

Investor Underreaction to Goodwill Write-Offs

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Current accounting rules end regular amortization of goodwill and mandate annual tests for goodwill impairment and loss recognition, when appropriate. These rules make consideration of goodwill write-offs important and timely. In the study reported here, we found that the effects of goodwill write-off announcements were typically negative and material—on the order of -2.94 percent to -3.52 percent of the company's stock price. What makes goodwill write-off announcements especially noteworthy for investors is that additional effects of roughly -11.02 percent were realized by the end of a one-year post-announcement period. These results suggest that investors initially underreact to goodwill write-off announcements and that they need to be aware of the potential for further losses in the post-announcement period.

The Financial Accounting Standards Board (FASB) in 2001 adopted standards for business combinations that eliminate the systematic amortization of goodwill on corporate income statements and mandate annual tests for asset impairment. These accounting changes are relevant for investors because they have important implications for reported income and for decisions about asset write-offs. For example, Jennings, LeClere, and Thompson (2001), focusing on income statement ramifications, reported that earnings before goodwill amortization explain significantly more of the cross-sectional variation in share prices than earnings after goodwill amortization. They concluded that the goodwill amortization component of reported earnings has no information value for investors and that eliminating goodwill amortization from corporate income statements may dispel a source of noise in earnings measurement.

In "Information Content of Accounting Goodwill Numbers" (Hirschey and Richardson 2002), we considered additional implications of FASB's current goodwill accounting standards by asking: Are goodwill write-offs apt to represent important economic events for investors, or are they mere accounting adjustments?¹ We found for the sample studied that goodwill write-offs led to -2.94 to -3.52 percent adverse stock price reactions during the

announcement period (Day -1, Day 0). This reaction is on the same order of magnitude as negative announcement-period returns found in prior studies of announcements of write-downs of tangible assets. In this report, we provide an important extension to Hirschey and Richardson by focusing on stock price behavior during pre- and post-announcement periods spanning long windows.

Changes in Goodwill Accounting

Changes have occurred in how companies are to account for business combinations and for goodwill.

Business Combination Accounting. For fiscal years that ended prior to 15 December 2001, merger accounting was governed by the rules set forth in Accounting Principles Board Opinion No. 16, *Business Combinations*, which was issued by the American Institute of Certified Public Accountants in 1970 (see AICPA 1970a). Under APB Opinion No. 16, merger accounting followed the pooling-of-interests (pooling) method or the purchase method. Although pooling was required whenever specific criteria were met, these criteria did not distinguish between economically dissimilar transactions. That is, many comparable business combinations were recognized under different accounting methods, which produced dramatically different financial statements. A primary source of such differences was goodwill accounting.

In APB Opinion No. 16, goodwill was defined as "the excess of the cost of the acquired company over the sum of the amounts assigned to identifiable assets acquired less liabilities assumed" (Paragraph

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87). Generally, any excess of fair market value over the book value of the acquired company's recognized net assets was recorded as goodwill. The amount paid for goodwill in a purchase combination was amortized over a period not to exceed 40 years. To avoid the resulting drag on reported earnings, the majority of companies sought to account for their combinations on a pooling basis, in which purchased goodwill was not recorded or amortized.

Financial analysts and other users of financial statement information complained that comparing financial results was difficult for entities that used different methods of merger accounting. Users of financial statements also indicated a need for more specific information about the value of intangible assets because intangibles have become a significant portion of the value motivating many business combinations. Corporate managers voiced concern that differences between the pooling and purchase methods of accounting affected competition in the merger and acquisition markets.

For fiscal years that ended subsequent to 15 December 2001, Financial Accounting Standards Board Statement No. 141, *Business Combinations* (FASB 2001a), superseded APB Opinion No. 16. FASB Statement No. 141 requires that all business combinations be accounted for by the purchase method.² In addition, FASB Statement No. 141 requires disclosure of the primary reasons for a business combination and an allocation of the purchase price among the assets acquired. When the amounts of goodwill and intangible assets acquired are significant, disclosure must be made of the amount allocated among goodwill and each major intangible asset class. FASB Statement No. 141 is aimed at creating financial statements that do the following:

- *Accurately reflect the investment made in an acquired entity.* The purchase method records the total purchase price paid and allows for a meaningful evaluation of the subsequent performance of that investment.
- *Improve the comparability of reported financial information.* When all business combinations are accounted for under the purchase method, the assets acquired and liabilities assumed are recognized and measured in the same way for all business combinations.
- *Provide more complete financial information.* Expanded disclosure requirements provide more information about the assets acquired and liabilities assumed than was provided under previous rules.

From the standpoint of economic efficiency, establishing the purchase method of accounting as uniform for all business combinations is attractive

because it eliminates unnecessary costs incurred by companies that positioned themselves to meet pooling criteria. Accounting standards should neither encourage nor discourage business combinations; they should simply provide information about those combinations that is fair and even-handed. Investors need to be aware of FASB Statement No. 141 because of its dramatic implications for goodwill accounting.

Today's Accounting for Goodwill. For fiscal years that end subsequent to 15 December 2001, FASB Statement No. 142, *Goodwill and Other Intangible Assets* (FASB 2001b), governs financial reporting for acquired goodwill and other intangible assets. It supersedes APB Opinion No. 17, *Intangible Assets* (AICPA 1970b). Under the obsolete APB Opinion No. 17, goodwill and other intangible items were considered to be wasting assets with a finite life. The values assigned to goodwill and other intangible assets were amortized over an arbitrary period not to exceed 40 years. FASB Statement No. 142 does away with the presumption that such acquired assets have finite lives and eliminates mandatory amortization.³ Acquired intangible assets that have finite lives continue to be amortized over their useful lives but without the constraint of any arbitrary ceiling.

In particular, FASB Statement No. 142 mandates the following:

- *Annual tests for goodwill and intangible asset impairment.* Goodwill must be tested for impairment at least annually in a two-step process that begins with an estimation of the fair value of a reporting unit. This first step is a screen for potential impairment. The second step measures the amount of impairment, if any.
- *Write-offs of goodwill and intangible asset impairment losses.* If the carrying amount of acquired goodwill or acquired intangible assets exceeds fair value estimates, an impairment loss must be recognized against net income in an amount equal to that excess. After goodwill or intangible asset impairment losses are recognized, subsequent reversals of impairment losses are prohibited.
- *Improved disclosure about goodwill and intangible asset values and expenses.* Information about changes in the carrying amount of goodwill and other intangible assets must be disclosed on an annual basis, together with estimates of intangible asset amortization expenses for the next five years.

Under FASB Statement No. 142, tests for goodwill and intangible asset impairment losses involve

a comparison between carrying amounts and fair values. The fair value of an asset is the amount for which the asset could be bought or sold in a current transaction between willing parties. It excludes forced sales and liquidations. In the case of reporting units, quoted prices in active markets are the best evidence of fair value and will be relied on when available. Market prices are not available, however, for many reporting units; so, they will have to be estimated. FASB Statement No. 142 recognizes that measuring the fair value of a collection of assets and liabilities that operate together in a controlled entity can be different from measuring the fair value of that entity's individual equity securities. For example, an acquiring entity is often willing to pay proportionately more for equity securities that give it a controlling interest than it would pay for less than a controlling interest. Control premiums cause the fair value of a reporting unit to exceed its current market capitalization.

FASB Statement No. 142 improves financial reporting by helping users of financial statements understand corporate investments in goodwill and other intangible assets and the subsequent performance of those assets. Adoption of FASB Statement No. 142 promises to make goodwill write-offs routine corporate events.

Companies reported a veritable flood of goodwill write-off announcements in 2002 because impairment losses for goodwill and other intangible assets that arose in the wake of the initial application of FASB Statement No. 142 were treated as losses resulting from a change in accounting principles. In other words, impairment losses for goodwill and other intangible assets that arose during the first fiscal year beginning after 15 December 2001 enjoyed a one-time "below the line" treatment. In subsequent years, such impairment losses will be reflected "above the line," in operating income. For many companies, such a one-time chance created a strong incentive to aggressively recognize goodwill impairment losses during fiscal year 2002. Therefore, the study of investor reactions to goodwill write-offs is both important and timely.

Goodwill Write-Offs. Accounting write-offs are material, infrequent charges against earnings for asset revaluations or provisions for future costs (Hirschey and Richardson). Goodwill write-offs, like many asset write-offs, are bookkeeping adjustments that do not typically coincide with changes in tangible assets or cash flows. The information value of goodwill write-offs lies in the role they play as a *signal* of important changes in the value of the company's intangible assets and of important

changes to come in the company's future earning potential.

Goodwill write-offs have similarities to the additions to bank loan-loss reserves studied by Docking, Hirschey, and Jones (1997), among others. Loan-loss reserve (LLR) announcements are bookkeeping adjustments that do not typically coincide with changes in the value of bank loan portfolios or with bank loan write-offs. The information value of LLR announcements is their *signaling* of important changes in the value of the bank's loan portfolio and important changes to come in bank loan write-offs, earnings, and dividend payments. Docking et al. reported that bank announcements of additions to LLRs result in negative event-period returns. Apparently, investors view LLR announcements as foreshadowing more bad news. But, interestingly, bank LLR announcements rarely have such simple negative effects. Most LLR announcements are made at the same time other important operating information is disclosed. The generally negative stock price effects of "simple" LLR additions are nullified when such announcements are accompanied by favorable earnings announcements. When the LLR announcements are accompanied by earnings decreases, losses, or dividend reductions or omissions, investors appear to regard them as much more threatening, which results in negative event-period returns that are consistent with those reported for broader samples of industrial companies reporting unfavorable earnings or dividend information. As a result, the negative stock price effects associated with LLR announcements can be largely attributed to the expected influence of bank earnings or dividends on stock price. Investors react to simple LLR announcements (i.e., in the absence of new earnings or dividend information) in a manner that is consistent with an expectation of future adverse effects on bank earnings and dividends.

As Bartov, Lindahl, and Ricks (1998) pointed out, write-offs are important corporate events when large dollar amounts are involved and when they have significant ramifications for company performance and value. What makes the assessment of write-offs difficult is the fact that they tend to be infrequent and the information they convey is ambiguous. Write-offs can represent good news when company managers are ridding the company of relatively unprofitable operations to refocus on the company's "core competencies." Write-offs can represent bad news when reductions in asset values foreshadow even deeper troubles yet to come.

This article provides evidence about investor reactions to announcements of goodwill write-offs. From a finance perspective, any valuation effects

associated with goodwill write-offs may offer evidence regarding how investors process potentially important information about a company's profit-making potential. From an accounting perspective, stock price effects associated with goodwill write-offs may offer new evidence about the extent to which accounting goodwill numbers capture the economic value of intangible factors with assetlike characteristics.

Data and Methodology

As in our 2002 paper, we focused on discretionary announcements of goodwill write-offs made by U.S.-listed companies in the five-year period of 1992–1996. This time frame allowed consideration of event-period returns that were unaffected by discussions surrounding recent accounting changes and allowed us to consider stock market returns during long-window pre- and post-announcement periods. Event dates for goodwill write-off announcements were identified from the *Wall Street Journal Index* online (*WSJI*). The *WSJI* is an attractive source for event-day (Day 0) information because it offers a precise indication of when the stock market first received relevant news regarding the company's write-off decision. We conducted searches using the keywords "goodwill" and "write-off" or "charge." To be included in the sample, the common stock of each company had to be listed on either the NYSE, the Amex, or Nasdaq and had to be included in the CRSP daily stock return file for six months prior to the goodwill write-off announcement. Companies also had to be continuously listed over the estimation and event periods.

In most instances, announcements of goodwill write-offs are made at the same time other important earnings information is released. Consistent with findings reported by Dockett et al., we found most goodwill write-off disclosures to be "messy" announcements—that is, occurring when operating earnings are released, losses are reported, and/or other important favorable or unfavorable operating information is released. For the study reported here, we obtained complete data on a sample of 80 accounting goodwill write-off announcements, which comprised 27 simple announcements, 13 announcements made at the same time companies reported positive operating earnings, 21 announcements made at the same time companies reported losses, and 19 announcements made at the same time companies released other miscellaneous information (e.g., debt refinancing, gain on sale of nonstrategic businesses, lawsuits, layoffs, jump in problem assets).

The sample of 80 goodwill write-off announcements were broadly distributed among 32 SIC code two-digit industry groups, as shown in **Table 1**. Note from Table 1 that, although goodwill write-offs occur in a number of settings, during this sample period, they occurred most commonly in manufacturing ($20 \leq \text{SIC} < 40$). In the industrial and commercial machinery industry group (SIC = 35), 10 sample companies made goodwill write-off

Table 1. Sample by Industry

2-Digit SIC Code	SIC Code Description	Number
20	Food and kindred products	5
22	Textile mill products	4
23	Apparel	3
27	Printing, publishing, and allied industries	2
28	Chemicals and allied products	3
30	Rubber and miscellaneous plastic products	2
31	Leather and leather products	1
34	Fabricated metal products	1
35	Industrial and commercial machinery	10
36	Electronic and other electrical equipment	3
37	Transportation equipment	4
38	Measuring, analyzing, and controlling instruments	5
42	Motor freight transportation and warehousing	1
48	Communications	1
49	Electric, gas, and sanitary services	3
50	Wholesale trade—durable goods	1
52	Building materials, hardware, garden supply, and mobile home dealers	1
54	Food stores	1
57	Home furniture, furnishings, and equipment stores	1
58	Eating and drinking establishments	3
59	Miscellaneous retail	1
60	Depository institutions	4
61	Nondepository credit institutions	1
62	Security and commodity brokers, dealers, exchanges, and services	1
63	Insurance carriers	4
64	Insurance agents, brokers, and service	1
65	Real estate	1
73	Business services	6
76	Miscellaneous repair services	1
78	Motion pictures	1
80	Health services	2
87	Engineering, accounting, research, management, and related services	2
Total		80

announcements in the 1992–96 period. Over time, the number of goodwill write-offs should rise during recessions and fall during economic expansions because write-offs follow periods when assets lose value (or become impaired).

We analyzed effects on the stock prices of announcing companies for the (Day -1, Day 0) event period for all 80 companies and for each subsample. From an accounting perspective, we considered negative and statistically significant stock price effects tied to goodwill write-offs to be a signal of a loss of future profit-generating capability.

For robustness, we obtained three estimates of abnormal stock returns (prediction errors) surrounding company goodwill write-off announcements. First, we estimated market-model-adjusted abnormal returns by using the single-factor market model. Second, we used comparison-period mean-adjusted returns to estimate abnormal returns, for which we used the arithmetic mean return of each common stock over the estimation period. And third, we computed market-adjusted abnormal returns by subtracting the observed return on the market index from the rate of return on a given common stock on a given day.⁴

In all instances, we used a 255-day estimation period that began 300 trading days before the event date, $t = -300$, and ended 45 trading days before the event date, $t = -45$. The event date, $t = 0$, is the *Wall Street Journal* announcement date. Daily abnormal returns were averaged over the sample of n companies to yield average abnormal returns (prediction errors). We then calculated cumulative average abnormal returns (CARs, or cumulative prediction errors) over an event interval of 2 days (Day -1, Day 0), the one-year pre-announcement period (Day -250, Day -10), and the one-year post-announcement period (Day 10, Day 250). Following Haw, Pastena, and Lilien (1990), among others, we applied a t -test to examine the hypothesis that the CARs are not significantly different from zero.

Stock Price Effects

In this section, we discuss the stock price effects of announcements of goodwill write-offs in the two-day announcement period for the total sample and then for the sample broken down by type of announcement and by SIC group. We then extend the analysis to the pre- and post-announcement period effects.

Full Sample: Announcement Period. Table 2 shows the CARs during the two-day announcement period for all sample companies in the 1992–

96 period, and **Figure 1** depicts CARs for Day -10 through Day 10 as estimated by the market-model method. In Table 2, the estimation results for the equally weighted market-model approach are consistent with those for the mean-adjusted and market-adjusted methods of estimating returns.⁵

The analysis suggests a 2–3 percent adverse stock price reaction to goodwill write-off announcements, irrespective of contemporaneous announcements or industry grouping. Table 2 clearly shows that event-period CARs are generally negative and statistically significant at the 1 percent level for the full sample ($n = 80$) of goodwill write-off announcements. These findings are consistent with the hypothesis that company announcements of goodwill write-offs signal a meaningful deterioration in the company's future profit-making potential. In a regression-based test (results available on request), we found no strong relationship between goodwill write-off size and abnormal returns. These results suggest that investors regard the *fact* of a goodwill write-off, not necessarily its size, as important from a valuation perspective.

Following the Docking et al. study of significant negative "contagion" effects from one bank to another for bank LLR announcements, we considered the possibility of contagious stock price reactions stemming from corporate goodwill write-off announcements. We found no evidence of contagious stock price reactions, however, for competing companies (results available on request). We thus conclude that goodwill write-offs are essentially a company-specific event.

Simple vs. Messy Announcements: Announcement Period. Because companies typically make other important corporate announcements at the time goodwill write-offs are announced, we investigated to what extent the (generally negative) stock prices associated with goodwill write-offs were affected by the nature of any contemporaneous announcements. Panel B of Table 2 shows that the event-period CARs were generally negative and statistically significant at the 1 percent level for this sample of 27 simple goodwill write-off announcements. These announcements led to a relatively large and statistically significant stock price reaction as measured by all three methods. On average, the stock price reaction to simple goodwill write-off announcements was somewhat smaller than the effect when such announcements were accompanied by the disclosure of other important information.

For the 53 goodwill write-offs tied to the announcement of other important information, Panel B of Table 2 shows that large and statistically

Table 2. Event-Period (Day -1, Day 0) CARs for Goodwill Write-Off Announcements, 1992-96
(*t*-statistics in parentheses)

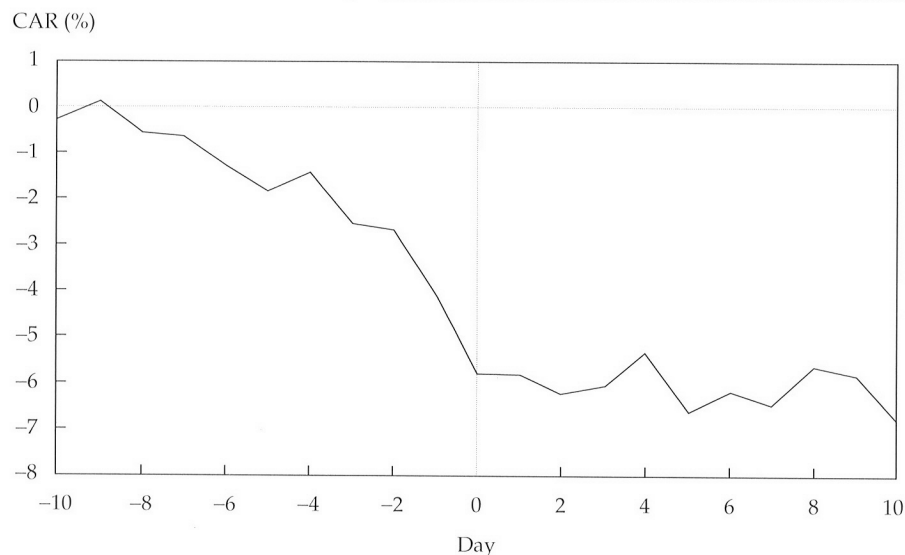
Announcement Characteristic	Market-Model-Adjusted CAR	Mean-Adjusted CAR	Market-Adjusted CAR
<i>A. Total sample (n = 80)</i>	-2.94% (-4.75***)	-3.31% (-5.22***)	-3.52% (-5.63***)
<i>B. By type of announcement</i>			
Simple announcement (<i>n</i> = 27)	-2.23% (-2.31**)	-2.48% (-2.51***)	-2.83% (-2.93***)
Write-off with contemporaneous announcement (<i>n</i> = 53)	-3.30% (-4.48***)	-3.73% (-4.90***)	-3.86% (-5.17***)
Positive earnings (<i>n</i> = 13)	1.82% (1.69**)	1.76% (1.61*)	1.57% (1.46*)
Negative earnings (<i>n</i> = 21)	-6.86% (-4.63***)	-7.45% (-4.82***)	-7.69% (-5.07***)
Miscellaneous (<i>n</i> = 19)	-2.91% (-2.91***)	-3.43% (-3.35***)	-3.42% (-3.42***)
<i>C. By industry group</i>			
Manufacturing (<i>n</i> = 43)	-3.32% (-4.36***)	-3.43% (-4.33***)	-3.77% (-4.87***)
Industrial and commercial machinery (SIC 35, <i>n</i> = 10)	-6.03% (-2.71***)	-6.60% (-2.89***)	-6.72% (-2.99***)
Nonindustrial manufacturing (<i>n</i> = 33)	-2.50% (-4.05***)	-2.47% (-3.90***)	-2.88% (-4.63***)
Nonmanufacturing (<i>n</i> = 37)	-2.52% (-2.70***)	-3.21% (-3.42***)	-3.25% (-3.49***)

*Statistically significant at the 10 percent level (one-tailed test).

**Statistically significant at the 5 percent level (one-tailed test).

***Statistically significant at the 1 percent level (one-tailed test).

Figure 1. Short-Term CARs before and after Goodwill Write-Off Announcement Period, 1992-96



Note: As measured by the market-model method.

significant stock price reactions occurred when we used any of the three measurement approaches. Thirteen companies also reported positive earnings at the time of the goodwill write-off announcement, but many more reported operating losses or other information regarded as negative by investors; such other information included the sale of a division, corporate restructuring, and plant closures. For the 13 goodwill write-off announcements by companies with positive operating earnings, the stock price reaction appears to have been positive but immaterial as measured by any of the models. For the 21 companies with operating losses that announced goodwill write-offs, the stock price reactions were large and statistically significant. For the companies whose goodwill write-offs were tied to the announcement of miscellaneous corporate information, the stock price reactions were material and statistically significant.

These results are important because they confirm the importance to the market of goodwill write-offs despite the messiness of the announcements. Like the findings reported by Docking et al., these results suggest that investors interpret important corporate announcements within the context of other company information.

Announcement Effects by Industry Group: Announcement Period. As shown in Table 1, the majority of the announcements concerning goodwill write-offs in our sample were made by manufacturing companies, with a significant representation of companies from the industrial and commercial machinery industry. Therefore, we investigated whether the valuation effects described previously were descriptive of all the goodwill write-off announcements or a narrow segment of companies.

Panel C of Table 2 shows that when we divided the goodwill write-off announcements by industry classification, the stock price reactions were negative (ranging from -2.47 percent as measured by the mean-adjusted CARs for the nonindustrial manufacturing companies to -6.72 percent as measured by market-adjusted CARs for the industrial and commercial machinery companies) and statistically significant. Based on these results, we conclude that the negative valuation effects of goodwill write-off announcements are relevant for companies across a broad spectrum of U.S. industries. In the eyes of investors, goodwill write-offs generally suggest the loss of intangible factors with assetlike characteristics.

Pre-Announcement and Post-Announcement Effects. Our finding that goodwill write-offs

for the total sample led to -2.94 percent to -3.52 percent stock price reactions during the two-day announcement period is compatible with the findings of Bartov et al. of -2.14 percent announcement-period returns for announcements of write-downs of tangible assets. Because the typical announcement of tangible asset write-downs represented about 20 percent of the value of announcing companies in their sample, Bartov et al. contended that the relatively modest announcement effects they found are anomalous. As a result, they suggested that the market either anticipates or underreacts to write-off announcements. In our study, the mean goodwill write-off was \$148.2 million and represented 16.3 percent of the market value of announcing companies. Long-window effects during the goodwill write-off pre- and post-announcement periods have the potential to offer an intriguing comparison with evidence concerning tangible asset write-downs.

Table 3 and Figure 2 show the long-window stock price behavior tied to goodwill announcements during the pre- and post-announcement periods for our sample. In the one-year (Day -250, Day -10) period preceding the goodwill write-off announcement, the market-adjusted cumulative average abnormal return for the overall sample was a large and statistically significant -41.77 percent. Negative and statistically significant effects in the pre-announcement period occurred for both the simple announcements and announcements accompanied by other important information. Moreover, large negative and statistically significant pre-announcement period effects were typical for both manufacturing and nonmanufacturing companies. Such negative abnormal returns during the pre-announcement period document that goodwill write-off announcements come after a prolonged period of market underperformance. Thus, investors may interpret goodwill write-off announcements as company managers' official recognition that a severe downturn in the company's stock portends a permanent, rather than transitory, decline in the value of company assets. Negative pre-announcement effects also suggest that investors partially anticipate goodwill write-offs.

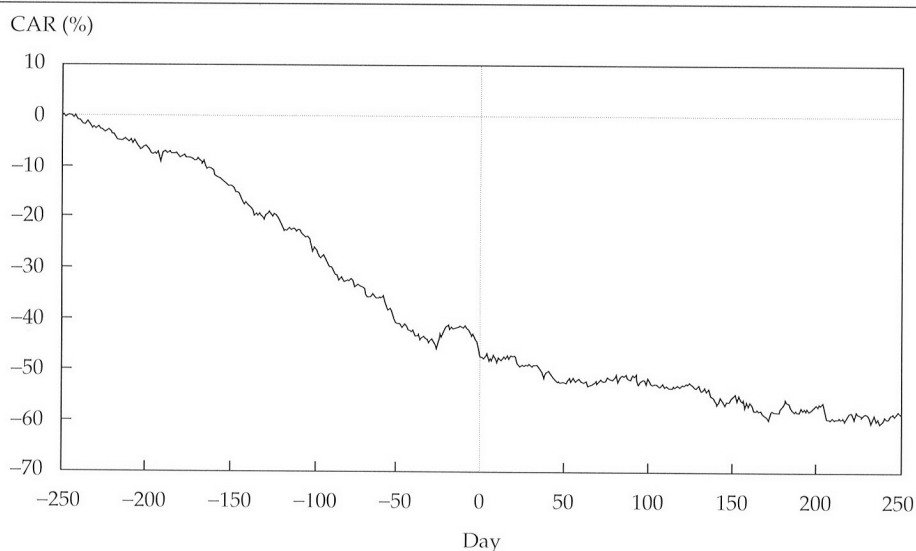
Table 3 also shows that companies that announce goodwill write-offs experience large negative abnormal returns during the one-year (Day 10, Day 250) post-announcement period. The average negative post-announcement period effect of -11.02 percent for the entire sample is statistically significant. Despite some variability across subsamples, statistically significant evidence links the magnitude of negative announcement effects with negative post-announcement drift.

Table 3. Long-Window Market-Adjusted CARs for Goodwill Write-Off Announcements, 1992–96
(*t*-statistics in parentheses)

Announcement Characteristic	Year -1	Announcement	Year +1
	(Day -250, Day -10)	Period (Day -1, Day 0)	(Day 10, Day 250)
<i>A. Total sample (n = 80)</i>	-41.77% (-7.04 ^{***})	-3.52% (-5.63 ^{***})	-11.02% (-1.86 ^{**})
<i>B. By type of announcement</i>			
Simple announcement (<i>n</i> = 27)	-47.55% (-4.89 ^{***})	-2.83% (-2.93 ^{***})	-14.55% (-1.50 [*])
Write-off with contemporaneous announcement (<i>n</i> = 53)	-38.81% (-5.62 ^{***})	-3.86% (-5.17 ^{***})	-8.98% (-1.30 [*])
Positive earnings (<i>n</i> = 13)	-14.22% (-1.27)	1.57% (1.46 [*])	-5.21% (-0.47)
Negative earnings (<i>n</i> = 21)	-55.10% (-3.57 ^{***})	-7.69% (-5.07 ^{***})	-18.97% (-1.23)
Miscellaneous (<i>n</i> = 19)	-39.40% (-3.90 ^{***})	-3.42% (-3.42 ^{***})	-0.96% (-0.09)
<i>C. By industry group</i>			
Manufacturing (<i>n</i> = 43)	-39.71% (-4.98 ^{***})	-3.77% (-4.87 ^{***})	-11.89% (-1.49 [*])
Industrial and commercial machinery (SIC 35, <i>n</i> = 10)	-39.42% (-1.71 ^{**})	-6.72% (-2.99 ^{***})	-6.82% (-0.30)
Nonindustrial manufacturing (<i>n</i> = 33)	-39.81% (-5.92 ^{***})	-2.88% (-4.63 ^{***})	-12.93% (-1.92 ^{**})
Nonmanufacturing (<i>n</i> = 37)	-44.02% (-4.97 ^{***})	-3.25% (-3.49 ^{***})	-10.19% (-1.15)

*Statistically significant at the 10 percent level (one-tailed test).
 **Statistically significant at the 5 percent level (one-tailed test).
 ***Statistically significant at the 1 percent level (one-tailed test).

Figure 2. Long-Term CARs before and after Goodwill Write-Off Announcements, 1992–96



Note: As measured by the market-model method.

After controlling for the relative size of intangible assets (intangibles/market cap) and company size (market cap), we carried out a regression analysis of post-announcement period buy-and-hold returns on announcement period returns.⁶ The results, shown in **Table 4**, indicate that, on average, negative returns during the one-year post-announcement period were more than 1.5 times as large as the negative announcement-period returns. This drift was somewhat larger for companies with a relatively high percentage of market cap accounted for by intangible assets.⁷ We found no evidence that the amount of negative drift in the post-announcement period depends on company size.

We conclude from this evidence that not all of the negative valuation effects tied to goodwill write-off announcements are realized by the end of the short announcement period. Some investor underreaction in that period is apparent. Moreover, the size of the negative valuation effects in the post-announcement period is tied to the size of the negative announcement period effects. Companies with large negative stock price reactions to goodwill write-off announcements tend to have somewhat larger negative effects in the post-announcement period. Thus, investors need to be aware that value-reducing announcements of goodwill write-offs portend further market losses.

Conclusion

FASB Statement No. 142 improved financial reporting by helping users of financial statements understand corporate investments in goodwill and other intangible assets. Adoption of FASB Statement No. 142 is relevant for investors because it eliminates distortions to accounting income numbers caused by the arbitrary amortization of goodwill and promises to make goodwill write-offs routine cor-

porate events. The flood of goodwill write-off announcements during fiscal year 2002 enjoyed a one-time below-the-line accounting treatment. In subsequent years, however, such impairment losses will be reflected above the line in operating income. Therefore, study of the valuation effects tied to goodwill write-offs is timely.

As in our 2002 paper (Hirschey and Richardson), we found statistically significant negative abnormal returns tied to goodwill write-off announcements. The immediate announcement effects for the sample were typically negative and material, on the order of 3.0–3.5 percent of the company's stock price. In the one-year pre-announcement period, negative abnormal returns of 41.77 percent were noted. Average effects in the one-year post-announcement period of roughly –11.02 percent suggest that not all of the negative valuation effects tied to goodwill write-off announcements are realized by the end of the announcement window.

Moreover, a regression analysis found a statistically significant link between the magnitude of negative valuation effects during the announcement window and the size of negative returns in the post-announcement period. Large negative stock price reactions to goodwill write-off announcements were associated with somewhat larger negative post-announcement period effects. Thus, we conclude that goodwill write-off announcements are not only important value-reducing events during the announcement period; they are associated with a further fundamental deterioration in the market value of the company during a subsequent year-long period. Apparently, investors underreact to the economic importance of goodwill write-off announcements.

In summary, negative valuation effects during the announcement period suggest that a goodwill

Table 4. Regression of Long-Window Post-Announcement Buy-and-Hold Returns on Announcement-Period Returns and Related Variables, 1992–96

Statistic	Intercept	Return (Day -1, Day 0)	Intangibles/ Market Cap	Market Cap
Coefficient estimate	-0.169	1.557	0.218	2.228-06
<i>t</i>	-2.72	3.11	-2.17	0.29
$R^2 = 20.5\%$				
$F = 5.59$				

Notes: Intangible assets included goodwill, patents, and other intangible items; we used Compustat Annual Item #33 to measure them. Market cap was computed by multiplying common shares outstanding (Compustat #24) and share price at fiscal year-end (Compustat #199). Our regression analysis was based on a subsample of 69 companies for which complete Compustat information could be obtained.

write-off conveys economically meaningful information to investors about a reduction in the company's future profit-making ability. Negative valuation effects during the pre-announcement period indicate that investors partially anticipate goodwill write-offs. Negative valuation effects during the post-announcement period suggest investor underreaction to goodwill write-off announcements. Determining the cause of the neg-

ative post-announcement period effects was beyond the scope of this article. Possible causes are a lack of investor focus and insufficient appreciation of the importance of goodwill write-offs as indicators of a further deterioration in the earning power of the company. In any event, investors need to be wary of continued underperformance by companies that announce goodwill write-offs.

Notes

1. This article is a professional adaptation and extension of Hirschey and Richardson (2002).
2. FASB Statement No. 141 applies to all business combinations initiated after 30 June 2001 and all business combinations accounted for under the purchase method for which the date of acquisition is 1 July 2001 or later. This statement does not apply, however, to combinations of two or more not-for-profit organizations, the acquisition of a for-profit business by a not-for-profit organization, or combinations of two or more mutual enterprises (savings banks, insurance companies, and so on).
3. The costs of internally developing, maintaining, or restoring intangible assets (including goodwill) that are not specifically identifiable, that have indeterminate lives, or that are inherent in a continuing business and related to an entity as a whole continue to be recognized as an expense when incurred.
4. Each of these methods assumes time-series independence in the stock price reaction tied to goodwill write-off announcements. Following Beatty, Chamberlain, and Magliolo (1996), we also tested whether announcements made later during the sample period were as "important" as earlier announcements and found no statistically significant difference related to time of announcement (these results are available on request).
5. These announcement period results parallel findings reported by Hirschey and Richardson.
6. In this case, buy-and-hold returns showed the returns earned by an investor who purchased and held the goodwill write-off portfolio over the post-announcement period (Day 10, Day 250). In other studies (e.g., Loughran and Ritter 1996), buy-and-hold returns provided evidence of overreaction in the market after IPO announcements.
7. Both advertising and R&D give rise to "intangible assets," with favorable effects on long-term profitability and the market value of the firm (see Hirschey and Weygandt 1985).

References

- AICPA. 1970a. Accounting Principles Board Opinion No. 16, *Business Combinations*. American Institute of Certified Public Accountants
- . 1970b. Accounting Principles Board Opinion No. 17, *Intangible Assets*. American Institute of Certified Public Accountants.
- Bartov, E., F.W. Lindahl, and W.E. Ricks. 1998. "Stock Price Behavior around Announcements of Write-Offs." *Review of Accounting Studies*, vol. 3, no. 4 (December):327–346.
- Beatty, A., S. Chamberlain, and J. Magliolo. 1996. "An Empirical Analysis of the Economic Implications of Fair Value Accounting for Investment Securities." *Journal of Accounting and Economics*, vol. 22, nos. 1–3 (August–December):43–77.
- Docking, D.S., M. Hirschey, and E. Jones. 1997. "Information and Contagion Effects of Bank Loan-Loss Reserve Announcements." *Journal of Financial Economics*, vol. 43, no. 2 (February):219–239.
- FASB. 2001a. Statement No. 141, *Business Combinations*. Financial Accounting Foundation, Financial Accounting Standards Board (June): www.fasb.org/pdf/fas141.pdf.
- . 2001b. Statement No. 142, *Goodwill and Other Intangible Assets*. Financial Accounting Foundation, Financial Accounting Standards Board (June): www.fasb.org/pdf/fas142.pdf.
- Haw, L., V.S. Pastena, and S.B. Lilien. 1990. "Market Manifestation of Nonpublic Information Prior to Mergers: The Effect of Capital Structure." *Accounting Review*, vol. 65, no. 2 (April):432–451.
- Hirschey, M., and V.J. Richardson. 2002. "Information Content of Accounting Goodwill Numbers." *Journal of Accounting and Public Policy*, vol. 21, no. 3 (Winter):173–191.
- Hirschey, M., and J.J. Weygandt. 1985. "Amortization Policy for Advertising and Research and Development." *Journal of Accounting Research*, vol. 23, no. 1 (Spring):326–335.
- Jennings, Ross, Mark LeClere, and Robert B. Thompson II. 2001. "Goodwill Amortization and the Usefulness of Earnings." *Financial Analysts Journal*, vol. 57, no. 5 (September/October):20–28.
- Loughran, Tim, and Jay R. Ritter. 1996. "Long-Term Market Overreaction: The Effect of Low-Priced Stocks." *Journal of Finance*, vol. 51, no. 5 (December):1959–70.