their share of overall goodwill impairment from 2010 to 2011, dropping from 6.6% to 0.1%.

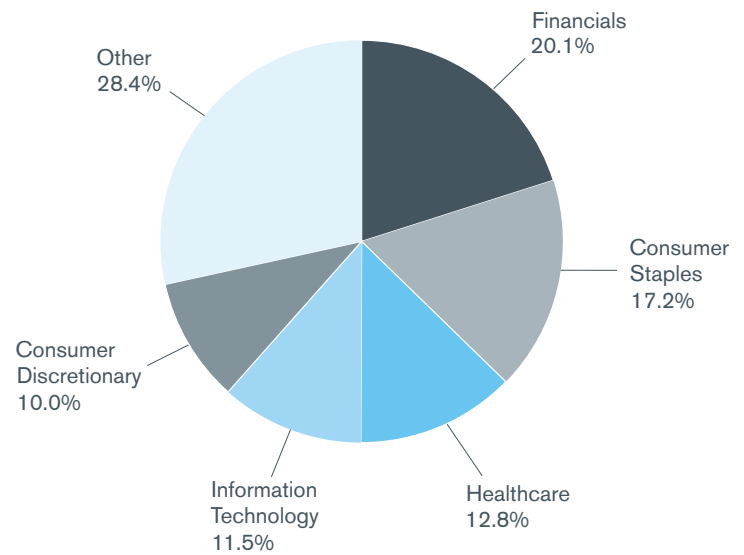
The industry sectors that showed the largest *increase* in their share of overall goodwill impairment from 2010 to 2011 were Consumer Staples (from 7.3% to 17.2%), Information Technology (from 2.6% to 11.5%), and Telecommunication Services (from 1.5% to 9.6%).

Bear in mind that Graphs 5a and 5b represent the *percentage* of impairment by industry relative to the total amount of impairment across all industries in each year. For example, total goodwill impairment across all industries in 2011 was approximately \$30 billion. Financials' goodwill impairment of \$5.8 billion represented approximately 20.1% of this total (\$5.8 / \$30) (difference due to rounding).

**Graph 5a and 5b: Goodwill Impairments, U.S. Companies, by Industry, as a Percentage of Total Impairments in 2010 and 2011**



**Graph 5a: 2010**



**Graph 5b: 2011**

<sup>19</sup> Source: Standard & Poor's Research Insight and Capital IQ databases. In Graph 5a (2010), "Other" is represented by the sum of goodwill impairment in the Consumer Discretionary (5.6%), Energy (4.3%), Information Technology (2.6%), Telecommunications Services (1.5%), and Materials (0.7%) sectors. In Graph 5b (2011), "Other" is represented by the sum of goodwill impairment in the Industrials (9.6%), Telecommunications Services (9.6%), Energy (4.9%), Materials (4.2%), and Utilities industries (0.1%) sectors.

## Summary Statistics by Industry

In order to better understand which industries were most affected by goodwill impairments over time, Table 2 provides the rank order (from 1 to 10) of total dollar value of goodwill impairment by industry for the period 2007–2011. Industries were ranked annually from the highest dollar value of goodwill impairment (ranked first) to the lowest dollar value of goodwill impairment (ranked 10th).

For example, in 2007 the Telecommunications Services industry impaired the most amount of goodwill (ranked 1st), but in 2009 it registered the tenth highest amount of goodwill impairment (ranked 10th).

Another example is Financials, which ranked seventh in overall goodwill impairment charges in 2007, but has ranked first since 2009.

The largest company-level write-off in 2011 was in the Financials industry (Bank of America's \$3.2 billion write-off), while the second and third largest were in the Telecommunications Services and Consumer Staples industries: AT&T Inc. (NYSE: T) and Dean Foods (NYSE: DF) impaired \$2.75 billion and \$2.08 billion of their goodwill, respectively. The goodwill impairments recorded by Bank of America, AT&T, and Dean Foods represented over 27% of all goodwill impairments in 2011.

**Table 2: Rank Order of Goodwill Impairments, U.S. Companies, by Dollar Value, by Industry (1 = Highest, 10 = Lowest) 2007–2011**

Rank Order	2007	2008	2009	2010	2011
1	Telecomm. Services	Consumer Discretionary	Financials	Financials	Financials
2	Consumer Discretionary	Energy	Industrials	Healthcare	Consumer Staples
3	Information Technology	Financials	Information Technology	Industrials	Healthcare
4	Energy	Information Technology	Consumer Discretionary	Consumer Staples	Information Technology
5	Industrials	Industrials	Consumer Staples	Utilities	Consumer Discretionary
6	Materials	Materials	Utilities	Consumer Discretionary	Telecomm. Services
7	Financials	Healthcare	Healthcare	Energy	Industrials
8	Healthcare	Consumer Staples	Materials	Information Technology	Energy
9	Consumer Staples	Telecomm. Services	Energy	Telecomm. Services	Materials
10	Utilities	Utilities	Telecomm. Services	Materials	Utilities

## Summary Statistics by Industry

In Table 3, the percentage of companies (out of the 5,004 companies included in the *Study*) that recorded goodwill impairment in each of 10 industries is shown over time (the largest percentage in each year is indicated in gray).

For example, 14.8% of the publicly-traded companies in Consumer Discretionary recognized a goodwill impairment in 2008.

In 2011, Telecommunications Services had the largest percentage of companies that impaired goodwill (8.1%), closely followed by Consumer Discretionary (7.5%). The average and median percentage of companies (across all industries) that impaired goodwill peaked in 2008, and then decreased in 2009 and 2010. In 2011, however, the proportion of companies that impaired goodwill across all industries increased slightly from 2010, to around 5%.

**Table 3: Percentage of U.S. Companies that Recorded Goodwill Impairment by Industry 2007–2011**

	2007	2008	2009	2010	2011
Energy	1.4%	9.5%	2.8%	3.1%	2.9%
Materials	3.8	11.4	4.2	2.1	4.3
Industrials	3.3	12.4	9.4	4.6	6.4
Consumer Discretionary	4.9	14.8	6.4	2.8	7.5
Consumer Staples	2.6	4.2	5.2	4.8	7.0
Healthcare	1.8	5.6	3.2	3.4	4.3
Financials	1.9	6.2	6.4	2.9	2.2
Information Technology	4.5	14.5	6.6	3.8	5.6
Telecommunication Services	5.8	10.1	4.3	3.7	8.1
Utilities	1.0	3.8	4.8	5.9	1.0
<b>Average</b>	3.1%	9.2%	5.3%	3.7%	4.9%
<b>Median</b>	3.0%	9.8%	5.0%	3.6%	5.0%

## Summary Statistics by Industry

In Table 4, the percentage of companies (out of the 5,004 U.S. companies included in the *Study*) with goodwill in each of 10 industries is shown over time (the largest percentage in each year is indicated in gray).

Over the 2007–2011 period, Industrials had the *highest* percentage of companies with goodwill in any given year, while Financials had the *lowest* proportion. Overall, approximately half of U.S. companies carry some amount of goodwill on their balance sheets.

**Table 4: Percentage of U.S. Companies with Goodwill by Industry 2007–2011**

	2007	2008	2009	2010	2011
Energy	42.1%	39.6%	40.7%	39.5%	34.3%
Materials	47.0	45.8	45.8	49.8	49.8
Industrials	64.0	63.0	62.1	64.5	61.6
Consumer Discretionary	57.2	54.2	52.5	54.3	53.7
Consumer Staples	55.7	56.3	55.2	59.6	51.9
Healthcare	46.7	46.0	47.0	50.0	40.3
Financials	33.8	32.5	29.8	29.3	28.5
Information Technology	60.7	58.4	57.0	61.9	55.3
Telecommunication Services	56.5	53.6	56.5	59.3	53.2
Utilities	54.8	55.8	54.8	57.8	56.7
<b>Average</b>	51.9%	50.5%	50.2%	52.6%	48.5%
<b>Median</b>	55.3%	53.9%	53.7%	56.1%	52.5%

## Summary Statistics by Industry

In Table 5, the percentage of companies with goodwill that recorded a goodwill impairment in each of 10 industries is shown over time (the largest percentage in each year is indicated in gray).

It is important to note that Table 5 shows the percentage of companies *with goodwill* that recorded a goodwill impairment, while Table 3 displayed the percentage of companies that recorded impaired goodwill out of the *complete group of 5,004 companies included in the Study*.

From 2010 to 2011 the percentage of companies recognizing goodwill impairment increased in eight of the 10 industries, while decreasing in Utilities and Financials.

Over the entire 2007–2011 period, the highest percentage of companies impairing goodwill was in Consumer Discretionary in 2008 (27.2%).

**Table 5: Percentage of U.S. Companies with Goodwill that Recorded a Goodwill Impairment by Industry 2007–2011**

	2007	2008	2009	2010 <sup>r</sup>	2011
Energy	3.3%	23.9%	6.9%	7.8%	8.3%
Materials	8.1	24.8	9.1	4.1	8.7
Industrials	5.2	19.7	15.2	7.1	10.4
Consumer Discretionary	8.5	27.2	12.2	5.1	13.9
Consumer Staples	4.7	7.4	9.4	8.0	13.4
Healthcare	3.9	12.2	6.8	6.8	10.7
Financials	5.6	19.2	21.4	9.8	7.7
Information Technology	7.4	24.8	11.6	6.2	10.2
Telecommunication Services	10.3	18.9	7.7	6.3	15.2
Utilities	1.8	6.9	8.8	10.2	1.8
<b>Average</b>	5.9%	18.5%	10.9%	7.1%	10.0%
<b>Median</b>	5.4%	19.4%	9.3%	7.0%	10.3%

<sup>r</sup> Calendar year 2010 values originally reported in the 2011 Study have been revised in the 2012 Study.

## Summary Statistics by Industry

### Goodwill Impairment Ratios

Using the 5,004 U.S. companies included in the *Study*, the ratios summarized in Table 6 were measured.

**Table 6: Goodwill Impairment Ratios**

		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 2007–2010	Indicates how significant an industry's goodwill is in relation to total assets.
Loss Intensity	Which industries' goodwill got hit hardest by the impairments?	I/GW	Goodwill impairment loss in Year t as a percentage of total goodwill in Year t-1	Indicates how impairments impacted each industry's goodwill.
Loss Intensity	Which industries' balance sheets got hit hardest by the impairments?	I/TA	Goodwill impairment loss in Year t as a percentage of total assets in Year t-1	Indicates how impairments impacted each industry's total assets.

The percentage of assets impaired (I/TA) combines the other two ratios used in this analysis:

$$\frac{\text{(GW/TA)}}{\frac{\text{Goodwill}}{\text{Total Assets}}} \times \frac{\text{(I/GW)}}{\frac{\text{Impairments}}{\text{Goodwill}}} = \frac{\text{(I/TA)}}{\frac{\text{Impairments}}{\text{Total Assets}}}$$

Accordingly, goodwill impairments to total assets is a more comprehensive measure of loss intensity than the ratio of goodwill impairments divided by goodwill. Goodwill impairments to total assets can be called “the bigger they are the harder they fall” ratio, because companies with the greatest goodwill intensity will take the biggest balance sheet hit when recording goodwill impairments.



## Summary Statistics by Industry

### Goodwill Intensity (Goodwill to Total Assets)

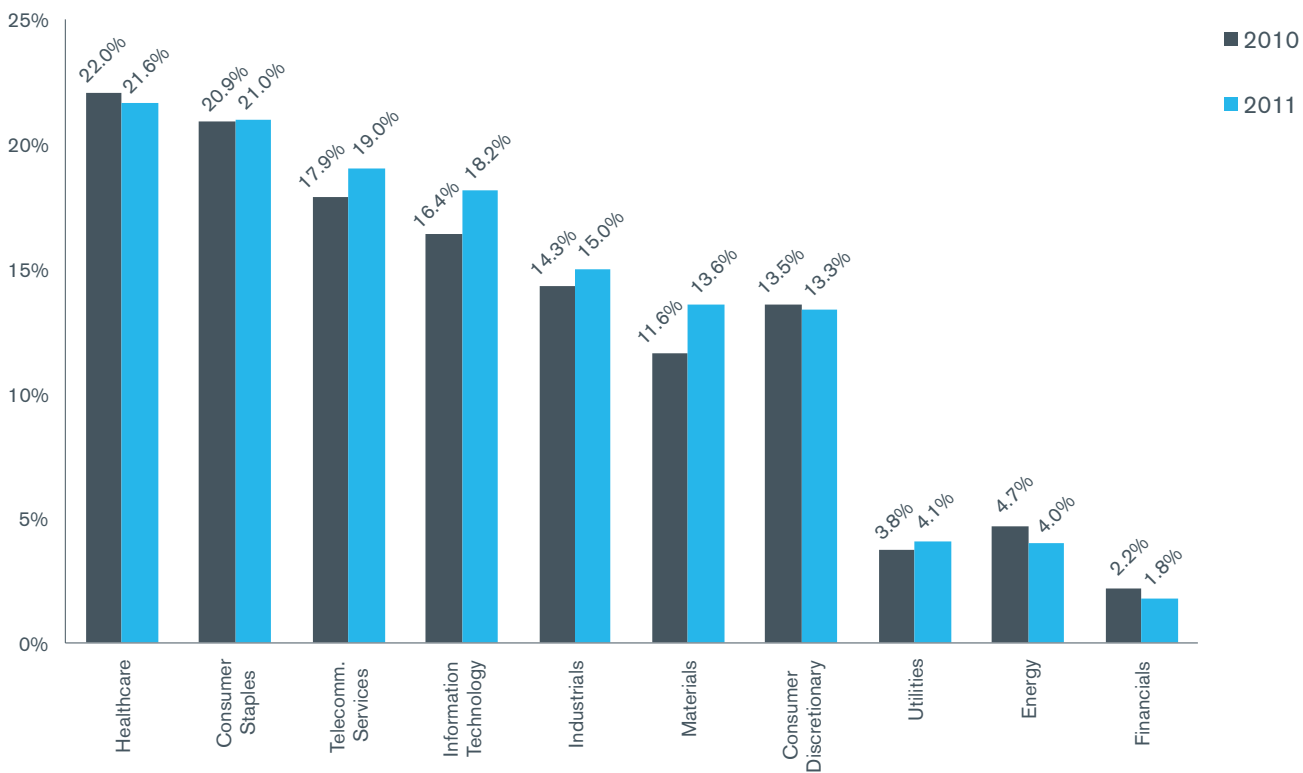
Goodwill intensity is defined as goodwill as a percentage of total assets, and indicates how significant an industry's goodwill is in relation to its total assets. Because goodwill is recorded in a business combination, goodwill intensity is the greatest in industry sectors with significant mergers and acquisition activity in recent years.

While *aggregate* goodwill as a percentage of total assets for U.S. companies (across all industries) was approximately 6% in each year over the 2007–2011 period, this ratio can vary significantly among industries, as illustrated in Graph 6.

In 2010 and 2011, Healthcare continued to have the highest goodwill intensity (GW/TA) at 22.0 and 21.6%, respectively. Contributing factors may include consolidation trends in the industry (i.e., a large number of transactions seen in the Healthcare space), as well as the fact that the purchase price consideration for Healthcare industry targets often contemplates high growth expectations from future unidentified/unproven technologies, which may make goodwill a significant component of the purchase price (Note: as defined in GICS, the Healthcare industry includes, but is not limited to, Biotechnology and Pharmaceutical companies).

Healthcare was followed by Consumer Staples and Telecommunications Services as having the highest goodwill intensity in both 2010 and 2011. Utilities, Energy, and Financials had the lowest goodwill intensity in 2011.

**Graph 6: Goodwill Intensity, as Measured by Goodwill to Total Assets (GW/TA), by Industry (in %) 2010–2011**



## Summary Statistics by Industry

Table 7 expands upon the period presented in Graph 6 and lists each of the 10 industries goodwill intensity over time as measured by goodwill to total assets (GW/TA), with 2011 sorted from highest to lowest (the largest percentage in each year is Healthcare, as indicated in gray).

Although goodwill intensity was fairly stable between 2010 and 2011, this does not imply that the goodwill to total asset (GW/TA) ratio of any one industry is always stable over a longer period of time. For example, Telecommunications Services registered a GW/TA ratio of 14.5% in 2007; by 2011, this had increased to 19.0%. Energy, on the other hand, declined from 6.1% to 4.0% over the same period.

**Table 7: Goodwill Intensity, as Measured by Goodwill to Total Assets (GW/TA), by Industry (in %) 2007–2011**

	2007	2008	2009	2010	2011
Healthcare	21.5%	21.7%	21.2%	22.0%	21.6%
Consumer Staples	21.4	20.9	20.9	20.9	21.0
Telecommunications Services	14.5	14.8	17.4	17.9	19.0
Information Technology	18.6	18.9	17.5	16.4	18.2
Industrials	12.2	12.5	12.0	14.3	15.0
Materials	11.0	9.3	10.0	11.6	13.6
Consumer Discretionary	14.3	13.8	13.7	13.5	13.3
Utilities	4.5	4.0	3.9	3.8	4.1
Energy	6.1	4.3	4.3	4.7	4.0
Financials	2.0	1.9	2.0	2.2	1.8
<b>Average</b>	<b>12.6%</b>	<b>12.2%</b>	<b>12.3%</b>	<b>12.7%</b>	<b>13.1%</b>
<b>Median</b>	<b>13.2%</b>	<b>13.1%</b>	<b>12.8%</b>	<b>13.9%</b>	<b>14.3%</b>

# Summary Statistics by Industry

### Loss Intensity

Two measures for evaluating loss intensity by industry are presented: (i) goodwill impairment to goodwill; and (ii) goodwill impairment to total assets.<sup>20</sup>

Goodwill impairment to goodwill (I/GW) is a measure of the magnitude of goodwill impairments; in other words, it measures the proportion of an industry's goodwill that is impaired each year.

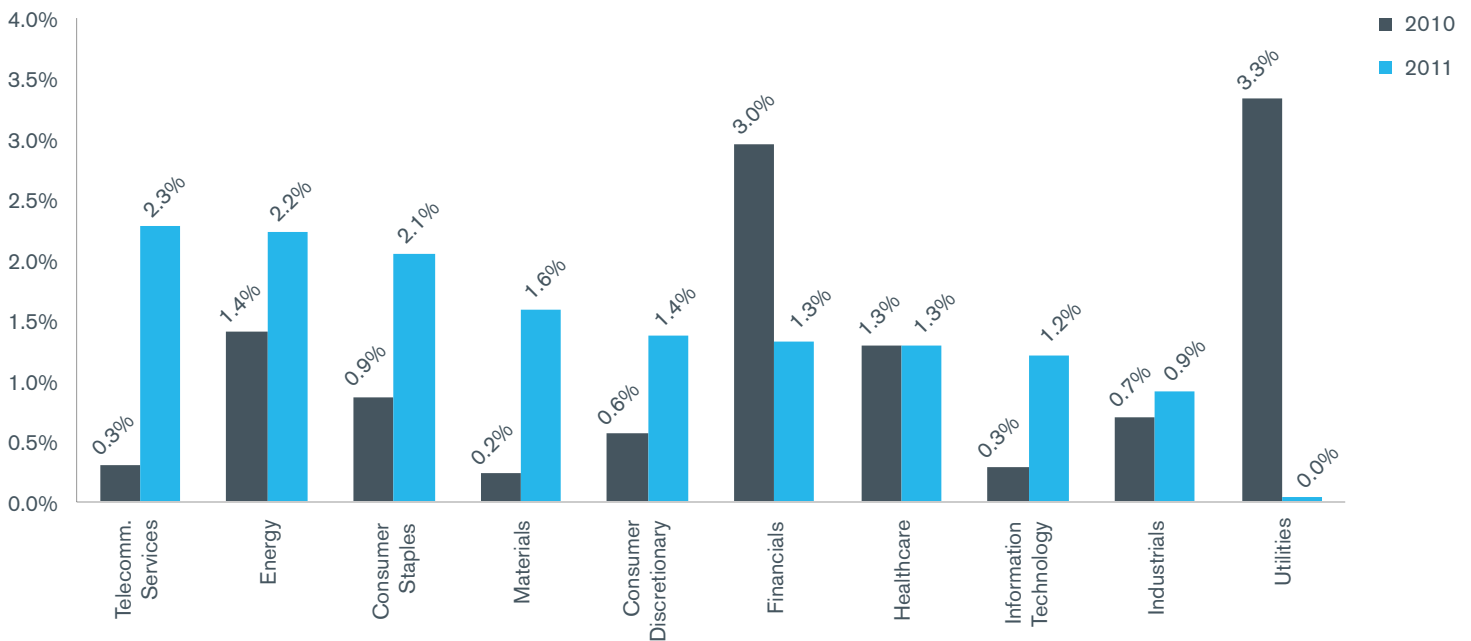
Goodwill impairment to total assets (I/TA) is a measure of the impact of goodwill impairments on an industry's average balance sheet. In other words, it measures the percent of an industry's total asset base that was impaired.

### Goodwill Impairment to Goodwill

Graph 7 presents I/GW ratios observed for the 10 industries in 2010 and 2011, with 2011 sorted from highest to lowest.

While the total amount of impairment remained fairly steady from 2010 to 2011 (\$30 billion and \$29 billion, respectively), there were some shifts in the goodwill loss intensity between industry sectors. For example, Utilities declined from the highest (3.3%) to the lowest position (nearly 0%), and Financials declined from 3.0% to 1.3%. The remaining eight sectors all showed increases from 2010 to 2011, with Telecommunications Services suffering the largest increase, from 0.3% to 2.3%.

**Graph 7: Goodwill Loss Intensity, as Measured by Goodwill Impairment to Goodwill (I/GW), by Industry (in %) 2010–2011**



<sup>20</sup> Loss intensity is measured by goodwill impairments taken in Year t divided by either total assets (in the case of I/TA) or goodwill (in the case of I/GW) in Year t-1.

## Summary Statistics by Industry

Table 8 lists each of the 10 industries' loss intensity over time, as measured by goodwill impairment to goodwill (I/GW), with 2011 sorted from highest to lowest (the largest percentage in each year is indicated in gray).

2008 clearly provided record levels of goodwill impairment in the U.S. when compared to other years, due in good part to the financial crisis of late 2008 and early 2009.

For example, in 2008 Energy impaired almost 36% of its aggregate goodwill. A notable exception to this is the Telecommunications Services industry, which impaired an astonishing 46.3% of its aggregate goodwill in 2007. As noted earlier, this was primarily due to Sprint Nextel's write-off of nearly \$30 billion, attributable to its acquisition of Nextel in 2005.

Looking beyond 2008, general trends in I/GW may provide some beneficial insights especially for firms currently considering a qualitative assessment. From 2009 to 2011, two industry sectors (Utilities and Financials) showed a reduction in loss intensity as measured by I/GW percentages. Healthcare remained somewhat constant and the remaining six industries had an increase in I/GW.

**Table 8: Goodwill Loss Intensity, as Measured by Goodwill Impairment to Goodwill (I/GW), by Industry (in %) 2007–2011**

	2007	2008	2009	2010	2011
Telecommunications Services	46.3%	1.2%	0.0%	0.3%	2.3%
Energy	5.6	35.8	0.4	1.4	2.2
Consumer Staples	0.0	1.7	1.1	0.9	2.1
Materials	2.3	17.4	0.4	0.2	1.6
Consumer Discretionary	2.9	18.1	1.0	0.6	1.4
Financials	0.3	8.0	2.5	3.0	1.3
Healthcare	0.2	2.6	0.4	1.3	1.3
Information Technology	3.0	11.2	1.2	0.3	1.2
Industrials	0.8	5.2	1.6	0.7	0.9
Utilities	0.0	1.2	2.8	3.3	0.0
<b>Average</b>	6.1%	10.2%	1.2%	1.2%	1.4%
<b>Median</b>	1.6%	6.6%	1.0%	0.8%	1.4%

## Summary Statistics by Industry

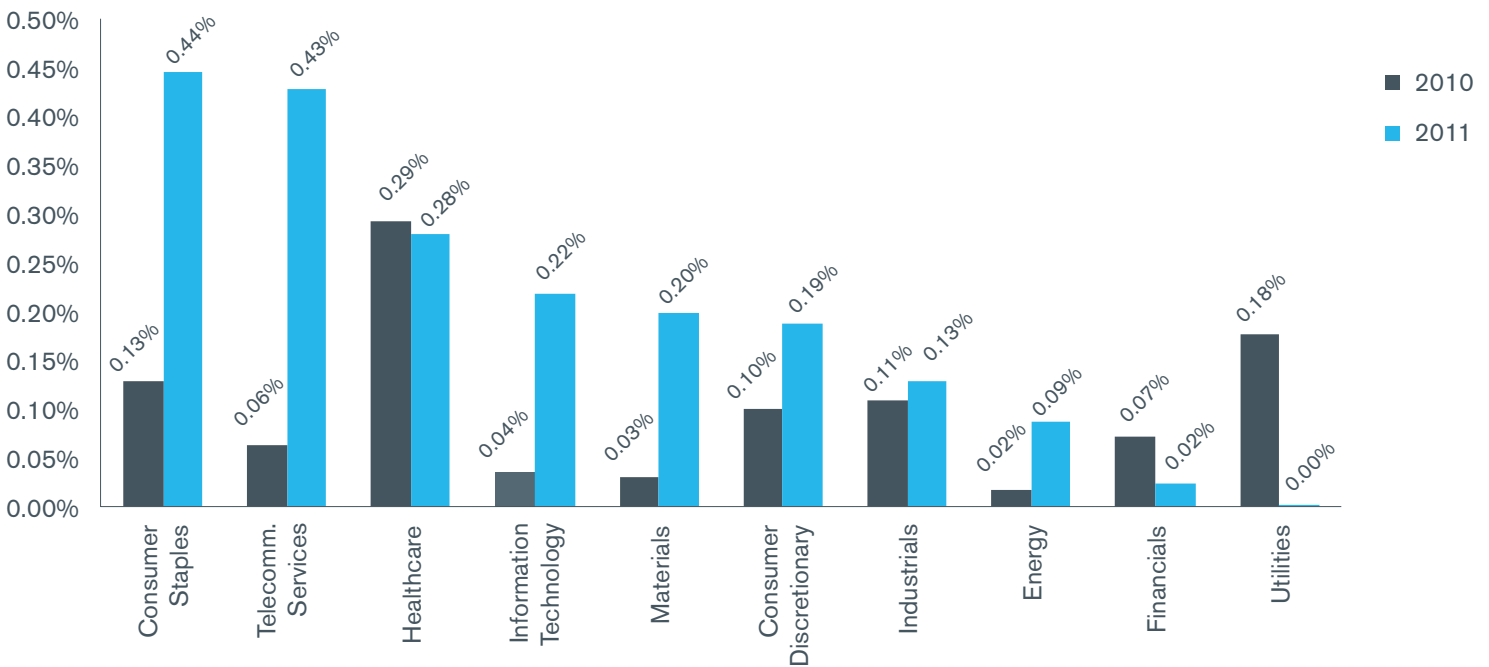
### Goodwill Impairments to Total Assets

Graph 8 depicts a second loss intensity measure, goodwill impairments to total assets, for the 10 industries in 2010 and 2011, with 2011 sorted from highest to lowest.

Goodwill impairment to total assets (I/TA) is a measure of which industries' balance sheets were most impacted by impairments.

In 2011, the industries that impaired the largest percentage of their total assets were Consumer Staples, Telecommunications Services, and Healthcare. The industries that impaired the smallest percentage of their total assets were Energy, Financials, and Utilities. The primary message from Graph 8 is that goodwill impairment charges represent a relatively small proportion of a company's total asset base.

**Graph 8: Goodwill Loss Intensity, as Measured by Goodwill Impairment to Total Assets (I/TA), by Industry (in %) 2010–2011**



## Summary Statistics by Industry

Table 9 lists each of the 10 industries loss intensity over time, as measured by goodwill impairment to total assets (I/TA), with 2011 sorted from highest to lowest (the largest percentage in each year is indicated in gray).

**Table 9: Goodwill Loss Intensity, as Measured by Goodwill Impairment to Total Assets (I/TA), by Industry (in %) 2007–2011**

	2007	2008	2009	2010	2011
Consumer Staples	0.0%	0.4%	0.2%	0.1%	0.4%
Telecommunication Services	5.5	0.2	0.0	0.1	0.4
Healthcare	0.0	0.6	0.1	0.3	0.3
Information Technology	0.5	2.1	0.2	0.0	0.2
Materials	0.2	1.9	0.0	0.0	0.2
Consumer Discretionary	0.4	2.6	0.1	0.1	0.2
Industrials	0.1	0.6	0.2	0.1	0.1
Energy	0.4	2.2	0.0	0.0	0.1
Financials	0.0	0.2	0.0	0.1	0.0
Utilities	0.0	0.1	0.1	0.2	0.0
<b>Average</b>	0.7%	1.1%	0.1%	0.1%	0.2%
<b>Median</b>	0.2%	0.6%	0.1%	0.1%	0.2%

# Returns-Based Analysis

Financial and academic studies have analyzed the effect, if any, that goodwill impairment has on stock prices, both before and after goodwill is found to be impaired.

One study (among others) found that “Impairments are associated with low market returns *before* the impairment, indicating that market investors anticipate goodwill impairments”<sup>21</sup> (emphasis added).

Another study found that “impairments are negatively associated with corporate performance *after* the impairment”<sup>22</sup> (emphasis added). The authors of this study also find evidence that investors and financial analysts revise their expectations downwards following a goodwill impairment announcement and those revisions are related to the size of the impairment.

Others remark on the amount of time between probable goodwill impairment and the actual accounting entry indicating that the goodwill is impaired. As one study stated, “. . .we find that goodwill impairments lag deteriorating operating performance and stock returns by at least two years. Furthermore, the announcements of goodwill impairments elicit little market response. The evidence suggests that goodwill impairment decisions by management are not a timely reflection of the changes in estimated future underlying cash flows but rather a delayed response to the almost complete exhaustion of the goodwill.”<sup>23</sup>

A recent study has constructed alternative measures to accounting goodwill that the authors believe to be better predictors of future impairment charges and post acquisition operating performance. For instance, the authors measure a construct they call *fair value goodwill*<sup>24</sup> and find that it significantly improves the prediction of operating returns.<sup>25</sup>

<sup>21</sup> Alciatore, M., P. Easton, and N. Spear. 2000. “Accounting for the Impairment of Long-Lived Assets: Evidence from the Petroleum Industry,” *Journal of Accounting and Economics* 29: 151-172. Henning, S., B. Lewis, and W. Shaw. 2000. “Valuation of the Components of Purchased Goodwill,” *Journal of Accounting Research* 38: 375-386. Herschey, M., and V. Richardson. 2003. “Investor Underreaction to Goodwill Write-Offs,” *Financial Analysts Journal*, November/December: 75-84.

<sup>22</sup> Li, Z., Shroff, P.K., Venkataraman, R., and Zhang, I. (2010) “Causes and Consequences of Goodwill Impairment Losses.” Working paper.

<sup>23</sup> Li, K.K. and Sloan, R.G. (2011) “Has Goodwill Accounting Gone Bad?.” Working paper.

<sup>24</sup> The authors define market value of goodwill as the goodwill that would have been recognized had the acquisition been carried out at fair market value (i.e., with a zero future economic profit for the acquirer), which according to them includes both synergies that were paid for (i.e., benefiting the target shareholders) and synergies that were not paid for (i.e., benefiting the acquirer shareholders).

<sup>25</sup> Lys, T.Z., Vincent, L., and Yehuda, N. (2012). “The Nature and Implications of Acquisition Goodwill.” Working paper.

## Returns-Based Analysis

### Relative Performance by Goodwill Impairment Characteristic

What is the performance of companies that have impaired goodwill relative to the market in general? In order to study this issue, portfolios were created with certain characteristics (see Table 10), and then the relative performance of each was calculated over time.

Market-capitalization-weighted returns for each of the portfolios were calculated, and indices representing the growth of \$1 invested at year-end 2006 were constructed for each portfolio and compared to an index representing an investment of \$1 in the S&P 500 Index (the “market”) over the same period.<sup>26</sup>

It is important to note that there is some overlap of characteristics between the S&P 500 Index and the YES/NO portfolios and the loss intensity portfolios, since the S&P 500 Index includes some companies that did (and did not) recognize goodwill impairment from 2007 through 2011. Having said that, most companies in the S&P 500 have never impaired goodwill (see Table 11<sup>27</sup>), and the effect of the overlap is mitigated.<sup>28</sup>

**Table 10: Market-Capitalization-Weighted Portfolios (by goodwill impairment characteristic)**  
January 2007–December 2011

A	B	C
<b>YES/NO Portfolios</b> Impairment or No Impairment	<b>Loss Intensity Portfolios (I/GW)</b> Impairment to Goodwill High Intensity or Low Intensity	<b>Loss Intensity Portfolios (I/TA)</b> Impairment to Total Assets High Intensity or Low Intensity
Goodwill Impairment ( <b>YES</b> ) Companies with goodwill impairment in any period (2007–2011)	Loss Intensity ( <b>HIGH</b> ) Companies with High Goodwill Loss Intensity I/GW	Loss Intensity ( <b>HIGH</b> ) Companies with High Goodwill Loss Intensity I/TA
Goodwill Impairment ( <b>NO</b> ) Companies without goodwill impairment in any period (2007–2011)	Loss Intensity ( <b>LOW</b> ) Companies with Low Goodwill Loss Intensity I/GW	Loss Intensity ( <b>LOW</b> ) Companies with Low Goodwill Loss Intensity I/TA

**Table 11: Percentage of S&P 500 Index Constituent Companies that Recorded a Goodwill Impairment, by Year**  
2007–2011

2007	2008	2009	2010	2011
4.8%	14.6%	7.6%	5.2%	7.0%

<sup>26</sup> Market-capitalization-weighted returns were calculated at the company level for each of the 60 months in the time horizon studied for each portfolio; the sum of these represents the portfolio return.

<sup>27</sup> Source: Standard & Poor's Research Insight and Capital IQ databases.

<sup>28</sup> The exception is the “NO” portfolios, which will necessarily have significant overlap with the S&P 500 for the characteristic “no impairment.”



# Returns-Based Analysis

## A. YES/NO Portfolios: Companies with Impaired Goodwill vs. Companies without Impaired Goodwill

In an attempt to broadly gauge the performance differences between companies that impair goodwill and companies that do not impair goodwill<sup>29</sup>, two separate portfolios were constructed by performing the following steps:

- Identified companies that impaired goodwill in any quarter over the period March 2007 through December 2011. This set of companies made up the “Goodwill Impairment (YES)” portfolios.
- Identified companies that did not impair goodwill in any quarter over the period March 2007 through December 2011. This set of companies made up the “Goodwill Impairment (NO)” portfolios.<sup>30</sup>

The returns of these two portfolios and the S&P 500 Index are then compared, as presented in Graph 9.

Over the time horizon 2007–2011, companies that *had not* recorded a goodwill impairment outperformed both companies that *had* recorded a goodwill impairment and the S&P 500 Index.

An investment of \$1 in December 2006 in the S&P 500 Index would have decreased to \$0.99 at the end of December 2011, and an investment of \$1 in December 2006 in the “Goodwill Impairment (NO)” portfolio would have grown to \$1.17 at the end of December 2011. An investment of \$1 in December 2006 in the “Goodwill Impairment (YES)” portfolio, however, would have decreased to \$0.71 by the end of December 2011.

**Graph 9: Goodwill Impairment (YES) and Goodwill Impairment (NO) Portfolios vs. the S&P 500 Index**  
(Year-End 2006 = \$1.00)



<sup>29</sup> Source: Standard & Poor’s Research Insight and Capital IQ databases. Base set: 5,004 U.S.-based, U.S.-traded-firms, excluding funds and ETFs which had monthly returns and market capitalization data over the period January 2007–December 2011. Companies with market caps less than \$10 million were excluded. Portfolios were re-set quarterly.

<sup>30</sup> Since a majority of companies did not impair goodwill over the period studied, the portfolio of companies that had not impaired goodwill was larger than the set of companies that had impaired goodwill.

# Returns-Based Analysis

## B. Loss Intensity Portfolios (I/GW):

Companies with High Goodwill Impairment to Goodwill vs. Companies with Low Goodwill Impairment to Goodwill.

This ratio measures the percentage of goodwill written off during any given period.

In an attempt to compare the performance of companies that impair a larger proportion of their goodwill versus companies that impair a smaller proportion of their goodwill, two separate portfolios were constructed by performing the following steps:

- Identified those companies (of the 5,004 companies included in the *Study*) that recorded a goodwill impairment.

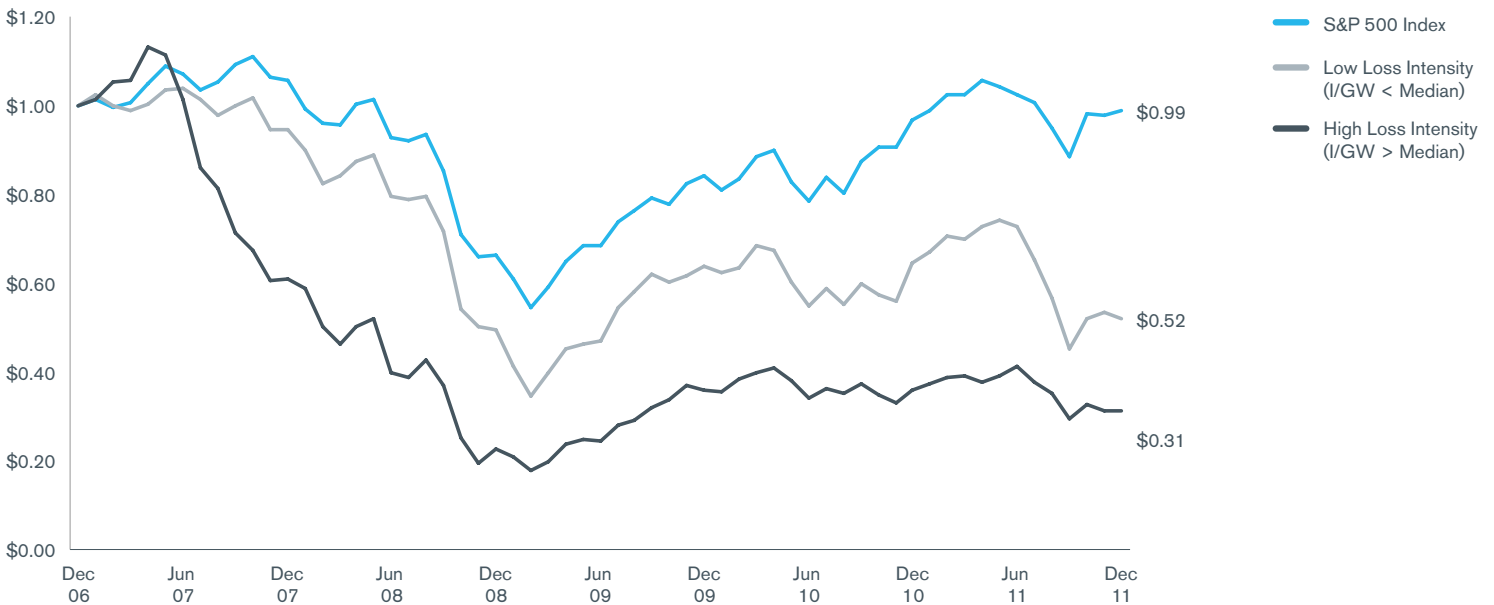
Of those, the companies were further segregated in the following manner:

- Identified companies that had impairment to total goodwill (I/GW) ratios *less* than the median impairment to goodwill (I/GW) ratio.<sup>31</sup> These companies comprise the “Low Loss Intensity (I/GW < Median)” portfolio in Graph 10.
- Identified companies that had impairment to total goodwill (I/GW) ratios *greater* than the median impairment to goodwill (I/GW) ratio. These companies comprise the “High Loss Intensity (I/GW > Median)” portfolio in Graph 10.

As illustrated in Graph 10, the portfolio comprised of companies with impairment to goodwill (I/GW) ratios *less* than the median outperformed the portfolio comprised of companies with impairment to goodwill ratios *greater* than the median over the 2007–2011 period.

An investment of \$1 in December 2006 in the S&P 500 Index would have decreased to \$0.99 at the end of December 2011, outperforming both the “Low Loss Intensity (I/GW < Median)” portfolio and the “High Loss Intensity (I/GW > Median)” portfolio, which would have decreased to \$0.52 and \$0.31, respectively.

**Graph 10: Loss Intensity Portfolios: Goodwill Impairment to Goodwill (I/GW) Index (Year-End 2006 = \$1.00) January 2007–December 2011**



<sup>31</sup> Based on a sample of firms that recorded a goodwill impairment. Source: Standard & Poor’s Research Insight and Capital IQ databases. Base set: 5,004 U.S.-based, U.S.-traded-firms, excluding funds and ETFs which had monthly returns and market capitalization data over the period January 2007–December 2011. Companies with market caps less than \$10 million were excluded. Portfolios were re-set quarterly.

# Returns-Based Analysis

## C. Loss Intensity Portfolios (I/TA):

Companies with High Goodwill Impairment to Total Assets vs. Companies with Low Goodwill Impairment to Total Assets

Goodwill impairment to total assets (I/TA) is a measure of which asset bases were most affected by impairments.

Once again, to compare the performance of companies that impaired a larger proportion of their asset base versus companies that impaired a smaller proportion of their asset base, two separate portfolios were constructed by performing the following steps:

- Identified those companies (of the 5,004 companies included in the study) that recorded a goodwill impairment.

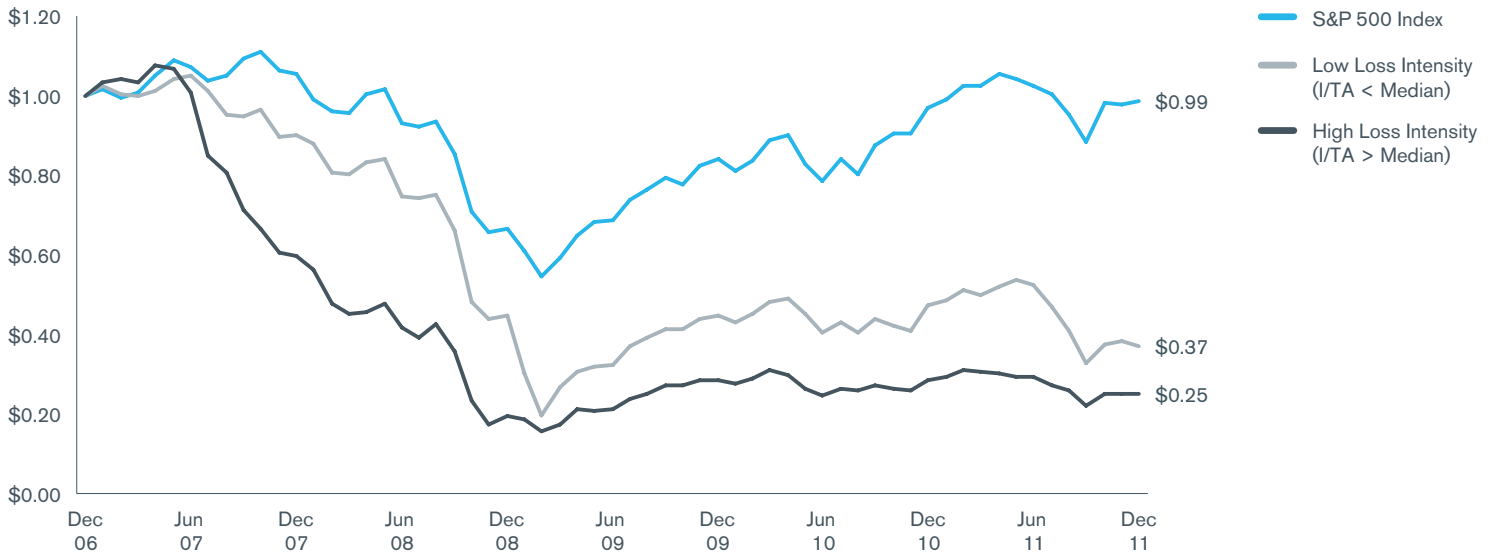
Of those, the companies were further segregated in the following manner:

- Identified companies that had impairment to total assets (I/TA) ratios *less* than the median impairment to total asset ratio (I/TA).<sup>32</sup> These companies comprise the “Low Loss Intensity (I/TA < Median)” portfolio.
- Identified companies that had impairment to total assets (I/TA) ratios *greater* than the median impairment to total assets (I/TA) ratio. These companies comprise the “High Loss Intensity (I/TA > Median)” portfolio.

As illustrated in Graph 11, the portfolio comprised of companies with impairment to total assets ratios (I/TA) *less* than the median impairment to total assets ratio outperformed the portfolio comprised of companies with I/TA ratios *greater* than the median over the 2007–2011 period.

Again, an investment of \$1 in December 2006 in the S&P 500 Index would have decreased to \$0.99 at the end of December 2011, outperforming both the “Low Loss Intensity (I/TA < Median)” portfolio and the “High Loss Intensity (I/TA > Median)” portfolio, which would have decreased to \$0.37 and \$0.25, respectively.

**Graph 11: Loss Intensity Portfolios: Goodwill Impairment to Total Assets (I/TA)**  
Index (Year-End 2006 = \$1.00)  
January 2007–December 2011



<sup>32</sup> Based on a sample of firms that recorded a goodwill impairment. Source: Standard & Poor’s Research Insight and Capital IQ databases. Base set: 5,004 U.S.-based, U.S.-traded-firms, excluding funds and ETFs which had monthly returns and market capitalization data over the period January 2007–December 2011. Companies with market caps less than \$10 million were excluded. Portfolios were re-set quarterly.

# Returns-Based Analysis

## Relative Performance Before and After Goodwill is Impaired

As noted in the *2009 Study*:

*“Impairments are associated with low market returns before the impairment, indicating that market investors anticipate goodwill impairments.<sup>33</sup> Impairments are negatively associated with corporate performance after the impairment, indicating that goodwill, once written off, does not continue to produce operating income.<sup>34</sup>”*

The 2010 and 2011 Studies took a closer look at the performance of companies before and after goodwill is impaired, relative to the market in general.<sup>35</sup> The results of these analyses suggested that goodwill impairments are anticipated by market participants. A summary of the *2011 Study* testing procedures and results is given below. Note that this analysis has not been updated in the *2012 Study* as the prior two years’ outcomes were consistent.

### Testing Methodology

To test the relative performance of companies before and after goodwill is impaired, all (quarterly) occurrences of goodwill impairment over the 2006–2010 period were first mapped to the month that they were made public (i.e. the “reveal” month), using the filing date of the financial statement in which the impairment was originally announced as a proxy for the reveal month.<sup>36</sup>

Then, for all companies revealing impairments in each month from January 2005 to December 2009, market-capitalization weighted portfolio returns were calculated for the 12 months before the impairment reveal month, and for the 12 months after the impairment reveal month, as shown in Figure 1.

Figure 1



<sup>33</sup> Alciatore, M., P. Easton, and N. Spear. 2000. “Accounting for the Impairment of Long-Lived Assets: Evidence from the Petroleum Industry,” *Journal of Accounting and Economics* 29: 151-172. Henning, S., B. Lewis, and W. Shaw. 2000. “Valuation of the Components of Purchased Goodwill,” *Journal of Accounting Research* 38: 375-386. Herschey, M., and V. Richardson. 2003. “Investor Underreaction to Goodwill Write-Offs,” *Financial Analysts Journal*, November/December: 75-84.

<sup>34</sup> Li, Z. P. Shroff, R. Venkataraman. 2006. “Goodwill Impairment Loss: Causes and Consequences.” University of Minnesota Working Paper.

<sup>35</sup> The “market” is defined here at the S&P 500 Index.

<sup>36</sup> This was a simplification in the sense that some companies may announce the magnitude of goodwill impairment prior to filing their financial statements with the SEC.

## Returns-Based Analysis

**Example:** For all companies that revealed goodwill impairment in January of 2005, a portfolio was formed and market-capitalization-weighted returns were calculated for each of the 12 months *before* (January 2004–December 2004), and each of the 12 months *after* (February 2005–January 2006). Then, for all companies that revealed goodwill impairment in February of 2005, the same calculations were made; then March 2005, and so on. The last reveal month was December 2009, for which returns were calculated from December 2008–November 2009, and from January 2010–December 2010.

These calculations analyzed 1,259 individual impairment events and involved the creation of 1,440 individual sets of market-capitalization-weighted portfolio returns over the January 2005 to December 2009 period.<sup>37</sup> A sample of the results of these calculations is provided in Table 12.<sup>38</sup>

**Example:** The portfolio made up of companies that “revealed” goodwill impairment as of December 2009 had a return of 6.0% in the second month *after* the reveal month, and a return of 2.0% in the 12 months *before* the reveal month (see Table 12).

**Table 12: “Reveal Portfolio” Returns Before and After Each Impairment Reveal Month (in %)**  
Reveal Months: January 2005–December 2009

“Reveal Portfolio” Returns										
-12 months	...	-3 months	-2 months	-1 month	Reveal Month	+1 month	+2 months	+3 months	...	+12 months
2.0%		4.1%	-2.7%	9.8%	Dec-09	-6.7%	6.0%	11.7%		5.6%
-9.9		9.9	5.6	-6.8	Nov-09	5.3	-2.8	7.1		2.2
-33.0		8.0	4.7	10.0	Oct-09	2.4	-1.4	-7.7		3.8
-		-	-	-		-	-	-		-
-		-	-	-		-	-	-		-
-1.5		-6.4	8.9	-6.2	Feb-05	-12.7	-13.6	-32.0		23.1
4.8		-7.4	2.9	22.5	Jan-05	1.1	-15.4	-8.5		-10.0

<sup>37</sup> January 2005 to December 2009 is a 60-month period. For each month within this period, 12 sets of market-capitalization-weighted portfolio returns were calculated going forward, and 12 sets of market-capitalization-weighted portfolio returns were calculated going backward, totaling 1,440 individual sets of returns (60 x 12 x 2).

<sup>38</sup> In the interest of space, Tables 12 and 13 are abbreviated, and do not show all 60 reveal months.

## Returns-Based Analysis

The “before impairment” and “after impairment” returns compiled in Table 12 can be compared to the returns of the market (the S&P 500 Index). To do so, it is necessary to first construct an

equivalent table of market returns in the exact same fashion as the portfolio returns in Table 12. A sample of the equivalent market returns is compiled in Table 13.

**Table 13: Market Returns Before and After Each Impairment Reveal Month (in %)**  
January 2005–December 2009

Market Returns										
-12 months	...	-3 months	-2 months	-1 month	Reveal Month	+1 month	+2 months	+3 months	...	+12 months
1.1%		3.7%	-1.9%	6.0%	Dec-09	-3.6%	3.1%	6.0%		6.7%
-7.2		3.6	3.7	-1.9	Nov-09	1.9	-3.6	3.1		0.0
-16.8		7.6	3.6	3.7	Oct-09	6.0	1.9	-3.6		3.8
-		-	-	-		-	-	-		-
-		-	-	-		-	-	-		-
1.4		4.0	3.4	-2.4	Feb-05	-1.8	-1.9	3.2		0.3
1.8		1.5	4.0	3.4	Jan-05	2.1	-1.8	-1.9		2.6

Returns were then calculated for both the Reveal Portfolios and the S&P 500 Index (as of each reveal month) over the following periods:

**Before:**  
Months -7 to -12

**Before:**  
Months -1 to -6

**After:**  
Months +1 to +6

**After:**  
Months +7 to +12

Finally, the S&P 500 Index performance over each of these periods was geometrically subtracted from the performance of the Reveal Portfolios over each equivalent period. This computation enabled the analysis of the portfolios comprised of impairment companies relative to the market over these periods.<sup>39</sup>

<sup>39</sup> The number of companies reporting goodwill impairment has increased in more recent years. Whereas in the first 30 reveal months (January 2005–June 2007) there were 473 companies with impaired goodwill, in the second 30 reveal months (July 2007–December 2009) there were 786 companies with impaired goodwill. The average portfolio across all periods had 21 companies; the median (typical) portfolio had 16 companies. 12 of the 60 company sets had fewer than 5 companies. The largest company set had 73 companies.

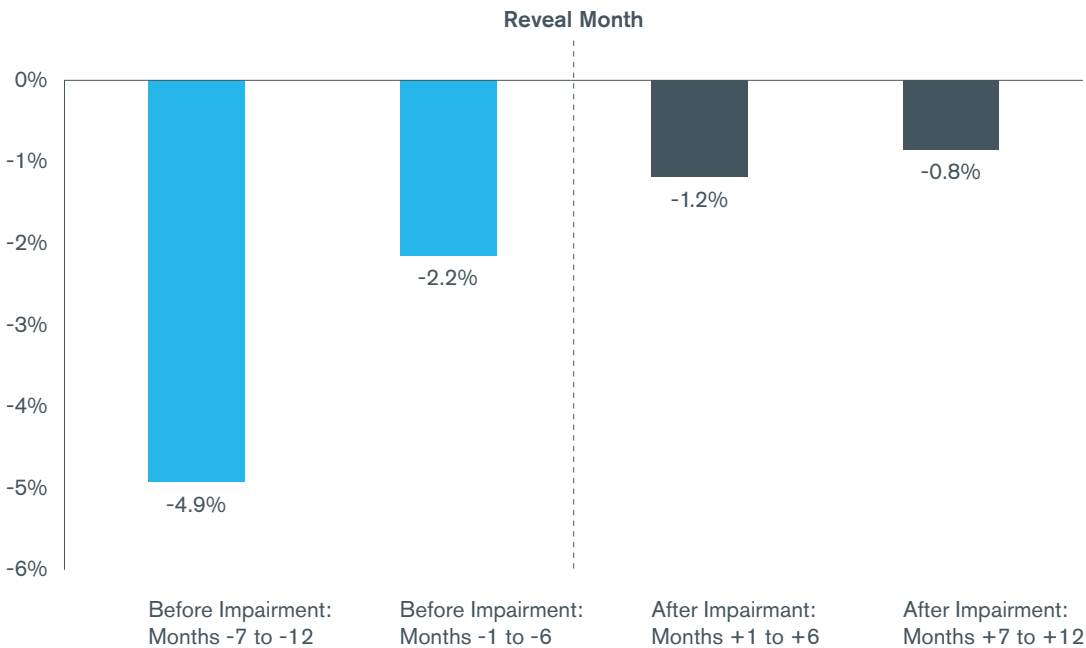
# Returns-Based Analysis

The average of these values represents the average relative performance of the Reveal Portfolios versus the market in each of the 6-month periods studied (see Graph 12). For example, the average relative performance of the Reveal Portfolios in the first six months after impairment (for all 60 reveal months) was -1.2%.

The overall results of this testing in the *2011 Study* (and the prior *2010 Study*) were consistent:

- Companies with goodwill impairments underperform the market both before and after the impairment of goodwill.
- Most of the underperformance occurs prior to the actual impairment date, indicating that in general, investors are aware of the issues that may lead to a subsequent impairment long before the actual impairment is taken.
- As time goes on, the underperformance relative to the market tends to diminish.

**Graph 12: Performance Relative to the S&P 500 Before and After Goodwill is Impaired (in %)**  
Goodwill Impairment “Reveal” Months January 2005–December 2009



# Survey Results

During the summer of 2012, an electronic survey on goodwill impairments was taken using a sample of FEI members representing both public and private companies. This year's survey continues to document the differences between the answers received from public and private company respondents, but expands upon this cross-tabulation to uncover inter-relationships between certain responses. In certain instances, this feature provided insights into specific subsets of the universe of respondents. Summary call-outs of these cross-tabulations are interspersed among the survey results, and support for the underlying analyses are provided in Appendix C.

This survey was performed to provide insight into the reasons for goodwill impairments and the valuation techniques that were used. Notably, the 2012 Survey captures FEI members' level of usage of the qualitative goodwill impairment test (a.k.a. "Step 0"), an option that was not available when the 2011 survey was taken. This year's survey also captures FEI members' preliminary views on the new qualitative screen for indefinite-lived intangible assets impairment testing.

Percentages in these tables reflect the percentages of total responses to the respective questions.<sup>40</sup>

## Question 1: What is your company's industry?

N=216

### Public Company

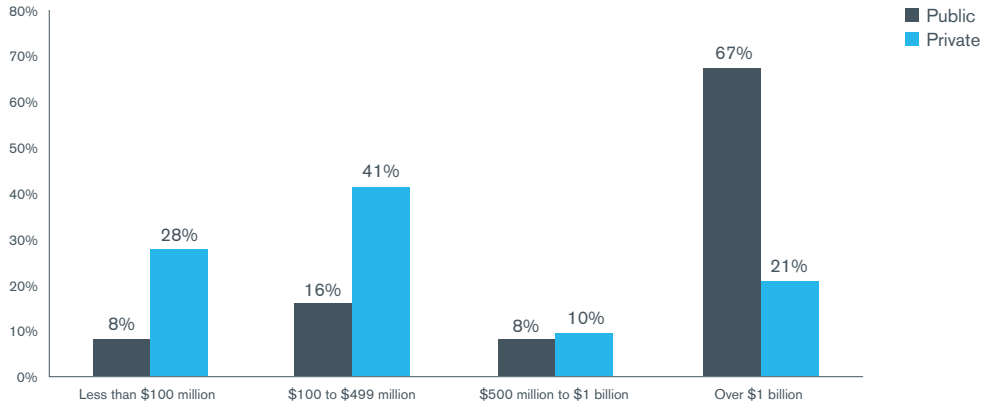
Industry	% of Total
Manufacturing	16%
Banking/Financial Services	9%
Aerospace/Defense	8%
Consumer Goods	7%
Technology	7%
Energy/Utilities/Oil & Gas	6%
Medical/Pharmaceutical	6%
Insurance	5%
Education	4%
Retail	4%
Electronic	3%
Food/Restaurant	3%
High-Tech or Software	3%
Telecommunications	3%
Distribution	2%
Healthcare Services	2%
Arts/Entertainment/Media	2%
Automotive	2%
Real Estate	2%
Service	2%
Transportation	2%
Chemicals/Plastics	1%
Construction/Engineering	1%
Consulting/Employment Agency	1%
Leasing	1%
Mineral/Mining	1%
Professional Services	1%
Wholesale	1%

### Private Company

Industry	% of Total
Manufacturing	25%
Healthcare Services	10%
Banking/Financial Services	7%
Professional Services	5%
Aerospace/Defense	4%
Consulting/Employment Agency	4%
Energy/Utilities/Oil & Gas	4%
Insurance	4%
Non-Profit Organizations	4%
Technology	4%
Telecommunications	4%
Construction/Engineering	2%
Consumer Goods	2%
Food/Restaurant	2%
Internet/Multimedia	2%
Mineral/Mining	2%
Service	2%
Arts/Entertainment/Media	1%
Chemicals/Plastics	1%
Distribution	1%
Education	1%
High-Tech or Software	1%
Diversified	1%
Personal Service	1%
Private Equity/Hedge Fund/Venture Capital/Other Asset Management Entity	1%
Real Estate	1%
Transportation	1%
Wholesale	1%

## Question 2: What is the revenue for your company?

N=213

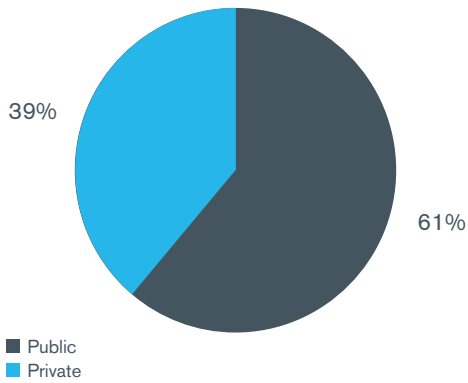


<sup>40</sup> Some totals may not add up to 100% due to rounding.

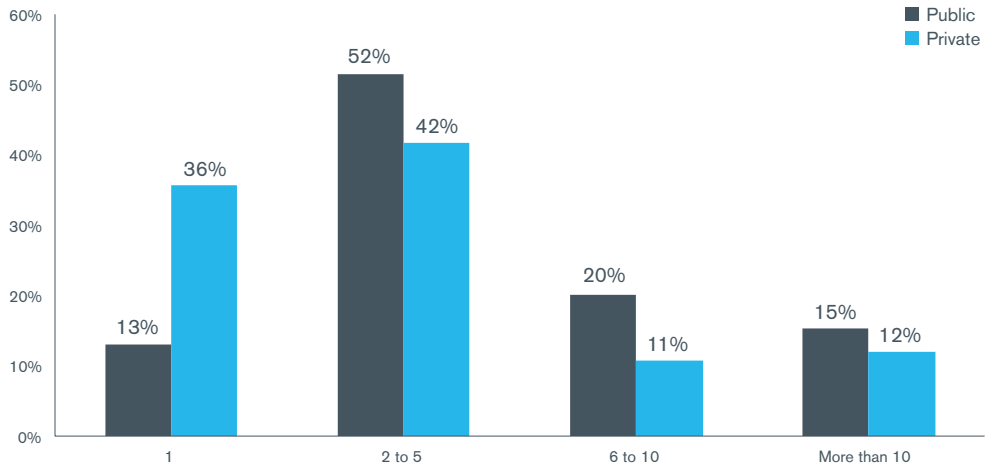


# Survey Results

**Question 3: Is your company public or private?** N=217



**Question 4: How many reporting units do you have as of the most recent reporting period?** N=214

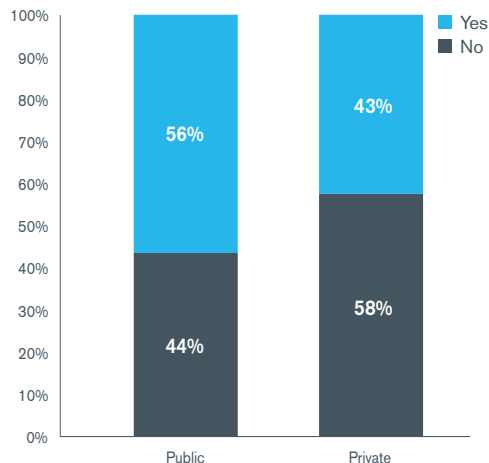


Public companies with a large number of reporting units were more likely to have recently recognized an impairment. (Appendix C-1)

Private companies were three times more likely to have a single reporting unit, regardless of company size. (Appendix C-2)

For large public companies, the number of reporting units did not impact the likelihood of performing the analysis in-house. (Appendix C-3)

**Question 5: Do you use a valuation consultant?** N=211

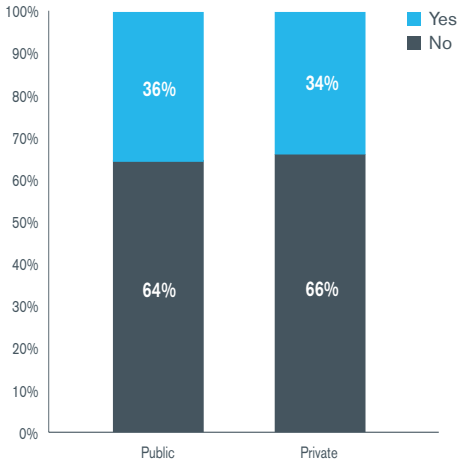


Control premiums were applied by three-quarters of companies that used a valuation consultant and about half of the companies that performed the analysis in-house. (Appendix C-4)

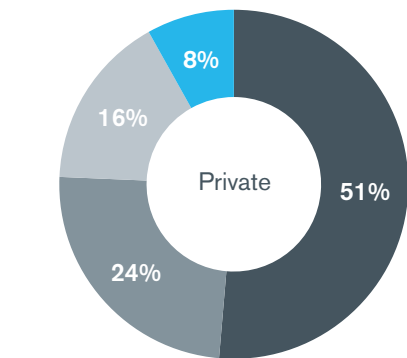
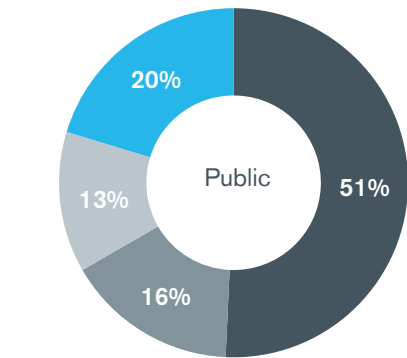
Two-thirds of public companies that proceeded directly to a Step 1 goodwill impairment test used a valuation consultant. (Appendix C-5)

# Survey Results

**Question 6: Has your company recognized goodwill or other asset impairments in 2010 or 2011? N=210**

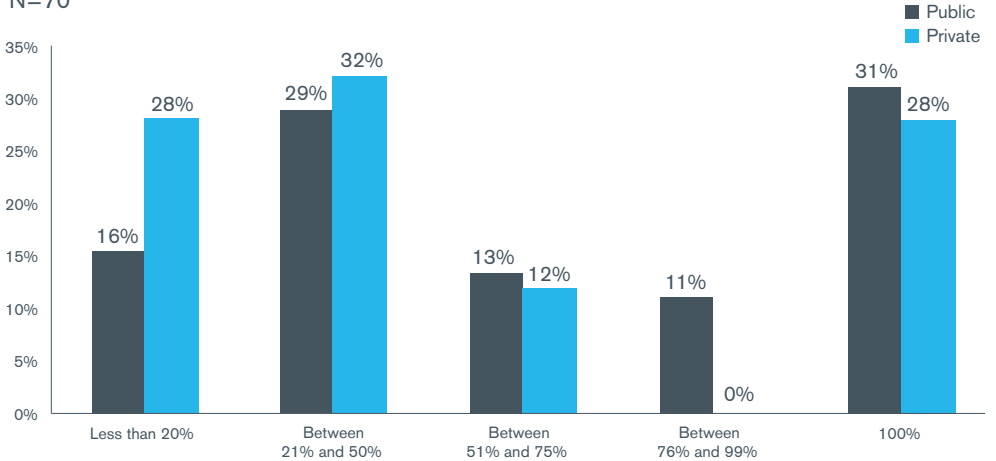


**Question 7: What was the reason for the most recent impairment? N=106**

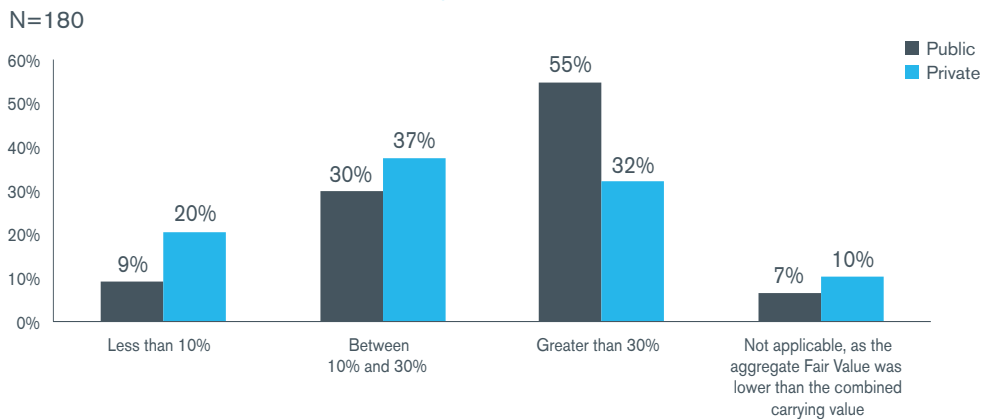


- Overall market downturn
- Other Factors
- General industry downturn
- Factors specific to the reporting unit(s)

**Question 8: If goodwill was impaired, what was the percentage write-down? N=70**

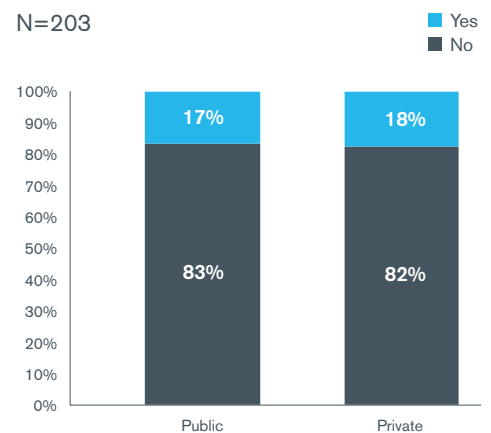


**Question 9: In your latest analysis, by what margin did the aggregate Fair Value of the reporting units exceed their carrying value? N=180**



Factors specific to the reporting unit increased steadily as the primary reason for an impairment. Initially cited by 16% of the respondents in the 2009 survey it increased to approximately 33% in 2010. In 2011 29% of public companies and 45% of private companies referenced specific reporting unit factors. As displayed, both have increased to 51% currently.

**Question 10: Do you anticipate additional goodwill or other asset impairments during an upcoming interim or annual test? N=203**



## Survey Results

### Question 11: If you applied the optional qualitative assessment (“Step 0”) prior to Step 1 (i.e., a quantitative fair value test generally utilizing an income and/or market approach) for any reporting unit, did you:

N=193

	Public	Private
Conclude there was no impairment based on a qualitative assessment for all of the reporting units tested under Step 0	33%	39%
Did not apply Step 0	57%	48%
Believe that you had passed Step 0 for certain (or all) reporting units tested but the auditors concluded there was insufficient evidence and required a Step 1 analysis	2%	5%
Conclude that a Step 1 analysis was required for certain (or all) reporting units	8%	8%

About three quarters of companies (both public and private) that applied Step 0 concluded there was no impairment based on Step 0 alone.

Three-quarters of the companies that concluded there was no goodwill impairment based on Step 0 also reported that fair value exceeded carrying value, indicating some level of quantitative testing. (Appendix C-6)

### Question 12: If you did not apply the Step 0 for any reporting unit, what was the primary reason? N=213

	Public	Private
Considered applying Step 0, but based on the specific financial circumstances of the reporting units, decided to proceed directly to Step 1	35%	28%
Did not consider the qualitative option altogether and went directly to Step 1 test(s), under the belief that the traditional Step 1 test is a more robust analysis	27%	30%
Not applicable, as you applied the Step 0 to one or more reporting units	15%	25%
Other (specify)	22%	18%

### Question 12a: If other, please specify.

N=31

	Public	Private
Documentation requirements were perceived to be too cumbersome and/or time consuming relative to current Step 1	45%	0%
Uncertainty about auditor requirements for documenting Step 0	5%	11%
Insufficient cushion in reporting unit (between fair value and carrying amount)	5%	22%
Effective date was not applicable at the impairment testing date	14%	11%
Company reports under IFRS	9%	0%
Other miscellaneous reasons	23%	56%

Of the “Other” reasons provided by public companies not to apply a qualitative assessment, the perception that it would be either too cumbersome or time consuming was the most frequently cited.

# Survey Results

## Question 13: If you applied the qualitative assessment what was your biggest challenge in supporting your position?

N=43

	Public	Private
Meeting auditor's documentation requirements to support qualitative assessment	32%	42%
Determining which qualitative and/or quantitative factors were the most relevant and how to weigh those factors	10%	8%
Assessing the impact of certain qualitative factors such as industry and macroeconomic conditions	10%	0%
Providing a linkage to previous quantitative analysis	6%	0%
No significant challenges	19%	8%
Other	23%	42%

Ensuring that auditor's documentation requirements were satisfied was the most often cited challenge when applying the qualitative assessment.

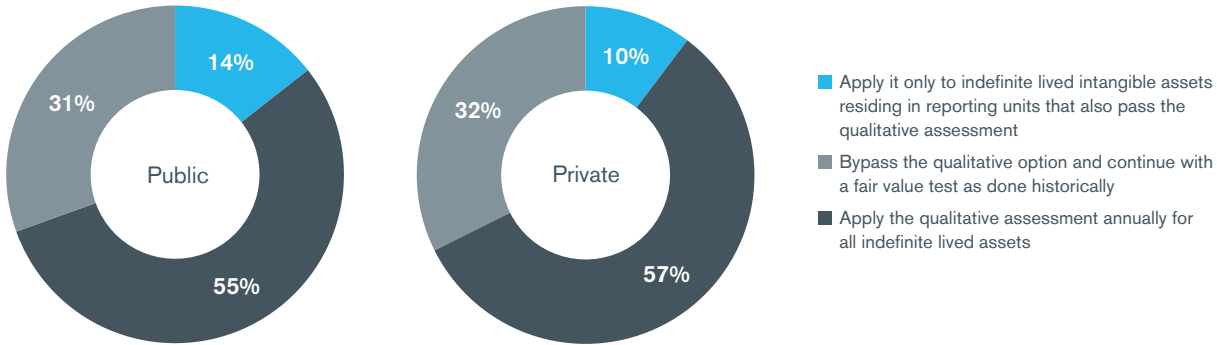
## Question 14: If you applied the qualitative assessment did you receive any SEC comments on your position?

N=56

Only 2% of public companies received an SEC comment related to goodwill impairment.

## Question 15: The Proposed Accounting Standards Update (ASU) Testing Indefinite-Lived Intangible Assets for Impairment proposes the use of a qualitative assessment. If adopted do you expect to:

N=186

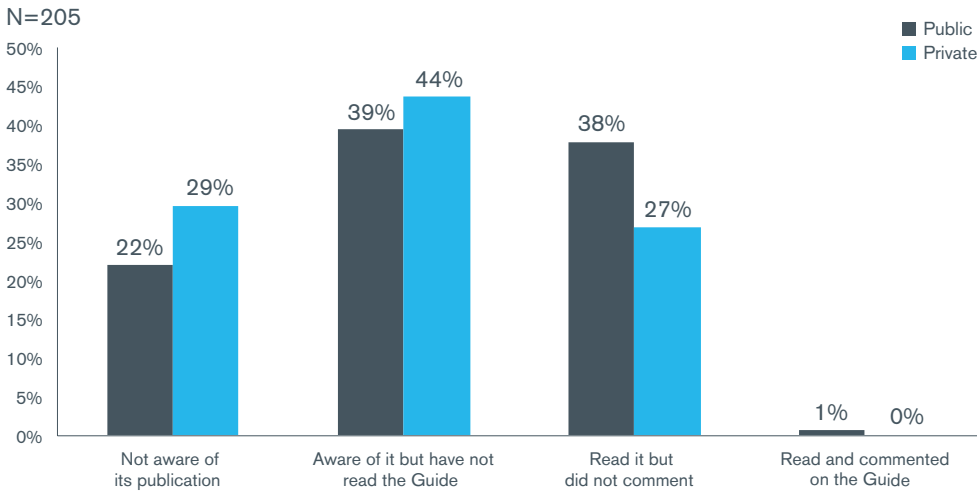


A majority (86%) of companies that applied Step 0 in the goodwill impairment test also expect to apply it to indefinite-lived intangibles. (Appendix C-7)

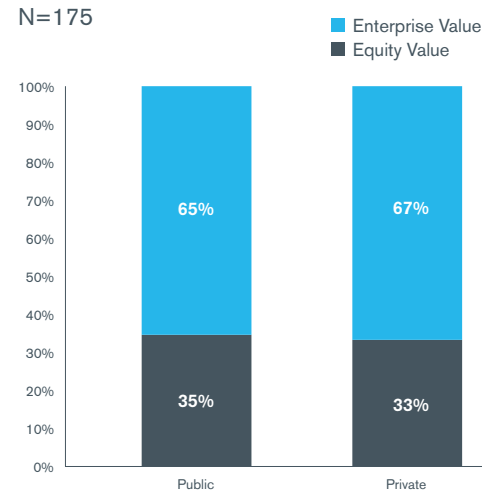
Half of the companies that did not apply Step 0 to goodwill impairment testing anticipate applying it for indefinite-lived intangibles. (Appendix C-7)

# Survey Results

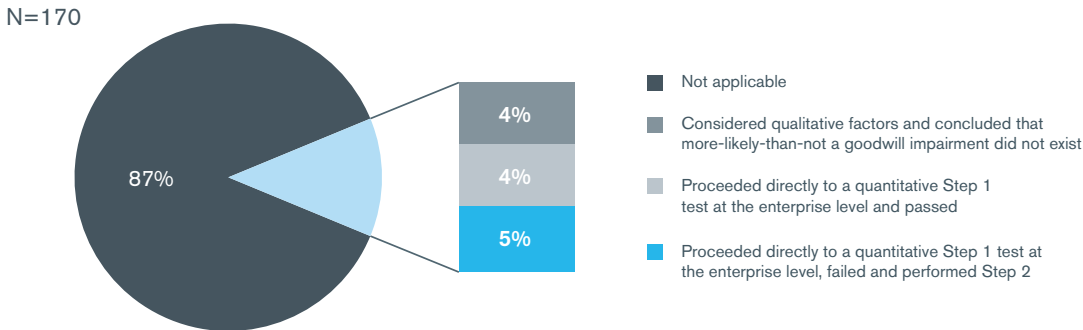
**Question 16: In November 2011, the AICPA published a working draft of an Accounting and Valuation Guide entitled "Testing Goodwill for Impairment" which provides best practices guidance on this topic. You have/were:**



**Question 17: Do you perform Step 1 of the goodwill impairment test by comparing the Fair Value of the Equity or Enterprise Value to their respective carrying amounts?**



**Question 18: If any of your reporting units had a zero or negative carrying amount how did you address the issue?**



**Question 19: When preparing your reporting unit projections to apply the DCF approach, what is the basis for your projections?**

N=181

	Public	Private
A single, most likely case scenario	59%	61%
A single scenario but it is assumed to reflect a weighting of various scenarios (expected case)	26%	16%
3 scenarios (low, most likely and high) are weighted to create an expected case	9%	11%
More than 3 scenarios are weighted to create an expected case	1%	0%
The discounted cash flow approach is not used	5%	10%
Don't know the basis of the projections	0%	2%

The majority of companies rely on a single, most likely scenario, when valuing reporting units using a DCF.

# Survey Results

## Question 20: When performing a discounted cash flow approach (DCF) to estimate the fair value of reporting units, which approach do you apply?

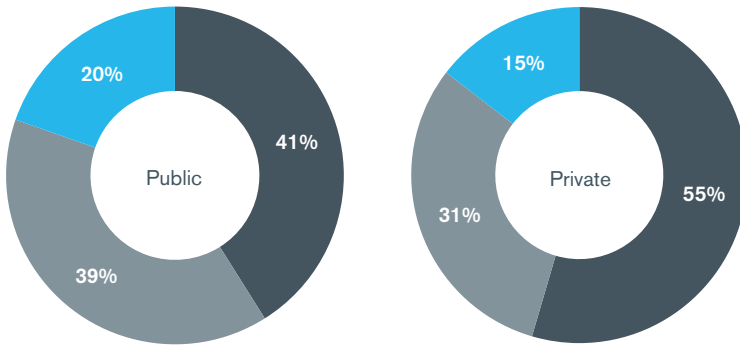
N=189

	Public	Private
Discount Rate Adjustment Technique (risk is reflected by adjusting the discount rate)	76%	67%
Expected Present Value Technique (risk is reflected by using several scenarios)	15%	9%
The discount cash flow approach is not used	7%	15%
Don't know which technique is applied	2%	9%

When performing a DCF analysis, companies were inconsistent in matching the basis of projections with the nature of the DCF technique applied (DRAT vs. EPVT) approximately 40% of the time. (Appendix C-8)

## Question 21: For a Step 1 test, how do you determine whether the assumed transaction structure for the hypothetical sale of a reporting unit should be taxable (asset deal) or nontaxable (stock deal)?

N=167



- When both structures are possible evaluate both to quantify the greatest proceeds from the sale of the reporting unit
- Observations of other transactions in the market as a proxy for the market participant view
- Based on the form of the transactions you have used for actual past acquisitions

## Question 22: Which approach was used to support the control premium?

N=177

	Public	Private
A general control premium was derived from market-based studies	65%	25%
A specific analysis of incremental cash flows available by combining the operations of the reporting unit with the buyer	2%	0%
A specific analysis of incremental cash flows derived from improving current operations	3%	11%
A combination of the above	4%	12%
Control premiums were not considered	24%	51%
Other (specify)	3%	2%

About three quarters of public companies and half of private companies considered control premiums. 89% of the public companies that included a control premium supported it through market-based studies.

# Survey Results

## Question 22a: If other, please specify.

Cited reasons for not applying a control premium

Reporting units' fair value exceeds carrying amount by a substantial margin, thereby eliminating the need for a control premium

Cash flows used in both the income and market approaches were assumed to already be on a control basis

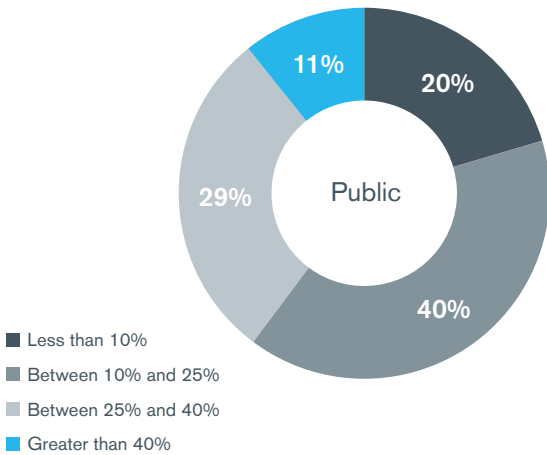
Multiple scenarios were used for higher volatility reporting units, whereas single scenarios were used for more stable reporting units

Do not believe that control premium calculations are meaningful

Three-quarters of the public companies that only considered general market-based control premium studies concluded on a premium over market capitalization in the range of 10% to 40%. (Appendix C-9)

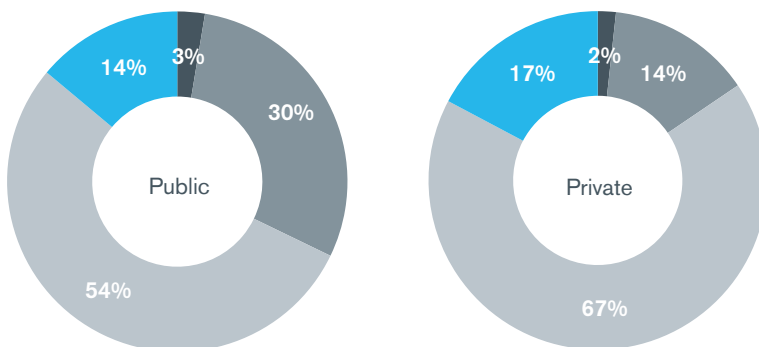
## Question 23: What was the implied control premium (in percentage terms) in excess of the entity's market capitalization in your latest analysis?

N=93



## Question 24: How do you incorporate the size of the reporting unit when determining the discount rate?

N=173



- Size premiums are considered but only to assess relative discount rates among the reporting units
- No adjustment for the size of a reporting unit is considered
- Add a size premium based on the value/size of the reporting unit
- Add a size premium based on the value/size of the reporting unit in combination with other reporting unit(s) reflecting highest and best use

# Appendices

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**Appendix A:**  
Industry Spotlights

**Appendix B:**  
Goodwill Impairments  
by Sub-Industry

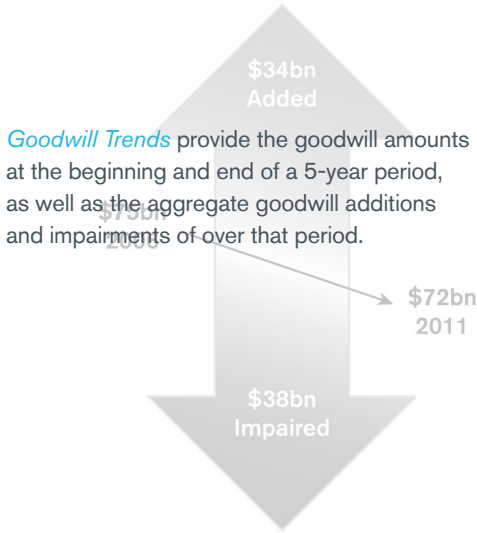
**Appendix C:**  
Survey  
Cross-Tabulation  
Analyses

**Appendix D:**  
Quick Accounting  
Reference Guide

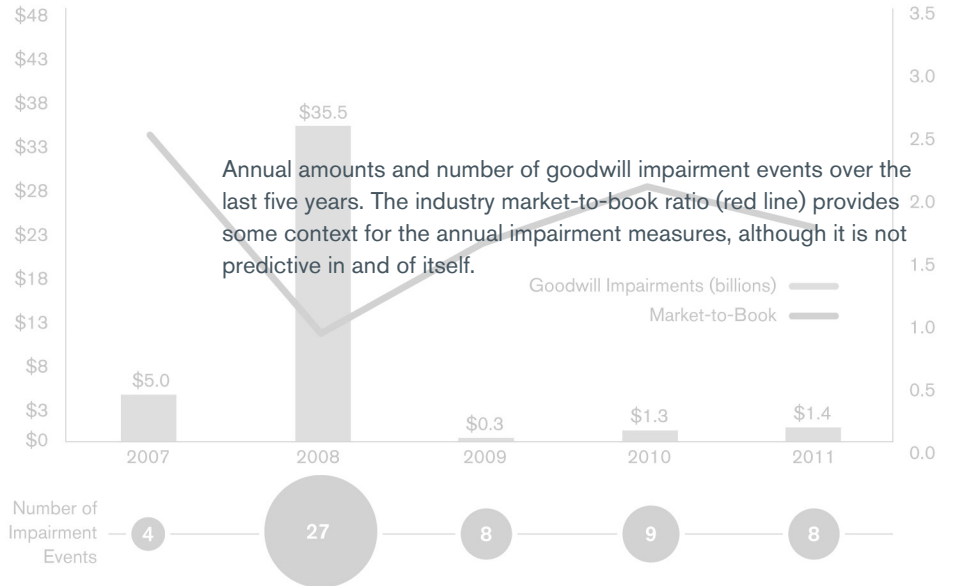


# Appendix A: Industry Spotlights

## Goodwill Trends 2007–2011



*Goodwill Trends* provide the goodwill amounts at the beginning and end of a 5-year period, as well as the aggregate goodwill additions and impairments of over that period.



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

The *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.



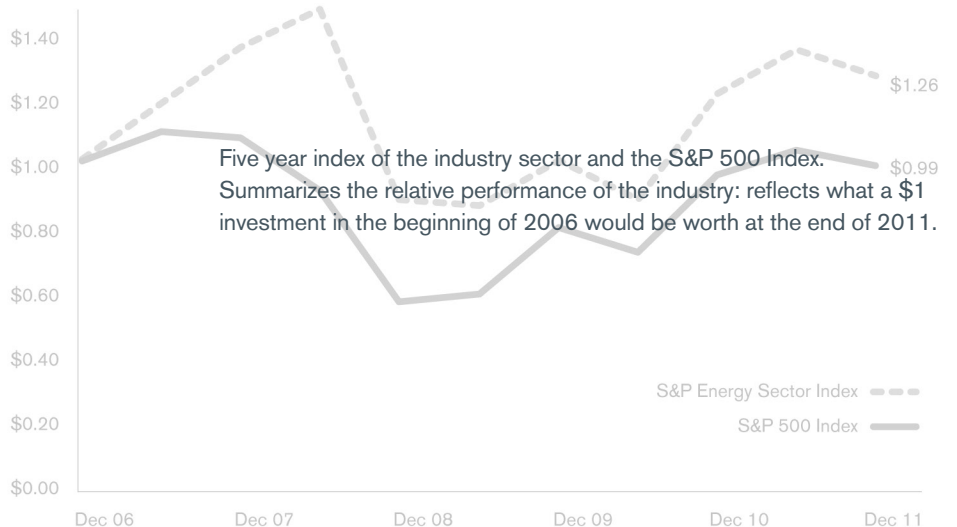
## Size of Industry (Relative to Study's Total Market Cap)



## Top 3 Goodwill Impairments recorded in the industry during the year of the *Study*.

Company	Amount
Alpha Natural Resources, Inc.	\$745 million
Exterran Holdings, Inc.	197 million
Willbros Group Inc.	179 million

## Index (Year End 2006 = \$1)

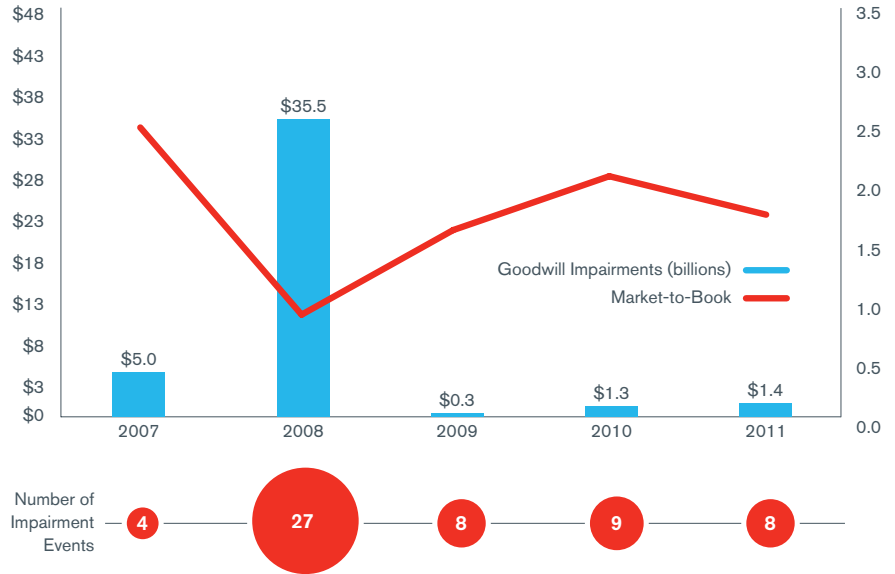
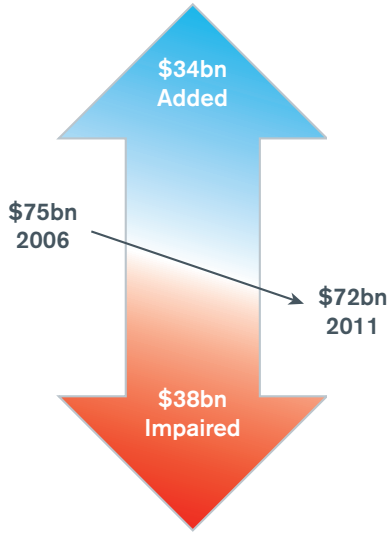


# 2011 Industry Spotlight

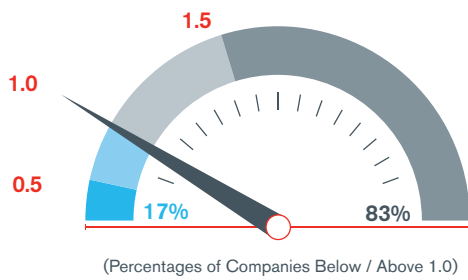
# Energy

GICS Code 10

## Goodwill Trends 2007-2011



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



**280**  
Companies

**4.0%**  
Goodwill to Total Assets (GW/TA)

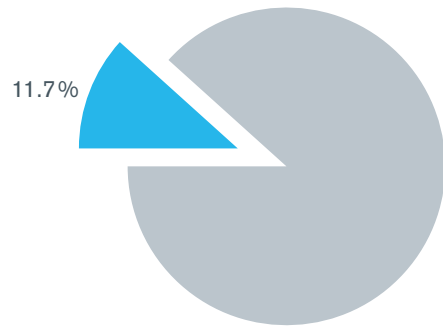
**2.2%**  
Percent of Goodwill Impaired (I/GW ratio)

**34.3%**  
Companies with Goodwill

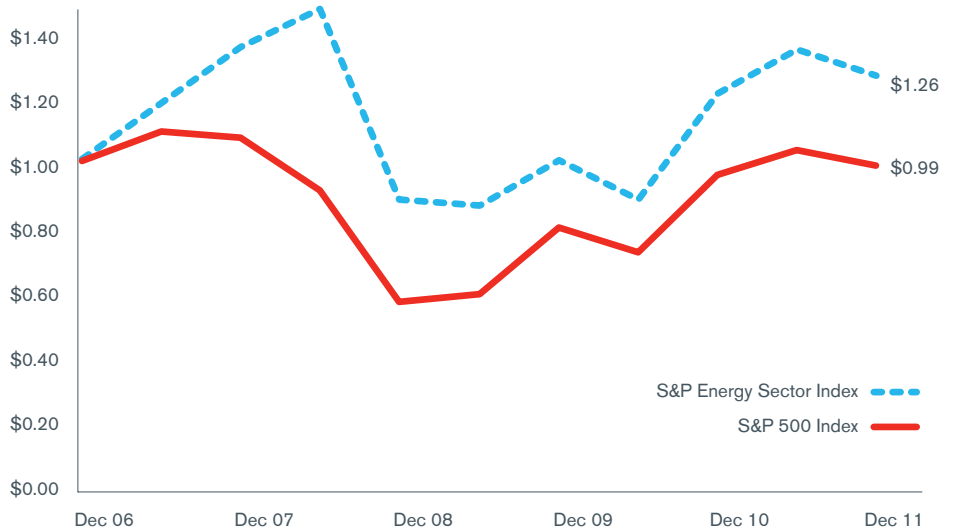
**8.3%**  
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2011

**1.9**  
Market-to-Book Ratio (median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

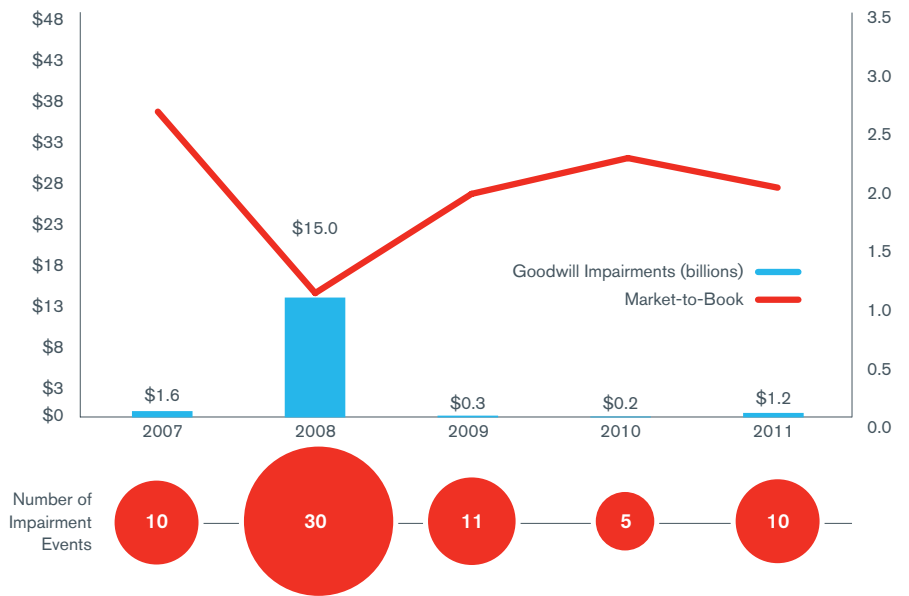
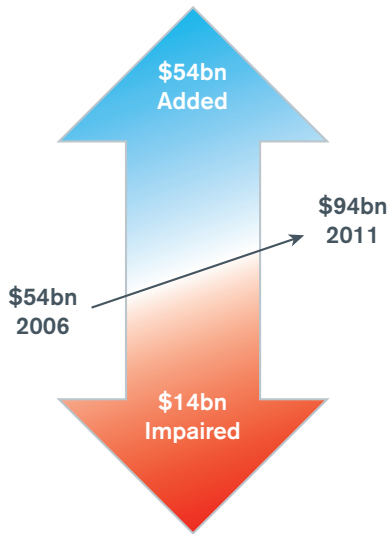
Alpha Natural Resources, Inc. ....	\$745 million
Exterran Holdings, Inc. ....	197 million
Willbros Group Inc. ....	179 million

# 2011 Industry Spotlight

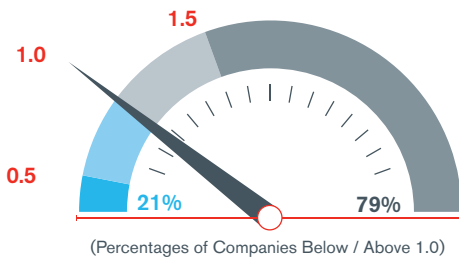
# Materials

GICS Code 15

## Goodwill Trends 2007-2011



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



**231**  
Companies

**13.6%**  
Goodwill to Total Assets  
(GW/TA)

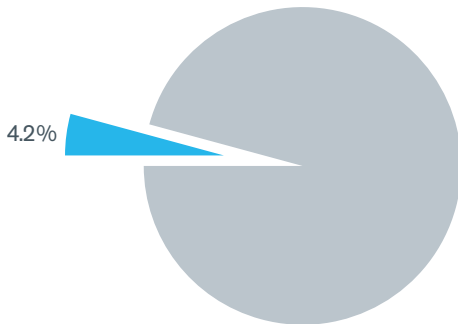
**1.6%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**49.8%**  
Companies with  
Goodwill

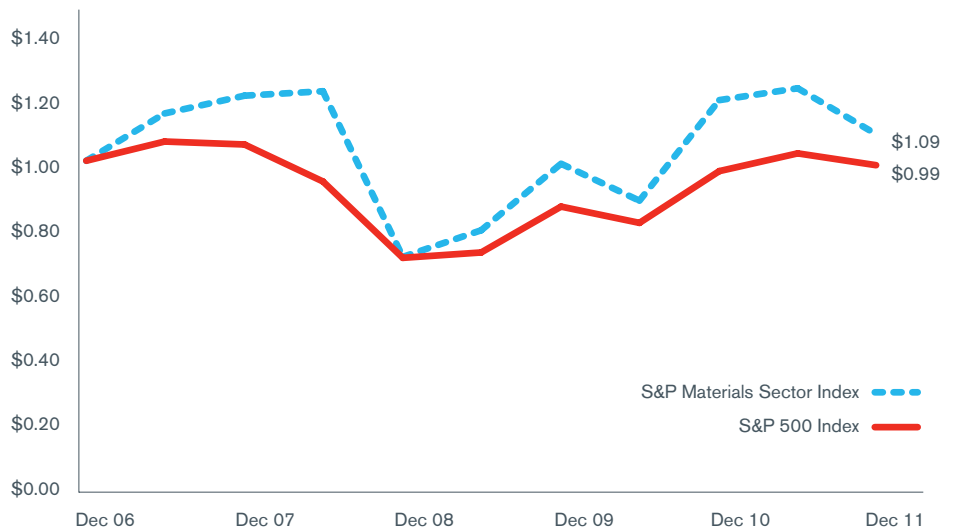
**8.7%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**1.7**  
Market-to-Book Ratio  
(median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

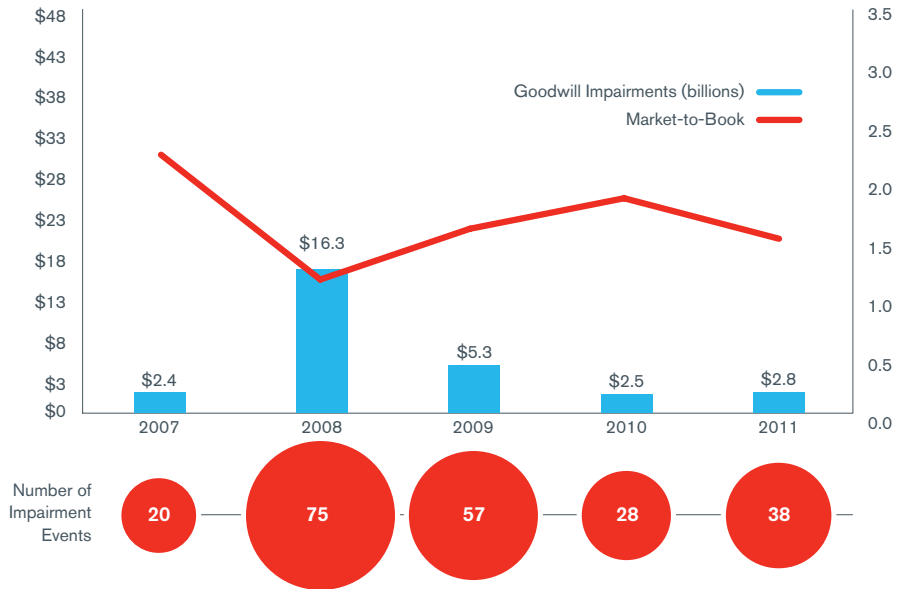
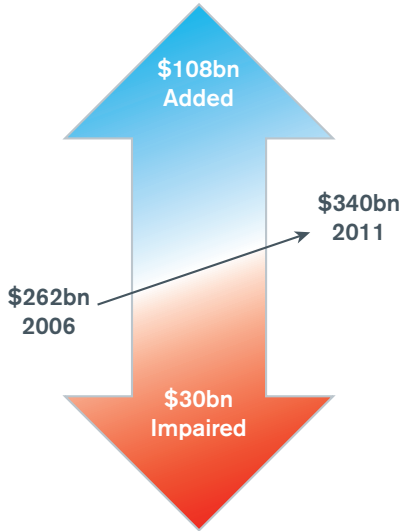
- Owens-Illinois, Inc. ....\$641 million
- The Valspar Corporation ..... 410 million
- Graphic Packaging Holding Company ..96 million

# 2011 Industry Spotlight

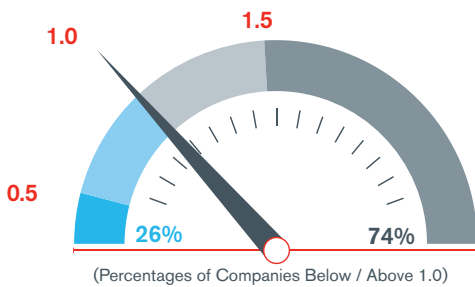
# Industrials

GICS Code 20

## Goodwill Trends 2007-2011



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



**596**  
Companies

**15.0%**  
Goodwill to Total Assets  
(GW/TA)

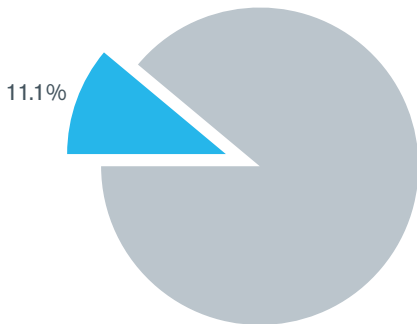
**0.9%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**61.6%**  
Companies with  
Goodwill

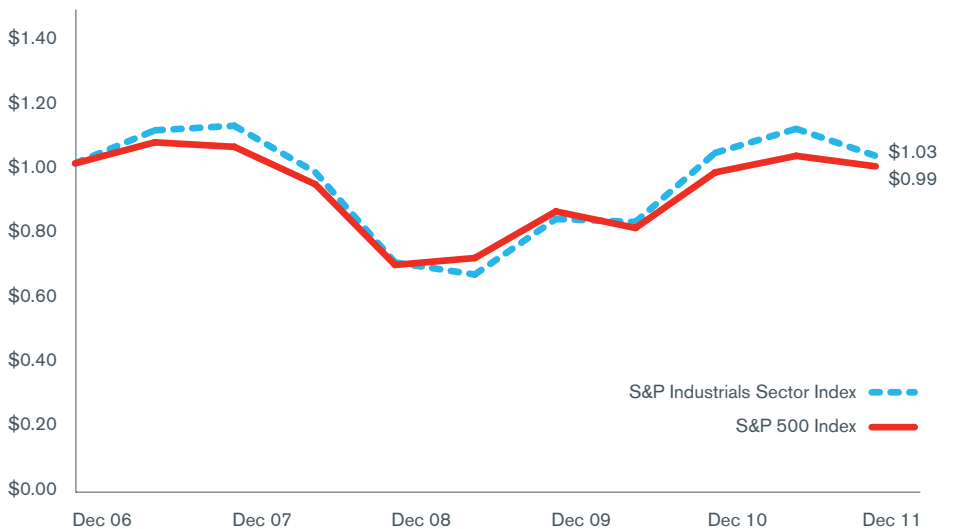
**10.4%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**1.5**  
Market-to-Book Ratio  
(median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

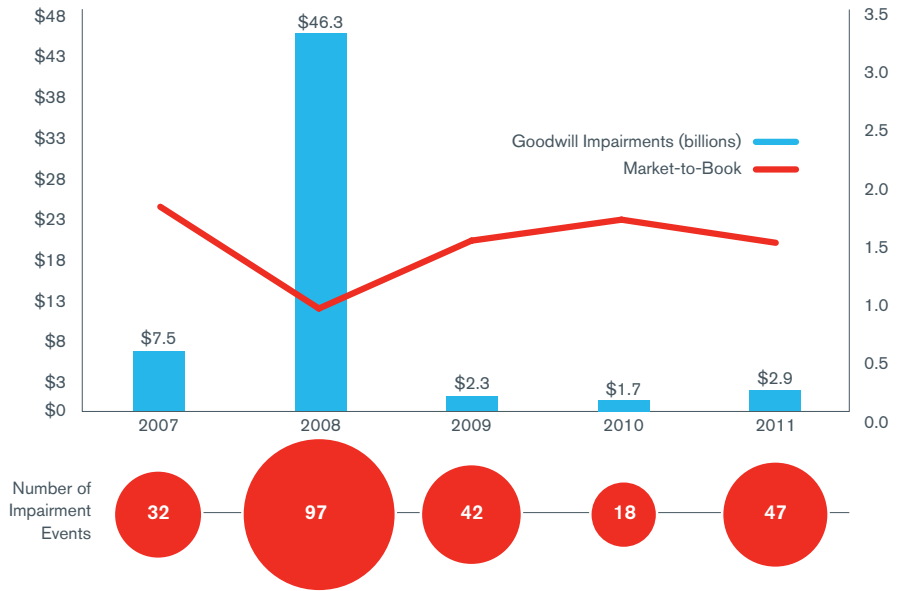
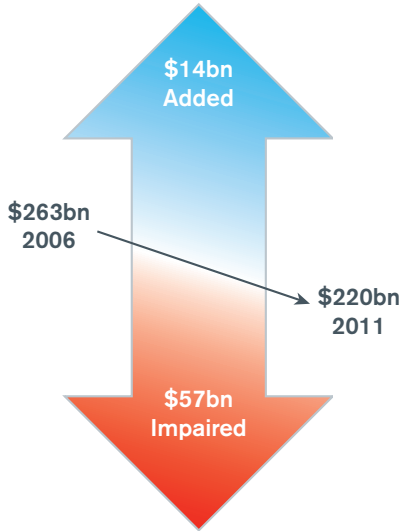
- URS Corporation .....\$826 million
- Masco Corporation .....486 million
- R.R. Donnelley & Sons Company ...392 million

# 2011 Industry Spotlight

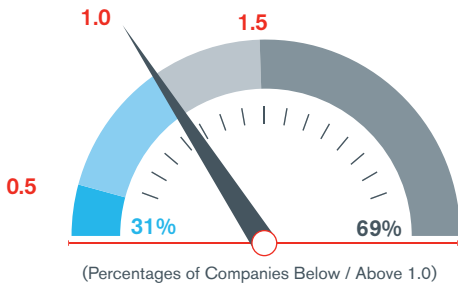
# Consumer Discretionary

GICS Code 25

## Goodwill Trends 2007-2011



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



**630**  
Companies

**13.3%**  
Goodwill to Total Assets (GW/TA)

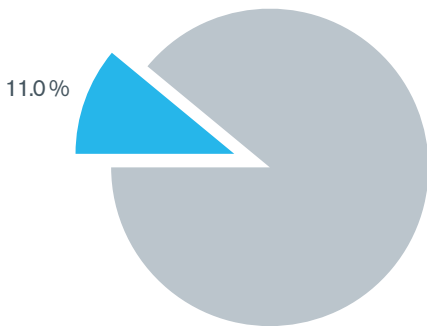
**1.4%**  
Percent of Goodwill Impaired (I/GW ratio)

**53.7%**  
Companies with Goodwill

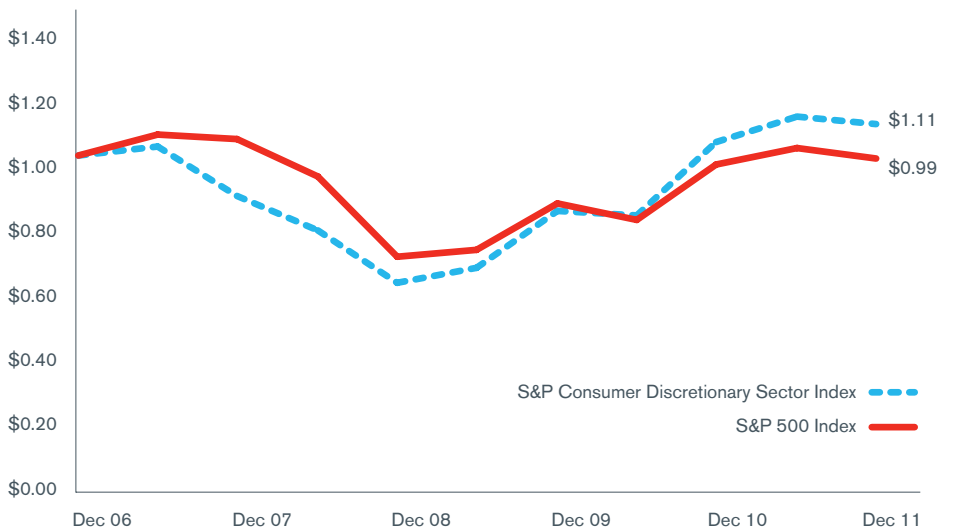
**13.9%**  
Percent of Companies with Goodwill that Recorded a Goodwill Impairment in 2011

**1.5**  
Market-to-Book Ratio (median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

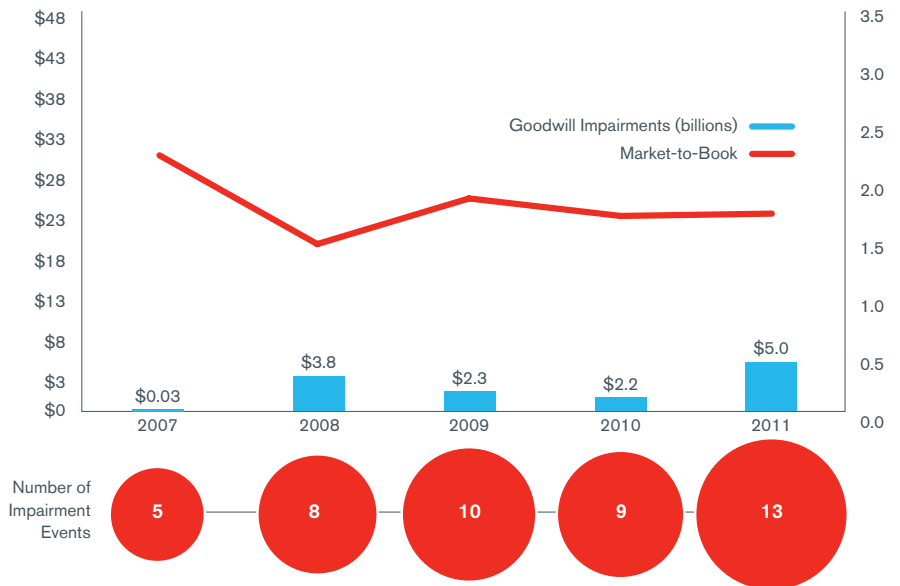
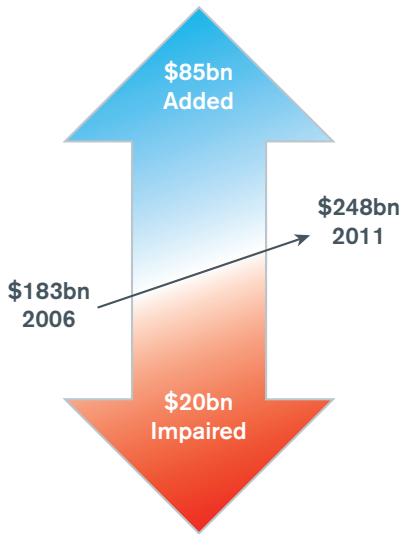
School Specialty Inc. ....	\$411 million
Newell Rubbermaid Inc. ....	370 million
PulteGroup, Inc. ....	241 million

# 2011 Industry Spotlight

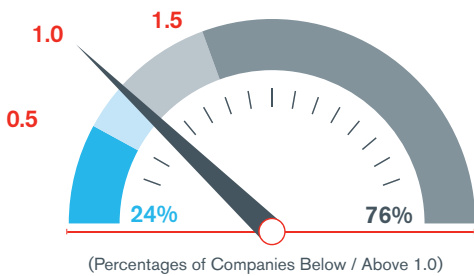
# Consumer Staples

GICS Code 30

## Goodwill Trends 2007-2011



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



**187**  
Companies

**21.0%**  
Goodwill to Total Assets  
(GW/TA)

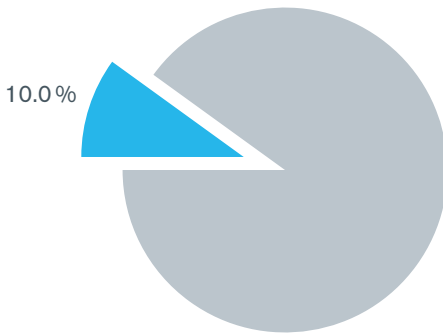
**2.1%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**51.9%**  
Companies with  
Goodwill

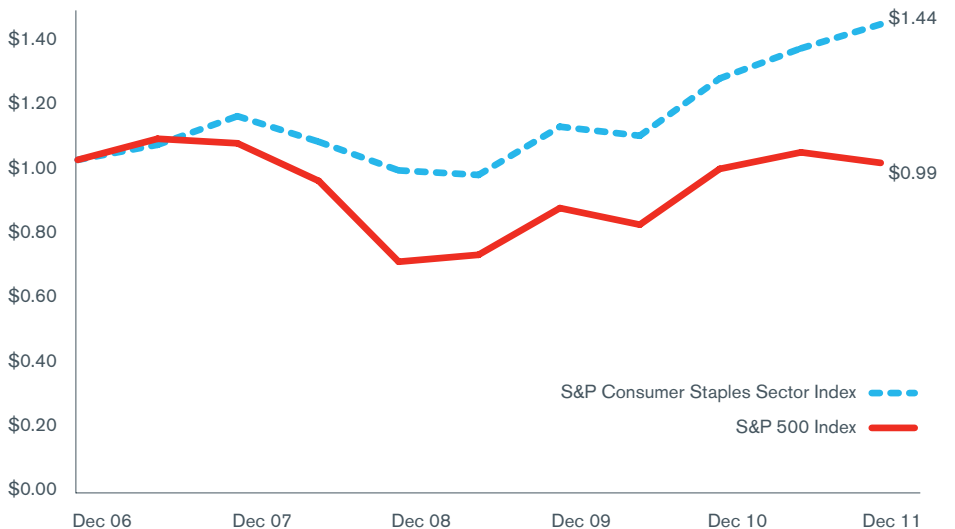
**13.4%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**1.9**  
Market-to-Book Ratio  
(median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

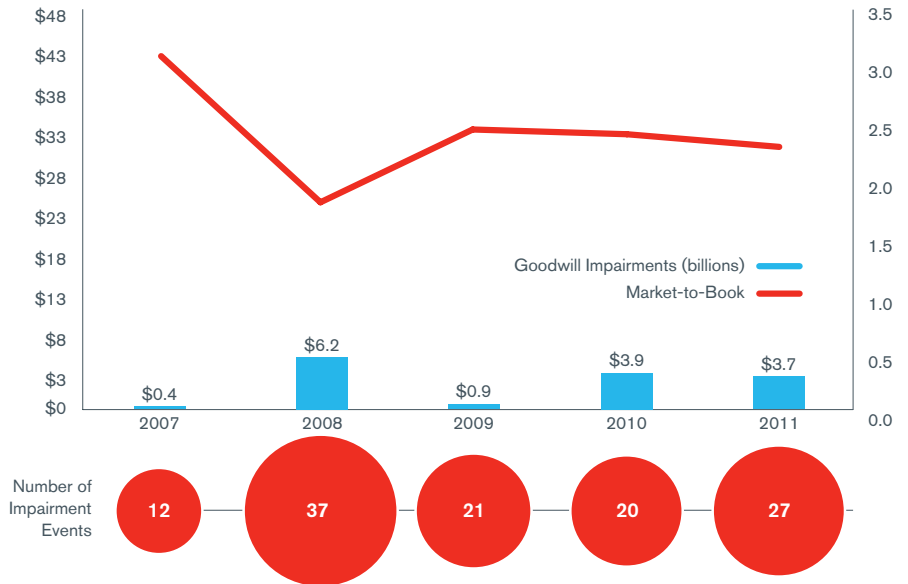
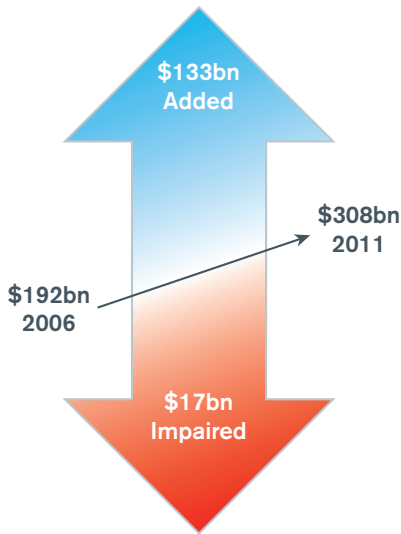
- Dean Foods Company ..... \$2,076 million
- SUPERVALU Inc. .... 1,121 million
- Central European Distribution Corp. ...930 million

# 2011 Industry Spotlight

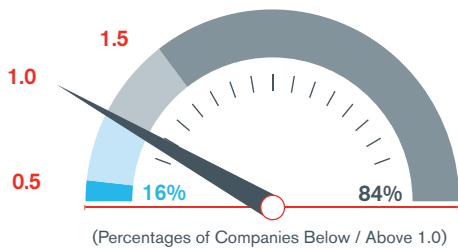
# Healthcare

GICS Code 35

## Goodwill Trends 2007-2011



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



**628**  
Companies

**21.6%**  
Goodwill to Total Assets  
(GW/TA)

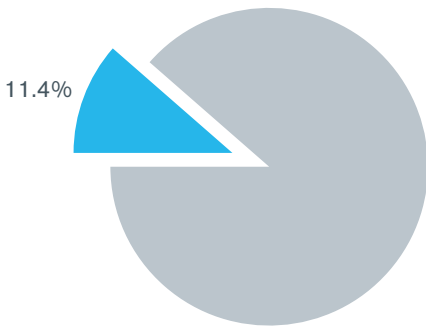
**1.3%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**40.3%**  
Companies with  
Goodwill

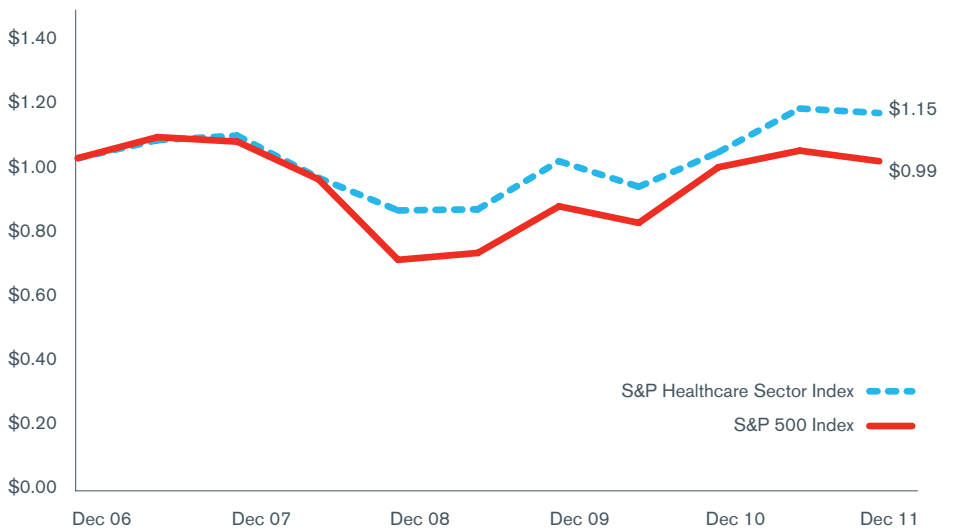
**10.7%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**2.4**  
Market-to-Book Ratio  
(median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

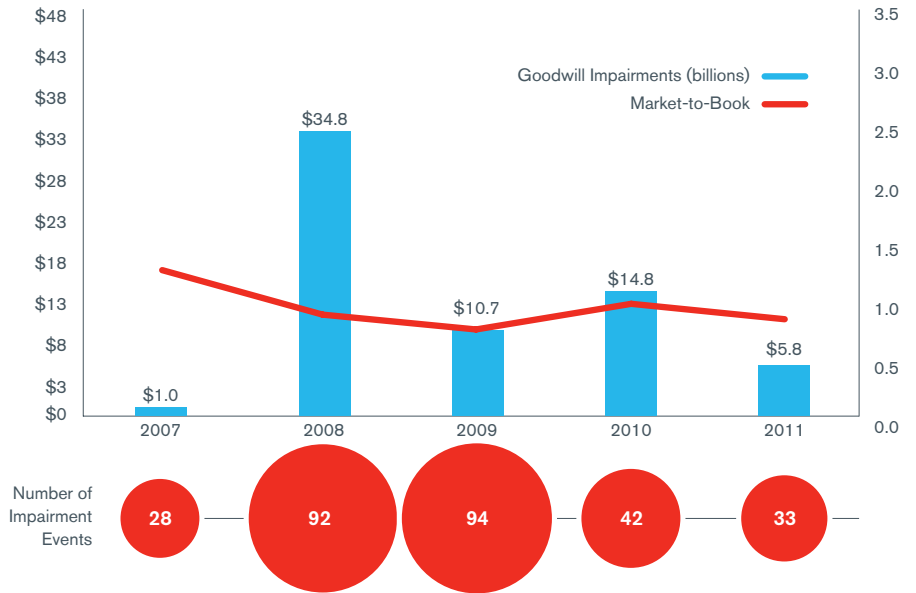
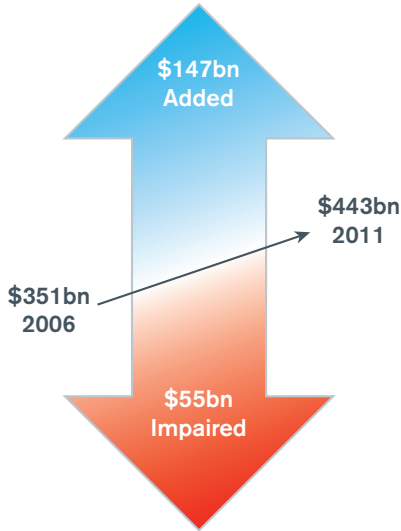
- Boston Scientific Corporation ....\$697 million
- Gentiva Health Services Inc. ....602 million
- Amedisys Inc. ....571 million

# 2011 Industry Spotlight

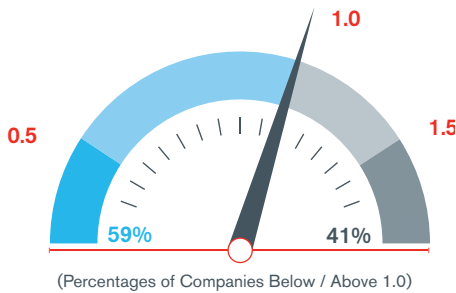
# Financials

GICS Code 40

## Goodwill Trends 2007-2011



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



**1,493**  
Companies

**1.8%**  
Goodwill to Total Assets  
(GW/TA)

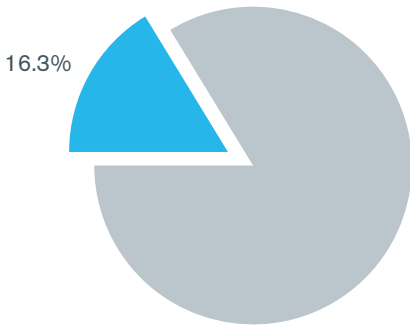
**1.3%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**28.5%**  
Companies with  
Goodwill

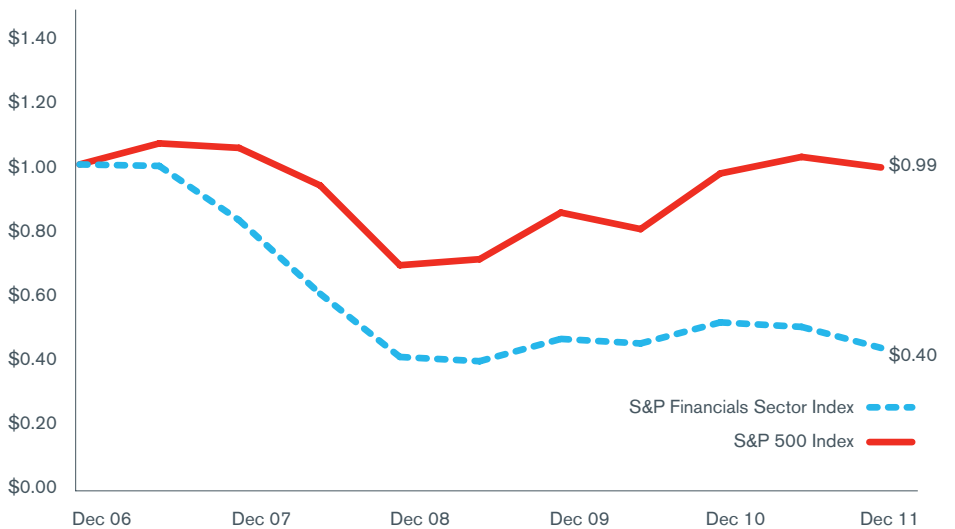
**7.7%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**0.9**  
Market-to-Book Ratio  
(median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

Bank of America Corporation \$3,184 million  
 Lincoln National Corporation .....747 million  
 SL Green Realty Corp. ....498 million

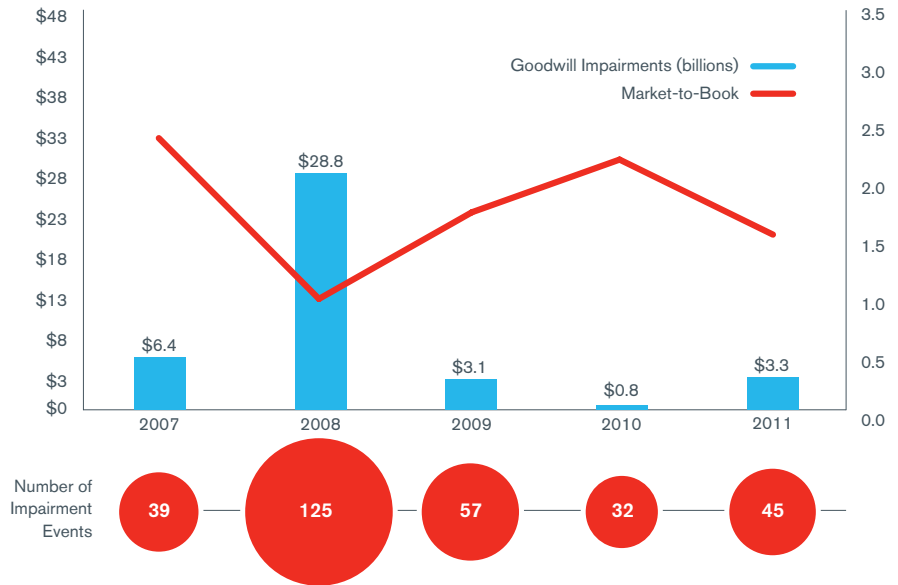
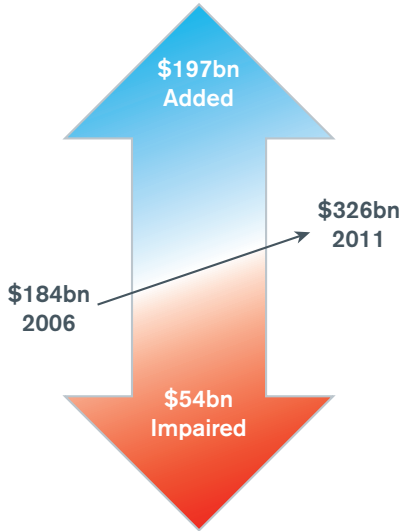


# 2011 Industry Spotlight

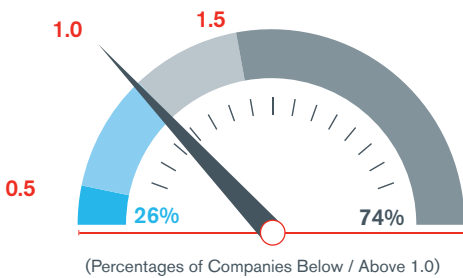
# Information Technology

GICS Code 45

## Goodwill Trends 2007-2011



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



**800**  
Companies

**18.2%**  
Goodwill to Total Assets  
(GW/TA)

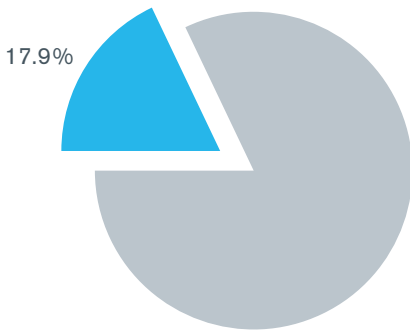
**1.2%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**55.3%**  
Companies with  
Goodwill

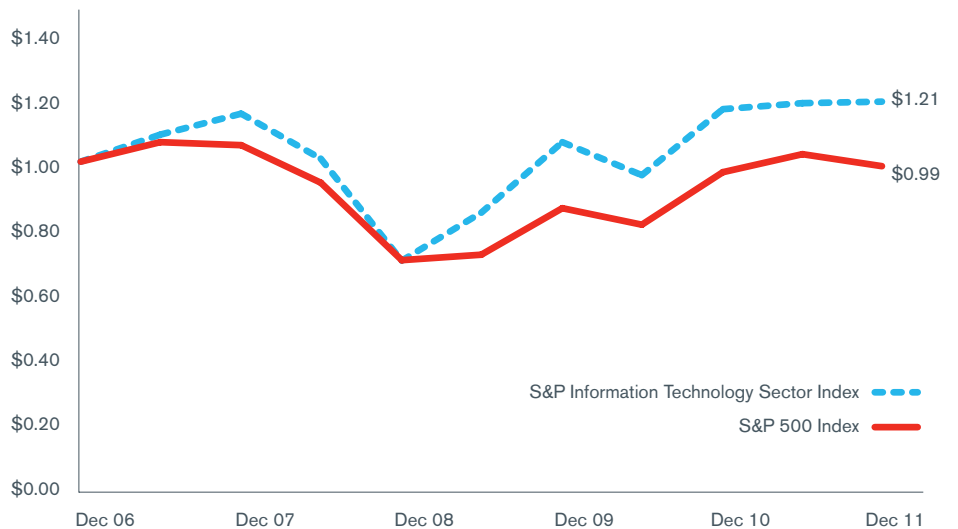
**10.2%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**1.7**  
Market-to-Book Ratio  
(median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

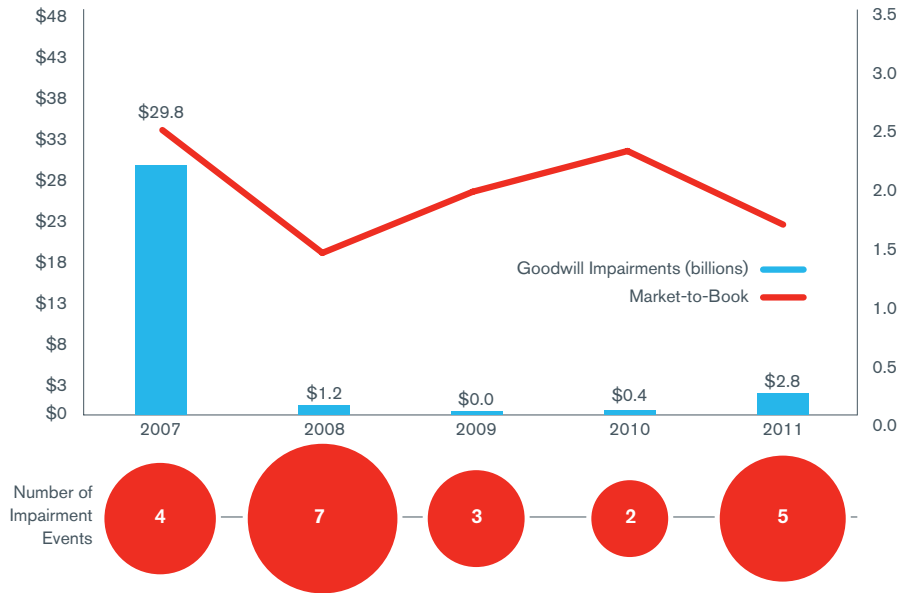
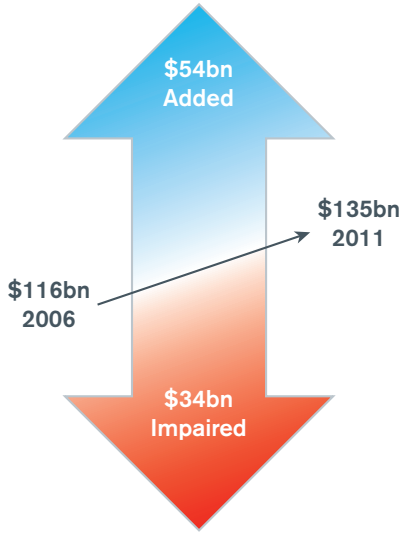
- Hewlett-Packard Company ..... \$813 million
- ltron, Inc. .... 585 million
- MEMC Electronic Materials Inc. ... 441 million

# 2011 Industry Spotlight

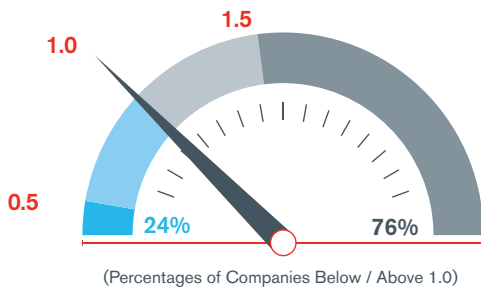
# Telecommunication Services

GICS Code 50

## Goodwill Trends 2007-2011



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



**62**  
Companies

**19.0%**  
Goodwill to Total Assets  
(GW/TA)

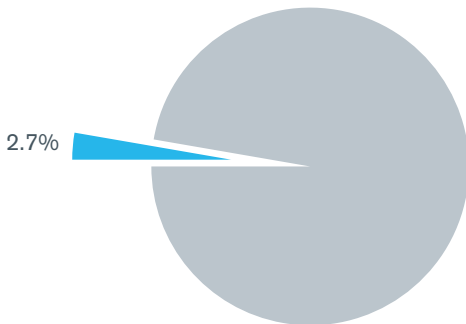
**2.3%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**53.2%**  
Companies with  
Goodwill

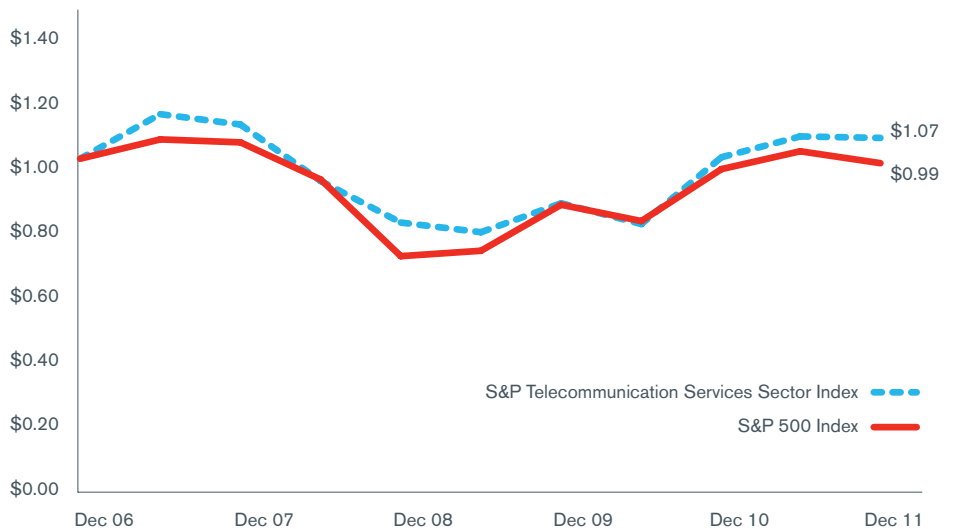
**15.2%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**1.7**  
Market-to-Book Ratio  
(median)

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



## Index (Year End 2006 = \$1)



## Top 3 Industry Goodwill Impairments

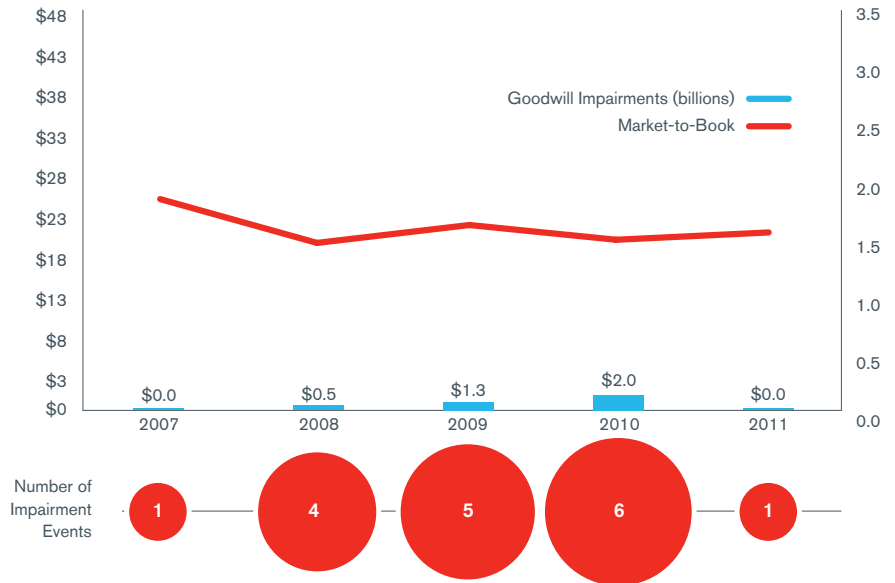
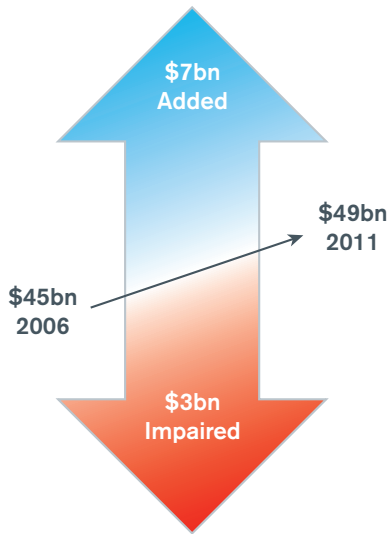
AT&T, Inc. ....	\$2,745 million
Cincinnati Bell Inc. ....	50 million
LICT Corporation ....	3 million

# 2011 Industry Spotlight

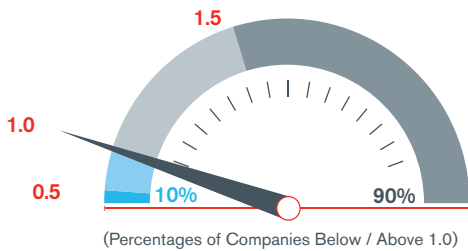
## Utilities

GICS Code 55

### Goodwill Trends 2007–2011



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



**97**  
Companies

**4.1%**  
Goodwill to Total Assets  
(GW/TA)

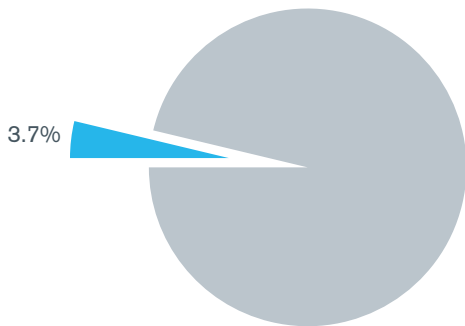
**0.0%**  
Percent of Goodwill  
Impaired (I/GW ratio)

**56.7%**  
Companies with  
Goodwill

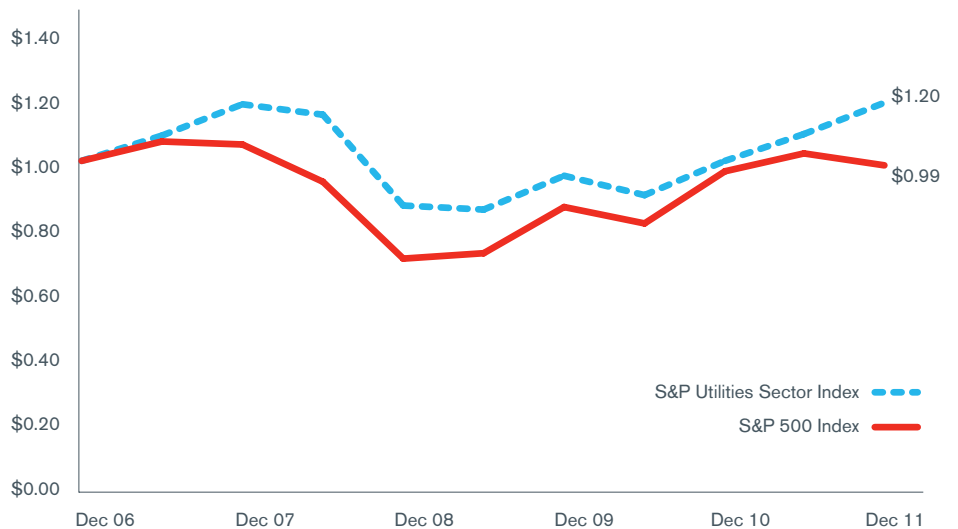
**1.8%**  
Percent of Companies  
with Goodwill that  
Recorded a Goodwill  
Impairment in 2011

**1.6**  
Market-to-Book Ratio  
(median)

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



### Index (Year End 2006 = \$1)



### Top Industry Goodwill Impairment

The AES Corporation .....\$17 million

# Appendix B:

## Goodwill Impairments by Sub-Industry

### Goodwill Intensity:

- Goodwill to Total Assets (GW/TA)

### Loss Intensity:

- Goodwill Impairment to Total Assets (I/TA)
- Goodwill Impairment to Goodwill (I/GW)

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

GICS Code	GICS Sub-Industry Name	Number Co.'s (2011)	GW/TA (2010)	GW/TA (2011)	Goodwill Impairment (2011) (in \$millions)	I/TA (2011)	I/GW (2011)
<b>Energy</b>					<b>\$1,432 (industry total)</b>		
10101010	Oil and Gas Drilling	9	10.22%	0.85%	–	–	–
10101020	Oil and Gas Equipment and Services	42	18.50%	14.34%	\$ 515	0.42%	2.78%
10102010	Integrated Oil and Gas	6	1.50%	1.07%	–	–	–
10102020	Oil and Gas Exploration and Production	137	4.57%	3.68%	–	–	–
10102030	Oil and Gas Refining and Marketing	24	1.85%	4.05%	\$ 2	0.00%	0.14%
10102040	Oil and Gas Storage and Transportation	44	3.51%	6.65%	\$ 170	0.07%	1.15%
10102050	Coal and Consumable Fuels	18	1.23%	4.31%	\$ 745	1.69%	–
<b>Material</b>					<b>\$1,227 (industry total)</b>		
15101010	Commodity Chemicals	20	5.85%	5.47%	\$ 40	0.43%	7.54%
15101020	Diversified Chemicals	12	13.53%	14.28%	\$ 0	0.00%	0.00%
15101030	Fertilizers and Agricultural Chemicals	13	12.57%	15.73%	\$ 0	0.00%	0.00%
15101040	Industrial Gases	3	12.20%	12.20%	–	–	–
15101050	Specialty Chemicals	48	18.52%	19.80%	\$ 416	0.56%	3.25%
15102010	Construction Materials	13	26.35%	26.34%	–	–	–
15103010	Metal and Glass Containers	10	25.61%	23.66%	\$ 641	1.98%	7.80%
15103020	Paper Packaging	9	21.72%	25.06%	\$ 96	0.43%	1.66%
15104010	Aluminum	3	12.42%	12.23%	–	–	–
15104020	Diversified Metals and Mining	31	0.52%	2.54%	–	–	–
15104030	Gold	15	9.61%	0.63%	–	–	–
15104040	Precious Metals and Minerals	11	–	–	\$ 4	0.07%	–
15104050	Steel	29	6.52%	10.39%	\$ 28	0.04%	0.42%
15105010	Forest Products	4	–	–	–	–	–
15105020	Paper Products	10	7.89%	8.18%	–	–	–
<b>Industrials</b>					<b>\$2,797 (industry total)</b>		
20101010	Aerospace and Defense	67	28.18%	27.56%	\$ 121	0.03%	0.12%
20102010	Building Products	25	17.36%	15.10%	\$ 495	1.50%	9.59%
20103010	Construction and Engineering	29	14.14%	20.30%	\$ 958	1.88%	9.22%
20104010	Electrical Components and Equipment	58	30.98%	29.87%	\$ 68	0.11%	0.37%
20104020	Heavy Electrical Equipment	10	7.52%	8.80%	–	–	–
20105010	Industrial Conglomerates	10	6.64%	8.62%	–	–	–
20106010	Construction and Farm Machinery and Heavy Trucks	35	5.52%	7.16%	\$ 25	0.01%	0.26%
20106020	Industrial Machinery	89	30.60%	27.59%	\$ 291	0.19%	0.69%
20107010	Trading Companies and Distributors	32	11.62%	11.29%	\$ 6	0.02%	0.18%
20201010	Commercial Printing	14	29.93%	26.24%	\$ 401	2.77%	10.37%
20201050	Environmental and Facilities Services	46	34.69%	35.76%	–	–	–

# Appendix B

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

GICS Code	GICS Sub-Industry Name	Number Co.'s (2011)	GW/TA (2010)	GW/TA (2011)	Goodwill Impairment (2011) (in \$millions)	I/TA (2011)	I/GW (2011)
<b>Industrials (continued)</b>							
20201060	Office Services and Supplies	22	21.05%	19.59%	\$ 196	0.80%	3.82%
20201070	Diversified Support Services	31	29.41%	27.24%	\$ 54	0.26%	0.98%
20201080	Security and Alarm Services	9	6.55%	8.83%	–	–	–
20202010	Human Resource and Employment Services	18	21.40%	21.82%	\$ 26	0.15%	0.70%
20202020	Research and Consulting Services	29	42.54%	44.31%	\$ 22	0.14%	0.31%
20301010	Air Freight and Logistics	18	7.71%	7.06%	\$ 3	0.00%	0.06%
20302010	Airlines	13	0.17%	6.43%	\$ 6	0.01%	0.12%
20303010	Marine	4	2.31%	15.92%	\$ 115	3.67%	21.24%
20304010	Railroads	6	0.32%	0.21%	–	–	–
20304020	Trucking	27	2.40%	2.56%	\$ 12	0.02%	0.93%
20305010	Airport Services	4	23.41%	22.73%	–	–	–
<b>Consumer Discretionary</b>					<b>\$2,916 (industry total)</b>		
25101010	Auto Parts and Equipment	44	15.53%	13.65%	\$ 47	0.05%	0.37%
25101020	Tires and Rubber	3	3.81%	3.34%	–	–	–
25102010	Automobile Manufacturers	7	0.16%	0.14%	–	–	–
25102020	Motorcycle Manufacturers	3	0.32%	0.30%	–	–	–
25201010	Consumer Electronics	9	3.98%	3.99%	–	–	–
25201020	Home Furnishings	16	19.41%	21.10%	\$ 12	0.09%	0.42%
25201030	Homebuilding	18	0.65%	0.31%	\$ 241	0.53%	65.80%
25201040	Household Appliances	4	11.56%	11.18%	–	–	–
25201050	Housewares and Specialties	13	26.98%	24.16%	\$ 459	2.40%	9.16%
25202010	Leisure Products	23	10.53%	10.41%	\$ 96	0.56%	5.21%
25203010	Apparel, Accessories and Luxury Goods	46	13.76%	14.20%	\$ 91	–	2.07%
25203020	Footwear	13	2.44%	2.36%	\$ 3	0.21%	1.05%
25203030	Textiles	6	1.26%	1.30%	–	0.02%	–
25301010	Casinos and Gaming	41	5.87%	8.56%	\$ 11	0.01%	0.25%
25301020	Hotels, Resorts and Cruise Lines	15	8.03%	13.14%	\$ 14	0.04%	0.35%
25301030	Leisure Facilities	14	8.67%	7.98%	\$ 49	0.46%	6.07%
25301040	Restaurants	53	8.31%	8.37%	\$ 2	0.00%	0.03%
25302010	Education Services	22	19.59%	13.41%	\$ 1,091	9.34%	42.14%
25302020	Specialized Consumer Services	19	15.81%	16.23%	\$ 98	0.38%	2.36%
25401010	Advertising	19	31.43%	33.17%	–	–	–
25401020	Broadcasting	20	29.64%	25.10%	\$ 103	0.21%	0.92%
25401025	Cable and Satellite	7	14.68%	16.75%	–	–	–
25401030	Movies and Entertainment	30	33.75%	34.55%	\$ 171	0.08%	0.21%
25401040	Publishing	25	40.26%	28.96%	\$ 393	1.01%	3.63%
25501010	Distributors	16	13.50%	15.60%	\$ 2	0.02%	0.11%
25502010	Catalog Retail	5	6.30%	1.35%	\$ 30	5.51%	79.26%
25502020	Internet Retail	17	18.32%	14.16%	\$ 5	0.02%	0.09%
25503010	Department Stores	8	5.66%	5.62%	–	–	–
25503020	General Merchandise Stores	7	0.41%	0.41%	–	–	–
25504010	Apparel Retail	41	4.51%	4.54%	–	–	–

# Appendix B

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

GICS Code	GICS Sub-Industry Name	Number Co.'s (2011)	GW/TA (2010)	GW/TA (2011)	Goodwill Impairment (2011) (in \$millions)	I/TA (2011)	I/GW (2011)
<b>Consumer Discretionary (continued)</b>							
25504020	Computer and Electronics Retail	8	16.99%	9.68%	–	–	–
25504030	Home Improvement Retail	2	1.52%	1.58%	–	–	–
25504040	Specialty Stores	31	10.29%	11.58%	\$ 0	0.00%	0.00%
25504050	Automotive Retail	17	10.32%	10.05%	–	–	–
25504060	Home Furnishing Retail	8	1.84%	3.74%	–	–	–
<b>Consumer Staples \$5,004 (industry total)</b>							
30101010	Drug Retail	6	28.41%	28.60%	–	–	–
30101020	Food Distributors	6	13.71%	13.52%	–	–	–
30101030	Food Retail	10	7.55%	7.94%	\$ 1,139	1.77%	17.03%
30101040	Hypermarkets and Super Centers	3	7.70%	7.54%	–	–	–
30201010	Brewers	3	11.46%	11.42%	–	–	–
30201020	Distillers and Vintners	7	30.91%	29.08%	\$ 930	3.33%	11.22%
30201030	Soft Drinks	14	17.45%	17.75%	–	–	–
30202010	Agricultural Products	11	3.41%	3.16%	–	–	–
30202030	Packaged Foods and Meats	58	30.64%	30.89%	\$ 2,447	1.07%	3.31%
30203010	Tobacco	7	20.96%	21.45%	–	–	–
30301010	Household Products	13	36.17%	33.06%	\$ 258	0.14%	0.41%
30302010	Personal Products	49	10.20%	8.80%	\$ 230	1.11%	11.83%
<b>Healthcare \$3,719 (industry total)</b>							
35101010	Healthcare Equipment	133	25.00%	25.56%	\$ 833	0.58%	2.26%
35101020	Healthcare Supplies	40	33.19%	34.69%	\$ 384	2.16%	6.38%
35102010	Healthcare Distributors	13	17.11%	16.00%	–	–	–
35102015	Healthcare Services	53	48.38%	46.52%	\$ 1,954	3.52%	6.95%
35102020	Healthcare Facilities	29	22.87%	22.93%	\$ 21	0.04%	0.17%
35102030	Managed Healthcare	14	21.63%	21.46%	\$ 63	0.03%	0.12%
35103010	Health Care Technology	22	14.43%	11.74%	\$ 27	0.70%	5.44%
35201010	Biotechnology	198	15.70%	14.86%	\$ 19	0.02%	0.12%
35202010	Pharmaceuticals	82	18.41%	18.29%	\$ 400	0.07%	0.38%
35203010	Life Sciences Tools and Services	44	29.93%	33.01%	\$ 16	0.03%	0.08%
<b>Financials \$5,847 (industry total)</b>							
40101010	Diversified Banks	3	2.06%	2.02%	–	–	–
40101015	Regional Banks	384	2.35%	2.35%	\$ 364	0.02%	0.68%
40102010	Thrifts and Mortgage Finance	155	1.78%	0.11%	\$ 80	0.00%	1.28%
40201020	Other Diversified Financial Services	6	2.38%	2.29%	\$ 3,184	0.05%	2.14%
40201030	Multi-Sector Holdings	10	0.14%	2.18%	–	–	–
40201040	Specialized Finance	18	14.15%	14.67%	–	–	–
40202010	Consumer Finance	20	3.08%	3.21%	–	–	–
40203010	Asset Management and Custody Banks	676	4.65%	4.86%	\$ 265	0.01%	0.28%
40203020	Investment Banking and Brokerage	32	0.94%	0.97%	\$ 424	0.02%	2.34%
40301010	Insurance Brokers	8	30.37%	38.02%	\$ 12	0.05%	0.13%
40301020	Life and Health Insurance	22	0.85%	0.76%	\$ 747	0.04%	4.47%
40301030	Multi-line Insurance	13	0.51%	0.45%	\$ 59	0.00%	0.90%
40301040	Property and Casualty Insurance	43	5.60%	1.60%	\$ 214	0.04%	2.59%
40301050	Reinsurance	2	0.42%	0.14%	–	–	–

# Appendix B

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

GICS Code	GICS Sub-Industry Name	Number Co.'s (2011)	GW/TA (2010)	GW/TA (2011)	Goodwill Impairment (2011) (in \$millions)	I/TA (2011)	I/GW (2011)
<b>Financials (continued)</b>							
40402010	Diversified REITs	4	0.01%	0.03%	–	–	–
40402020	Industrial REITs	1	0.17%	–	–	–	–
40402030	Mortgage REITs	18	0.18%	0.04%	–	–	–
40402040	Office REITs	6	–	–	\$ 498	1.73%	–
40402050	Residential REITs	5	0.12%	0.10%	–	–	–
40402060	Retail REITs	8	0.05%	0.07%	–	–	–
40402070	Specialized REITs	14	0.33%	4.68%	–	–	–
40403010	Diversified Real Estate Activities	7	–	–	–	–	–
40403020	Real Estate Operating Companies	21	0.06%	–	–	–	–
40403030	Real Estate Development	9	1.22%	0.12%	–	–	–
40403040	Real Estate Services	8	30.42%	29.98%	–	–	–
<b>Information Technology</b>					<b>\$3,345 (industry total)</b>		
45101010	Internet Software and Services	105	15.18%	18.90%	\$ 55	0.04%	0.25%
45102010	IT Consulting and Other Services	54	16.16%	22.88%	\$ 136	0.10%	0.44%
45102020	Data Processing and Outsourced Services	38	19.25%	25.79%	\$ 27	0.02%	0.09%
45103010	Application Software	105	33.87%	33.21%	\$ 144	0.25%	0.72%
45103020	Systems Software	38	24.71%	22.42%	–	–	–
45103030	Home Entertainment Software	11	20.43%	18.55%	\$ 6	0.05%	0.27%
45201020	Communications Equipment	93	16.51%	17.35%	\$ 249	0.13%	0.80%
45202010	Computer Hardware	15	17.12%	15.98%	\$ 813	0.32%	1.85%
45202020	Computer Storage and Peripherals	46	18.04%	19.74%	\$ 11	0.02%	0.09%
45203010	Electronic Equipment and Instruments	83	19.94%	16.04%	\$ 625	4.54%	23.54%
45203015	Electronic Components	23	6.74%	5.98%	\$ 0	0.00%	0.01%
45203020	Electronic Manufacturing Services	40	4.36%	7.44%	\$ 15	0.06%	1.06%
45203030	Technology Distributors	25	6.33%	6.72%	\$ 50	0.11%	1.86%
45204010	Office Electronics	2	27.96%	28.64%	–	–	–
45301010	Semiconductor Equipment	43	6.91%	6.34%	\$ 490	1.29%	17.81%
45301020	Semiconductors	79	7.12%	11.10%	\$ 722	0.43%	5.63%
<b>Telecommunications Services</b>					<b>\$2,801 (industry total)</b>		
50101010	Alternative Carriers	17	15.50%	16.85%	–	–	–
50101020	Integrated Telecommunication Services	28	20.03%	21.43%	\$ 2,801	0.51%	2.39%
50102010	Wireless Telecommunication Services	17	5.96%	4.15%	–	–	–
<b>Utilities</b>					<b>\$17 (industry total)</b>		
55101010	Electric Utilities	30	3.77%	3.38%	–	–	–
55102010	Gas Utilities	22	6.62%	7.83%	–	–	–
55103010	Multi-Utilities	21	3.55%	4.02%	–	–	–
55104010	Water Utilities	10	0.57%	0.38%	–	–	–
55105010	Independent Power Producers and Energy Traders	14	2.80%	6.46%	\$ 17	0.02%	0.54%

# Appendix C: Survey Cross-Tabulation Analyses

Cross-tabulation: evaluating the relationship between the responses to two (or more) questions.

## Appendix C-1

Number of Reporting Units (Q4↓) vs. Recognized an Impairment in 2010 or 2011 (Q6→) (N=129)

	Public (Revenue >\$1 billion)				Total	
	Yes		No			
1	5	29%	12	71%	17	100%
2 to 5	16	24%	50	76%	66	100%
6 to 10	12	46%	14	54%	26	100%
More than 10	12	60%	8	40%	20	100%
Total	45	35%	84	65%	129	100%

Public companies with a large number of reporting units were more likely to have recently recognized an impairment.

## Appendix C-2

Number of Reporting Units (Q4↓) vs. Public or Private (Q3→) (N=214)

	Public		Private	
	1	17	13%	30
2 to 5	67	52%	35	42%
6 to 10	26	20%	9	11%
More than 10	20	15%	10	12%
Total	130	100%	84	100%

Size Distribution is Similar:  
Company Revenue (Q2↓) vs. Public or Private (Q3→) for 1 Reporting Unit Only (N=47)

	Public		Private	
	Less than \$100 million	4	24%	9
\$100 to \$499 million	8	47%	15	50%
\$500 million to \$1 billion	2	12%	3	10%
Over \$1 billion	3	18%	3	10%
Total	17	100%	30	100%

Private companies were three times more likely to have a single reporting unit, regardless of company size.

## Appendix C-3

Number of Reporting Units (Q4↓) vs. Use of a Valuation Consultant (Q5→) (N=85)

	Public (Revenue >\$1 billion)				Total	
	Valuation Consultant		In-House			
1	2	67%	1	33%	3	100%
2 to 5	29	63%	17	37%	46	100%
6 to 10	13	62%	8	38%	21	100%
More than 10	6	40%	9	60%	15	100%
Total	50	59%	35	41%	85	100%

For large public companies, the number of reporting units did not impact the likelihood of performing the analysis in-house.



# Appendix C

## Appendix C-4

Control Premium Approach Used (Q22↓) vs. Use of a Valuation Consultant (Q5→) (N=177)

	Valuation Consultant		In-House		Total	
A general control premium was derived from market-based studies	62	63%	29	37%	91	51%
A specific analysis of incremental cash flows derived from improving current operations	0	0%	7	9%	7	4%
A specific analysis of incremental cash flows available by combining the operations of the reporting unit with the buyer	4	4%	0	0%	4	2%
A combination of the above	7	7%	5	6%	12	7%
Other (specify)	2	2%	2	3%	4	2%
Control premiums were not considered	24	24%	35	45%	59	33%
<b>Total</b>	<b>99</b>	<b>100%</b>	<b>78</b>	<b>100%</b>	<b>177</b>	<b>100%</b>

Control premiums were applied by three-quarters of companies that used a valuation consultant...

...and by about half of the companies that performed the analysis in-house.

## Appendix C-5

Application of qualitative assessment (Q11↓) vs. Use of a Valuation Consultant (Q5→) (N=190)

	Public						Private					
	Valuation Consultant		In-House		Total		Valuation Consultant		In-House		Total	
Conclude there was no impairment based on a qualitative assessment for all of the reporting units tested under Step 0	15	36%	27	64%	42	100%	15	58%	11	42%	26	100%
Conclude that a Step 1 analysis was required for certain (or all) reporting units	6	67%	3	33%	9	100%	1	20%	4	80%	5	100%
Believe that you had passed Step 0 for certain (or all) reporting units tested but the auditors concluded there was insufficient evidence and required a Step 1 analysis	2	100%	0	0%	2	100%	1	33%	2	67%	3	100%
Did not apply Step 0	49	68%	23	32%	72	100%	14	45%	17	55%	31	100%
<b>Total</b>	<b>72</b>	<b>58%</b>	<b>53</b>	<b>42%</b>	<b>125</b>	<b>100%</b>	<b>31</b>	<b>48%</b>	<b>34</b>	<b>52%</b>	<b>65</b>	<b>100%</b>

Two-thirds of public companies that proceeded directly to a Step 1 goodwill impairment test used a valuation consultant.

# Appendix C

## Appendix C-6

**68 companies concluded there was no impairment based on a qualitative assessment for all of the reporting units tested under Step 0 (in response to Question 11). Of these companies:**

Margin of FV in Excess of CV (Q9 ↓) vs. Public or Private (Q3 →) (N=68)	Public		Private		Total	
Not applicable, as the aggregate Fair Value was lower than the combined carrying value	2	5%	1	4%	3	4%
Less than 10%	3	7%	5	19%	8	12%
Between 10% and 30%	8	19%	6	23%	14	21%
Greater than 30%	24	57%	7	27%	31	46%
No response	5	12%	7	27%	12	18%
<b>Total</b>	<b>42</b>	<b>100%</b>	<b>26</b>	<b>100%</b>	<b>68</b>	<b>100%</b>

Three-quarters of the companies that concluded there was no goodwill impairment based on Step 0 also reported that fair value exceeded carrying value, indicating some level of quantitative testing.

## Appendix C-7

Application of Step 0 for goodwill impairment (Q11 ↓) vs. expectation of applying Step 0 to indefinite-lived intangible assets (Q15 →) (N=174)	Apply the qualitative assessment annually for all indefinite-lived assets		Apply it only to indefinite-lived intangible assets residing in reporting units that also pass the qualitative assessment		Bypass the qualitative option and continue with a fair value test as done historically		Total	
Conclude there was no impairment based on a qualitative assessment for all of the reporting units tested under Step 0	44	75%	9	15%	6	10%	59	100%
Conclude that a Step 1 analysis was required for certain (or all) reporting units	8	57%	3	21%	3	21%	14	100%
Believe that you had passed Step 0 for certain (or all) reporting units tested but the auditors concluded there was insufficient evidence and required a Step 1 analysis	2	50%	0	0%	2	50%	4	100%
Did not apply Step 0	42	43%	12	12%	43	44%	97	100%
<b>Total</b>	<b>96</b>	<b>55%</b>	<b>24</b>	<b>14%</b>	<b>54</b>	<b>31%</b>	<b>174</b>	<b>100%</b>

A majority (66 of 77 or 86%) of companies that applied Step 0 in the goodwill impairment test also expect to apply it to indefinite-lived intangibles.

Approximately half (54 of 97) of the companies that did not apply Step 0 to goodwill impairment testing anticipate applying it for indefinite-lived intangibles.

# Appendix C

## Appendix C-8

Basis for the Projections (Q19 ↓) vs. DCF Method - DRAT or EPVT (Q20 →) (N=153)	Discount Rate Adjustment Technique (DRAT)		Expected Present Value Technique (EPVT)		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
A single, most likely case scenario	82	54%	11	7%	93	61%
A single scenario but it is assumed to reflect a weighting of various scenarios (expected case)	37	24%	4	3%	41	27%
3 scenarios (low, most likely and high) are weighted to create an expected case	12	8%	6	4%	18	12%
More than 3 scenarios are weighted to create an expected case	0	0%	1	1%	1	1%
<b>Total</b>	<b>131</b>	<b>86%</b>	<b>22</b>	<b>14%</b>	<b>153</b>	<b>100%</b>

When performing a DCF analysis, companies were inconsistent in matching the basis of projections with the nature of the DCF technique applied (DRAT vs. EPVT) approximately 40% of the time.

## Appendix C-9

Control Premium Approach Used (Q22 ↓) vs. Implied Control Premium > Market Cap (Q23 →) (N=92)	Public									
	<10%		10% - 25%		25% - 40%		>40%		Total	
A general control premium was derived from market-based studies	13	18%	29	40%	23	32%	7	10%	72	100%
A specific analysis of incremental cash flows derived from improving current operations	—	0%	1	33%	1	33%	1	33%	3	100%
A specific analysis of incremental cash flows available by combining the operations of the reporting unit with the buyer	1	50%	—	0%	1	50%	—	0%	2	100%
A combination of the above	—	0%	2	50%	1	25%	1	25%	4	100%
Other (specify)	1	100%	—	0%	—	0%	—	0%	1	100%
Control premiums were not considered	4	40%	4	40%	1	10%	1	10%	10	100%
<b>Total</b>	<b>19</b>	<b>21%</b>	<b>36</b>	<b>39%</b>	<b>27</b>	<b>29%</b>	<b>10</b>	<b>11%</b>	<b>92</b>	<b>100%</b>

Three-quarters of the public companies that only considered general market-based control premium studies concluded on a premium over market capitalization in the range of 10% to 40%.

# Appendix D:

## Quick Accounting Reference Guide

### Goodwill Impairment Testing

Below is an extract from the *FASB Accounting Standards Codification* that addresses goodwill impairment after an entity adopts ASU 2011-08. Please see the Codification for the applicable guidance prior to the adoption of ASU 2011-08.

### Subsequent Measurement

**350-20-35-3** An entity may first assess qualitative factors, as described in paragraphs 350-20-35-3A through 35-3G, to determine whether it is necessary to perform the two-step goodwill impairment test discussed in paragraphs 350-20-35-4 through 35-19. If determined to be necessary, the two-step impairment test shall be used to identify potential goodwill impairment and measure the amount of a goodwill impairment loss to be recognized (if any).

### Recognition and Measurement of an Impairment Loss

#### Qualitative Assessment

**350-20-35-3A** An entity may assess qualitative factors to determine whether it is more likely than not (that is, a likelihood of more than 50 percent) that the fair value of a reporting unit is less than its carrying amount, including goodwill.

**350-20-35-3B** An entity has an unconditional option to bypass the qualitative assessment described in the preceding paragraph for any reporting unit in any period and proceed directly to performing the first step of the goodwill impairment test. An entity may resume performing the qualitative assessment in any subsequent period.

**350-20-35-3C** In evaluating whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount, an entity shall assess relevant events and circumstances. Examples of such events and circumstances include the following:

- a. Macroeconomic conditions such as a deterioration in general economic conditions, limitations on accessing capital, fluctuations in foreign exchange rates, or other developments in equity and credit markets
- b. Industry and market considerations such as a deterioration in the environment in which an entity operates, an increased competitive environment, a decline in market-dependent multiples or metrics (consider in both absolute terms and relative to peers), a change in the market for an entity's products or services, or a regulatory or political development
- c. Cost factors such as increases in raw materials, labor, or other costs that have a negative effect on earnings and cash flows
- d. Overall financial performance such as negative or declining cash flows or a decline in actual or planned revenue or earnings compared with actual and projected results of relevant prior periods
- e. Other relevant entity-specific events such as changes in management, key personnel, strategy, or customers; contemplation of bankruptcy; or litigation
- f. Events affecting a reporting unit such as a change in the composition or carrying amount of its net assets, a more-likely-than-not expectation of selling or disposing all, or a portion, of a reporting unit, the testing for recoverability of a significant asset group within a reporting unit, or recognition of a goodwill impairment loss in the financial statements of a subsidiary that is a component of a reporting unit
- g. If applicable, a sustained decrease in share price (consider in both absolute terms and relative to peers).

**350-20-35-3D** If, after assessing the totality of events or circumstances such as those described in the preceding paragraph, an entity determines that it is not more likely than not that the fair value of a reporting unit is less than its carrying amount, then the first and second steps of the goodwill impairment test are unnecessary.

**350-20-35-3E** If, after assessing the totality of events or circumstances such as those described in paragraph 350-20-35-3C(a) through (g), an entity determines that it is more likely than not that the fair value of a reporting unit is less than its carrying amount, then the entity shall perform the first step of the two-step goodwill impairment test.

**350-20-35-3F** The examples included in paragraph 350-20-35-3C(a) through (g) are not all-inclusive, and an entity shall consider other relevant events and circumstances that affect the fair value or carrying amount of a reporting unit in determining whether to perform the first step of the goodwill impairment test. An entity shall consider the extent to which each of the adverse events and circumstances identified could affect the comparison of a reporting unit's fair value with its carrying amount. An entity should place more weight on the events and circumstances that most affect a reporting unit's fair value or the carrying amount of its net assets. An entity also should consider positive and mitigating events and circumstances that may affect its determination of whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. If an entity has a recent fair value calculation for a reporting unit, it also should include as a factor in its consideration the difference between the fair value and the carrying amount in reaching its conclusion about whether to perform the first step of the goodwill impairment test.

## Appendix D

**350-20-35-3G** An entity shall evaluate, on the basis of the weight of evidence, the significance of all identified events and circumstances in the context of determining whether it is more likely than not that the fair value of a reporting unit is less than its carrying amount. None of the individual examples of events and circumstances included in paragraph 350-20-35-3C(a) through (g) are intended to represent standalone events or circumstances that necessarily require an entity to perform the first step of the goodwill impairment test. Also, the existence of positive and mitigating events and circumstances is not intended to represent a rebuttable presumption that an entity should not perform the first step of the goodwill impairment test.

### Step 1

**350-20-35-4** The first step of the goodwill impairment test, used to identify potential impairment, compares the fair value of a reporting unit with its carrying amount, including goodwill.

**350-20-35-5** The guidance in paragraphs 350-20-35-22 through 35-24 shall be considered in determining the fair value of a reporting unit.

**350-20-35-6** If the carrying amount of a reporting unit is greater than zero and its fair value exceeds its carrying amount, goodwill of the reporting unit is considered not impaired; thus, the second step of the impairment test is unnecessary. If the carrying amount of the reporting unit is zero or negative, the guidance in paragraph 350-20-35-8A shall be followed.

**350-20-35-7** In determining the carrying amount of a reporting unit, deferred income taxes shall be included in the carrying amount of the reporting unit, regardless of whether the fair value of the reporting unit will be determined assuming it would be bought or sold in a taxable or nontaxable transaction.

**350-20-35-8** If the carrying amount of a reporting unit exceeds its fair value, the second step of the goodwill impairment test shall be performed to measure the amount of impairment loss, if any.

**350-20-35-8A** If the carrying amount of a reporting unit is zero or negative, the second step of the impairment test shall be performed to measure the amount of impairment loss, if any, when it is more likely than not (that is, a likelihood of more than 50 percent) that a goodwill impairment exists. In considering whether it is more likely than not that a goodwill impairment exists, an entity shall evaluate, using the process described in paragraphs 350-20-35-3F through 35-3G, whether there are adverse qualitative factors, including the examples of events and circumstances provided in paragraph 350-20-35-3C(a) through (g). In evaluating whether it is more likely than not that the goodwill of a reporting unit with a zero or negative carrying amount is impaired, an entity also should take into consideration whether there are significant differences between the carrying amount and the estimated fair value of its assets and liabilities, and the existence of significant unrecognized intangible assets.

### Step 2

**350-20-35-9** The second step of the goodwill impairment test, used to measure the amount of impairment loss, compares the implied fair value of reporting unit goodwill with the carrying amount of that goodwill.

**350-20-35-10** The guidance in paragraphs 350-20-35-14 through 35-17 shall be used to estimate the implied fair value of goodwill.

**350-20-35-11** If the carrying amount of reporting unit goodwill exceeds the implied fair value of that goodwill, an impairment loss shall be recognized in an amount equal to that excess. The loss recognized cannot exceed the carrying amount of goodwill.

**350-20-35-12** After a goodwill impairment loss is recognized, the adjusted carrying amount of goodwill shall be its new accounting basis.

**350-20-35-13** Subsequent reversal of a previously recognized goodwill impairment loss is prohibited once the measurement of that loss is recognized.

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International Standard Book Number:  
978-1-61509-104-1

Printed in the United States of America

First Printing

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