



Accounting Discretion in Fair Value Estimates: An Examination of SFAS 142 Goodwill Impairments

ANNE BEATTY* AND JOSEPH WEBER†

Received 10 January 2005; accepted 19 September 2005

ABSTRACT

This study examines Statement of Financial Accounting Standards 142 adoption decisions, focusing on the trade-off between recording certain current goodwill impairment charges below the line and uncertain future impairment charges included in income from continuing operations. We examine several potentially important economic incentives that firms face when making this accounting choice. We find evidence suggesting that firms' equity market concerns affect their preference for above-the-line vs. below-the-line accounting treatment, and firms' debt contracting, bonus, turnover, and exchange delisting incentives affect their decisions to accelerate or delay expense recognition. Our study contributes to the accounting choice literature by examining managers' use of discretion when adopting a mandatory accounting change and by developing and testing explicit cross-sectional hypotheses of the determinants of firms' preferences for immediate below-the-line versus delayed above-the-line expense recognition.

*The Ohio State University; †Massachusetts Institute of Technology, corresponding author. Beatty thanks Deloitte & Touche for financial support. The authors would like to thank Jennifer Altamuro, Ray Ball, Mary Barth, Dan Bens, Phil Berger, John Core, Ellen Engel, Merle Ericson, Rich Frankel, Rebecca Hann, S. P. Kothari, Richard Leftwich, Steve Monahan, Joe Piotroski, Jonathon Rogers, Abbie Smith, Suraj Srinivassen, K. R. Subramanyam, Andy Van Buskirk, Ross Watts, participants at the 2005 Journal of Accounting Research Conference, and seminar participants at the University of Chicago and the University of Southern California for helpful comments. We also thank Hal White for his hard work and capable research assistance.

1. Introduction

The Financial Accounting Standards Board's (FASB) adoption of *Statement of Financial Accounting Standards 142—Goodwill and Other Intangible Assets*, in June of 2001, fundamentally changed the accounting for goodwill. The standard eliminated goodwill amortization and fundamentally changed the way firms calculate impairment charges. Harris and Caplan [2002 p. 53] provide the following warning regarding the timing and placement of goodwill charges:

Expect the timing of goodwill write-downs to carry as much weight as their size . . . All charges taken within the first year a company adopts the new approach (SFAS 142) may be written off as the result of an accounting change. After that, goodwill impairment charges must be disclosed as an operating expense and reflected as a hit to earnings.

As Harris and Caplan [2002] suggest, when adopting this standard, managers' accounting choices are likely to be economically important. These choices affect the probability of making a goodwill impairment charge, the amount of the charge, the timing of impairment recognition, and the placement of the impairment charge on the income statement. On the one hand, managers could conservatively accelerate goodwill impairment charges to obtain below-the-line accounting treatment. On the other hand, managers could "roll the dice," hoping to avoid ever having to make goodwill impairment charges, but facing the possibility that any future charges would be included in income from continuing operations.

We examine the factors affecting the decision to take an SFAS 142 write-off and, conditional on taking a write-off, the percentage of the goodwill that is actually written-off. We argue that managers face a trade-off when making SFAS 142 accounting choices—they must choose between recording certain current goodwill impairment charges below the line and uncertain future impairment charges that, if recorded, would be included in income from continuing operations. We expect that firms' debt contracting, equity market, and bonus considerations may affect their preference for above-the-line vs. below-the-line accounting treatment, and firms' debt contracting, bonus, turnover, and exchange delisting incentives may affect their decisions to accelerate or delay expense recognition.

To examine whether these economic incentives affect firms' accounting choices, we identify a sample of firms likely to be affected by the accounting change. We start with all Compustat firms with a goodwill balance and a difference between the market and book value of their equity that is less than their recorded goodwill. We argue that the FASB's impairment guidelines (discussed below) suggest that these firms are most likely to require some goodwill write-off and thus represent a powerful setting to conduct our tests.¹

¹ The method we use to identify firms likely to take impairment charges is similar to the one discussed in Tergesen [2002]. Below, we discuss why this is a good way to identify firms expected to take a goodwill write-off.

We place additional restrictions on our sample for analyses that include our compensation, tenure, and debt contracting proxies, since these proxies require extensive hand collection of data.

We separately analyze the manager's decision to take an SFAS 142 write-off and, conditional on taking a write-off, the size of the write-off. To examine the determinants of the decision to take a write-off, we use a probit regression. We use a censored regression to examine the percentage of goodwill written off when SFAS 142 is adopted. We allow for the errors of the two decisions to be correlated when estimating the two equations. For each of these analyses, we report results with and without our proxies that require hand collection of data.

The results of our probit analysis indicate that, after controlling for the effects of firms' economic conditions and changes in those economic conditions, firms are less likely to take a write-off when they have less slack in their net worth covenant and the covenant is affected by accounting changes. These results are consistent with our conjecture that, when debt covenants are affected by below-the-line accounting charges, managers will choose to delay expense recognition (potentially indefinitely). Firms that are riskier and have higher earnings response coefficient (ERCs) on income from continuing operations are more likely to take an SFAS 142 write-off. This result is consistent with our hypothesis that the expected market reaction to future impairments (equity market concerns) affects the size of an SFAS 142 write-off.

We also find that the probability of taking a write-off is smaller for firms that have earnings-based bonus plans that do not exclude the effects of special items. This suggests that managers do not believe that their bonuses will be shielded from reductions in income caused by below-the-line accounting charges. Firms whose CEOs have relatively longer tenures also are less likely to take write-offs, supporting our turnover hypothesis.

We also find that firms listed on exchanges with financial-based listing requirements (the American Stock Exchange [AMEX], NASDAQ) are less likely to take write-offs than firms listed on an exchange without objective financial listing requirements (the New York Stock Exchange [NYSE], the over-the-counter [OTC] market). In addition, firms with an expected write-off that would cause them to violate the listing requirement are less likely to take write-offs. Respectively, these results provide indirect and direct support for the hypothesis that firms are less likely to take write-offs when the write-off could potentially trigger a future exchange delisting.

The results of our analysis on the determinants of the percentage of goodwill written off are similar to those of our probit analysis, with the one exception that the results on our debt contracting proxies are stronger than those reported in the probit.

We conduct two analyses examining the sensitivity of our results to our choice of proxies for firms' equity market concerns. Our primary test variable captures the extent of the markets' response to earnings from continuing operations. An alternative argument is that financial data are more

important in determining stock prices for some firms than for others. We capture the importance of financial data by splitting our sample firms into two groups, those that have a positive ERC on income from continuing operations and those that do not. The difference in market capitalization of impairments caused by changes in fair values versus those caused by the accounting change should be greater for firms whose stock prices are more heavily influenced by financial data. A second argument is that managers of firms that have a relatively stronger market reaction to earnings from continuing operations versus net income are more likely to accelerate write-offs. To measure this variable, we run firm-specific ERCs on net income and income from continuing operations, and use the difference in the ERC on these two measures of income as our test variable. Using these two alternative measures produces results similar to those in our main analysis. The consistency of our results across all three measures, which are attempting to capture the effect of firms' equity market concerns on the decision to accelerate write-offs, suggests that managers respond to this incentive.

Overall, our results suggest that both contracting and market incentives affect firms' accounting choices relating to the trade-off between the timing and the presentation of expense recognition on the income statement. Our study extends previous research by examining how conflicting goals affect accounting choice. Our finding that firms exercise accounting discretion when they adopt mandatory accounting changes to mitigate the likelihood of covenant violations is consistent with the findings in Beatty, Ramesh, and Weber [2002] that firms are charged a lower interest rate when the effects of mandatory accounting changes are excluded from the calculation of covenant compliance. Thus, our study helps to address the questions posed by Fields, Lys, and Vincent [2001] of whether, under what circumstances, and how accounting choice matters.

Our results are also potentially of interest to standard setters for two reasons. First, the evidence presented in our paper suggests that managers consider the distinction between above-the-line and below-the-line accounting to be important. Second, our paper provides evidence about how economic incentives affect unverifiable fair value estimates.

The rest of this paper is organized as follows. In the next section, we provide background on SFAS 142 and related research. Section 3 develops our hypotheses, and section 4 discusses our sample selection and research design. In section 5, we discuss our results, and in section 6 we offer conclusions.

2. Background

2.1 SFAS 142

SFAS 142 fundamentally changed the accounting for goodwill. Prior to the adoption of this standard, goodwill was recognized as an asset and amortized over a period of not more than 40 years. SFAS 142 eliminated goodwill amortization and instead requires goodwill to be evaluated for impairment

at least annually, or, consistent with the previous requirement, if events or changes in circumstances indicate that the carrying amount of an asset obtained in an acquisition may not be recoverable. SFAS 142 also changed the way managers evaluate whether goodwill is impaired in two important ways. First, SFAS 142 requires a fair value rather than an undiscounted cash flow threshold. Second, the cash flows included in the analysis under SFAS 142 relate to reporting units rather than the asset groupings required by SFAS 121.

The changes in how managers evaluate whether goodwill is impaired could cause firms to take write-offs when adopting SFAS 142. A firm would need to take an SFAS 142 write-off if the carrying value of goodwill exceeded the undiscounted cash flow threshold but fell short of the discounted cash flow threshold. This possibility should be increasing in the firm's discount rate. Similarly, if the reporting units under SFAS 142 differ from the asset groupings used under SFAS 121, the adoption of SFAS 142 might also trigger a write-off.

The probability and amount of any write-off recorded at SFAS 142 adoption may also be affected by reporting discretion. SFAS 142 provided the opportunity for accounting discretion by requiring managers to make two important accounting choices: how to define their reporting units and how much goodwill to assign to each reporting unit. The standard requires firms to define reporting units in a manner consistent with how they view the business (i.e., following paragraphs 10–15 of SFAS 131). When allocating goodwill, managers should assign goodwill to reporting units expected to benefit from the synergies of the acquisition even if the acquired assets and liabilities are not assigned to those units. (See section 30–36 of SFAS 142.) These accounting choices provide managers with some flexibility to determine the existence and amount of the goodwill impairment recorded at adoption.

The two-step process to determine the need for a write-off makes these choices important. Once managers identify reporting units and assign goodwill to those units, they then compare the unit's book value to fair value. If aggregate book value is below fair value, they then must assess the fair value of each asset to determine if an impairment charge must be recognized. Thus, the choices of reporting units and the allocation of goodwill to these units ultimately affects whether there will be an impairment charge and the size of any charge recorded.²

The discretion afforded to managers when SFAS 142 is adopted has two potential effects on a firm's reported income. First, consistent with Accounting Principles Board (APB) 20, the adoption impairment loss "shall be recognized as the effect of a change in accounting principle. The effect of the

² In the transition rules, the Financial Accounting Standards Board (FASB) indicates that they expect all firms to apply the new rules during the first six months of the adoption year. Thus, all firms had to determine their reporting units, and their allocation of goodwill to those reporting units, shortly after the standard was adopted.

accounting change and related income tax effects shall be presented in the income statement between the captions *extraordinary items* and *net income*.³ Any impairment recognized after adoption will be recorded “in income statement line items within continuing operations as deemed appropriate by each entity.”⁴ The difference in accounting treatment for impairments at adoption versus after adoption is consistent with the logic that impairments at adoption are supposed to reflect the change in the accounting rules, while those made subsequent to adoption reflect changes in the fair value of the goodwill. This distinction may provide managers with the incentive to increase the amount of the write-off that is treated as merely an accounting change, thereby decreasing the probability and amount of a future write-off that is assumed to reflect a decline in fair values.

Second, delayed impairment charges may never have to be recorded if fair values rise. Thus, by providing managers with accounting discretion at adoption, the standard allows managers flexibility in obtaining above-the-line versus below-the-line accounting treatment, and in accelerating versus potentially indefinitely delaying expense recognition.

Managers, investors, and creditors appear to consider the decision to obtain above-the-line versus below-the-line treatment to be economically important. Lewis, Lippitt, and Mastracchio [2001 p. 76] indicate that “over 200 (comment) letters were received by the FASB in response to the February 14, 2001, modified exposure draft” and “there were numerous requests from respondents that any impairment measured at the initial impairment review be treated as a change in accounting principle under APB 20,” a significant change from the initial exposure draft.⁵ Harris and Caplan [2002] also highlight the importance of the timing of expense recognition, indicating that investor relations departments are encouraging managers to accelerate the write-off.

To summarize, the adoption of SFAS 142 provided managers with economically important accounting choices. On the one hand, managers could accelerate goodwill impairment charges at adoption to obtain below-the-line accounting treatment. On the other hand, managers willing to face the possibility that any future charges would be included in income from continuing operations could delay recognition hoping to avoid ever having to make goodwill impairment charges.

2.2 RELATED RESEARCH

We argue that the adoption of SFAS 142 provided managers with accounting choices affecting the timing, amount, and placement of expense recognition. Two streams of accounting research examine related accounting choices.

³ See Section 53 of *SFAS 142 – Goodwill and Other Intangible Assets* (FASB [2001]).

⁴ See section 42 of *SFAS 142 – Goodwill and Other Intangible Assets* (FASB [2001]).

⁵ See Lewis, Lippitt, and Mastracchio [2001].

The first is the mandatory accounting change literature. The purpose of these studies has primarily been to examine the cross-sectional variation in the market's reaction to accounting changes.⁶ Two contemporary papers within this line of research, examining the stock market's reaction to the write-offs associated with the adoption of SFAS 142, are Segal [2003] and Bens and Heltzer [2004].

Less attention has been paid to firms' accounting choices when they face mandatory accounting changes. Schrand and Wong [2003] examine banks' discretion in establishing the SFAS 109 valuation allowance and find that high capital banks create a reserve that can be used to smooth future earnings. Ramesh and Revsine [2000], D'Souza [1998], and D'Souza, Jacob, and Ramesh [2000] examine the choice to immediately expense versus amortize over a 20-year period the postemployment nonpension employee benefits associated with adopting SFAS 106. Taken together, these papers provide evidence that when mandatory accounting changes explicitly provide firms with a choice between alternative implementation methods, firms will select the method that reduces their regulatory and employee benefit costs.

Our paper is set in a slightly different research setting from the SFAS 106 papers. The ultimate amount of the liability is known when firms adopt SFAS 106 and the choice is to record the expense now or in subsequent periods. When firms adopt SFAS 142 they make the choice to recognize the expense now and receive below-the-line accounting treatment or to postpone recognition and potentially never have to recognize the expense, but face the prospect of recognizing any future expense in income from continuing operations.

By conducting our tests in this alternative research setting, our paper extends the research on the importance of accounting choices related to mandatory accounting changes in at least three ways. First, we develop and test explicit cross-sectional hypotheses of the determinants of firms' preferences for immediate below-the-line expense recognition versus delayed above-the-line expense recognition. Second, in the SFAS 142 setting, there is greater uncertainty about the amount and timing of future expenses.⁷ This additional uncertainty is likely to affect the trade-off between current and future expense recognition. Third, many of the reporting incentives that we consider were not examined in previous studies, both because of the difference in the accounting method that we examine and because of the type of firms affected by this standard.

⁶ For examples, see Espahbodi, Espahbodi, and Tehranian [1995], Dechow, Hutton, and Sloan [1996], Mohrman [1993], El-Gazzar [1993], and Lys [1984].

⁷ Financial statement users knew the entire amount and timing of the SFAS 106 expense recognition at adoption, regardless of recognition timing, because the standard required footnote disclosure of the amount of the other postemployment benefits liability, and the timing of its amortization for firms that chose to delay recognition. Under SFAS 142, future timing and amount of goodwill impairments is unknown.

The second related literature examines the economic determinants of voluntary accounting method changes.⁸ A subset of this literature examines managers' asset write-off decisions (See Francis, Hanna, and Vincent [1996], Elliot and Hanna [1996], Rees, Gill, and Gore [1996], and Reidl [2004]). Our paper differs from these studies along three important dimensions. First, the asset write-off literature examines a pure timing decision since current impairment charges will result in a reduction in future depreciation or amortization expense. The SFAS 142 setting is more complex, because managers are choosing between recording a current below-the-line expense versus the possibility of recording a future expense to be included in income from continuing operations. The differences between these two settings suggest that there may be other economic incentives that will affect the SFAS 142 impairment choice, and that the incentives examined in the asset write-off literature may be more or less important in the SFAS 142 setting. Second, the adoption of SFAS 142 is a relatively exogenous event. This mitigates problems associated with endogeneity between firms' underlying economic incentives and the decision to make a write-off, and allows us to develop better controls for write-offs that are caused by changes in economic conditions. Third, problems associated with the portfolio of accounting choices that a firm can make are less important in our setting, since SFAS 142 primarily only affects the goodwill account.

3. Hypothesis Development

We expect debt contracting, equity market valuation, and compensation concerns to affect managers' incentives to obtain below-the-line accounting treatment. We also expect CEO tenure and exchange listing to affect managers' preferences to accelerate expense recognition.

Watts and Zimmerman [1986, 1990] argue that accounting choices are affected by firms' debt contracts. Beatty, Ramesh, and Weber [2002] and Mohrman [1996] document cross-sectional variation in the inclusion of the effects of mandatory accounting changes in the calculation of debt covenants. Based on these papers, we argue that firms' preference for above versus below-the-line accounting treatment may depend on whether their covenant calculations are affected by mandatory accounting changes.

Firms will prefer to obtain below-the-line accounting treatment if they have relatively little covenant slack and their covenant calculations exclude the effects of mandatory accounting changes that would otherwise affect the covenants, for example, net worth covenants that included future goodwill impairments in covenant calculations. Under these circumstances, recognizing goodwill charges as effects from changes in accounting principles

⁸ For example, Healy and Palepu [1990], Sweeney [1994], Keating and Zimmerman [1999], and Beatty and Weber [2003] all provide evidence on how debt contracting costs, compensation considerations, and other factors affect a firm's decision to make a voluntary accounting change.

may help managers to avoid future covenant violations. In contrast, when the effects of accounting changes are included in covenant calculations and there is relatively less covenant slack, managers can potentially avoid costly covenant violations by delaying expense recognition. These arguments yield the following hypothesis:

H1: Firms with tighter net worth covenant thresholds that include the effects of accounting changes will be less likely to record goodwill impairment charges and will record relatively smaller charges when adopting SFAS 142 than firms with net worth covenants that exclude the effects of accounting changes.

Fields, Lys, and Vincent [2001] argue that, when managers make accounting choices, they consider the potential equity market valuation effects of their choice. Bens and Heltzer [2004] find that the market reaction to goodwill impairments recorded as a cumulative effect of adopting SFAS 142 is significantly less negative than for goodwill impairments that are recorded as part of continuing operations. Their results are consistent with the idea that the market would view a write-off associated with a change in an accounting principle less negatively than a write-off that is associated with a decline in the fair value of goodwill.

A differential market reaction to below-the-line versus above-the-line accounting will provide managers with an incentive to increase the amount of the impairment that is recorded below the line to the extent that the market will believe that the impairment was caused by the change in accounting rules rather than to a decline in fair values. We argue that managers of riskier firms will be more likely to expect the market to accept that a below-the-line charge results from the change from SFAS 121 to SFAS 142, since higher discount rates will create greater differences between discounted and undiscounted cash flows. If the market's reaction to future above-the-line impairments were the same for all firms, then the incentive to increase the below-the-line impairment would vary only with the discount rate. However, if there is cross-sectional variation in the markets' reaction to future impairments, then the incentive will depend on both the discount rate and the expected market capitalization of the future impairments. This argument leads to the following hypothesis:

H2: Riskier firms whose future above-the-line goodwill impairments are expected to be more highly capitalized by the market will be more likely to record SFAS 142 goodwill impairment charges and will record relatively larger charges when adopting SFAS 142.

Whether the firm is likely to pay their manager an earnings-based bonus may also affect the manager's preference for below versus above-the-line accounting treatment. Beatty and Weber [2003] document that managers with earnings-based bonus plans are more likely to report income-increasing than income-decreasing voluntary accounting changes. However, Gaver and Gaver [1998] find that actual bonuses reflect below-the-line income but not

below-the-line expenses (at least for extraordinary items and discontinued operations). If managers have earnings-based bonuses affected by negative cumulative effects adjustments, then we would expect managers to have an incentive to reduce the goodwill write-off when SFAS 142 is adopted. Alternatively, if managers expect cumulative effects adjustments to be excluded from bonus calculations, then managers would have an incentive to increase the initial write-off to reduce the probability and amount of future write-offs that are included in income from continuing operations.

H3: Managers with earnings-based bonuses that do not exclude special items will be less likely to record a goodwill impairment charge and will record lower charges when adopting SFAS 142.

Based on Francis, Hanna, and Vincent [1996], we also expect that firms' preferences to accelerate or delay the recognition of goodwill expenses will depend on whether the CEO made the original acquisition decision, since the impairment may suggest that the acquisition price was too high. Consistent with the findings in Francis, Hanna, and Vincent [1996] that recently appointed CEOs were more likely to take write-offs, an article in *Marketing Management* concluded that, "it (a goodwill write-off) clearly illustrates that management must have made an expensive decision at the purchase stage and paid more than the odds for the acquisition."⁹ A recent article commenting on AOL's announcement of a write-off of goodwill between \$40 billion and \$60 billion discusses how SFAS 142 may change the reporting environment. In the article, Scott Schermerhorn of Liberty Funds argues that prior to the adoption of SFAS 142, "when you do lots of deals you can promise great things—and without ever having to prove it."¹⁰ However, the authors emphasize that post-SFAS 142, past aggressive acquirers "are now facing the fallout from their binges" because of the changes in accounting for goodwill. Based on these arguments, CEOs that made the acquisition decision may be more likely to delay goodwill impairment charges.

Alternatively, acquisitions that appear to be poor decisions *ex post* may have been good decisions *ex ante*. Changing market conditions and other economic factors beyond the CEOs control might cause what looked like a good merger to turn out to be a bad merger. To the extent that this determination can be made, CEOs that made the acquisition would have no incentive to avoid SFAS 142 write-offs. Our fourth hypothesis is:

H4: Firms with CEOs that have a shorter tenure will be more likely to record a goodwill impairment charge and will record relatively larger charges when adopting SFAS 142.

A firm's trading exchange and the related listing requirements are also likely to affect the firm's decision to accelerate or delay the recognition of expenses. If a firm is delisted from an exchange, it will likely result in a reduction in the firm's liquidity, impede the firm's access to equity capital, and

⁹ See Hepburn [2002].

¹⁰ See Frank and Sidel [2002].

impair the firm's reputation. Thus, a firm has incentives to take accounting actions that help them avoid being delisted. The extent to which the recognition of a goodwill impairment charge is likely to affect the probability of delisting depends on how close the firm is to being delisted before the effect of the goodwill impairment and on which exchange the firm is listed.

Each exchange has different delisting requirements. Both NASDAQ and the American Stock Exchange (AMEX) have objective delisting requirements based on numerous factors, including the firm's net worth.¹¹ If a firm on these exchanges takes a goodwill write-off, they will have permanently increased their probability of being delisted.¹² The OTC market does not have any listing requirements.¹³ The NYSE subjectively delists firms, but provides guidance on when a firm might be delisted.

H5: Firms listed on an exchange with financial-based listing requirements will be less likely to record a goodwill impairment charge and will record relatively smaller charges when adopting SFAS 142.

4. Sample Selection and Research Design

4.1 SAMPLE SELECTION

Table 1 provides an overview of our sample selection criteria. To obtain a sample of firms likely to record goodwill impairments, we started by identifying Compustat firms with goodwill balances at the end of fiscal 2001. To increase the power of our tests (and reduce the amount of hand-collected data), we eliminate firms from the sample that have a remote probability of having to take a goodwill write-off. To identify firms that are relatively more likely to take goodwill write-offs we restrict the sample to firms with a difference between the market and book value of their equity that is less than their recorded goodwill. Thus, our initial sampling procedures identified 867 firms on Compustat that are relatively more likely to take goodwill write-offs.

¹¹ An article in the July 9, 2001 *Federal Register*, Vol 66., No 131, p. 35820–35822, indicates that the NASDAQ changed their listing requirements from a tangible net worth to a stockholders' equity-based requirement. There was a transition period allowing firms that were in compliance with the tangible net worth requirements for 18 months to become compliant with the new standard. At the time the change was implemented, NASDAQ had estimated that 2–3% of their clients would not meet the new listing requirement. This assessment does not reflect the impact of the new accounting standard.

¹² For example, in May of 2002 Verticalnet changed their listing from the NASDAQ national market to the NASDAQ small cap market, in part due to its failure to meet the shareholders equity requirement of \$50 million. In 2001, Verticalnet took a \$300-million impairment charge that contributed to the reduction in shareholders equity from \$600 million to –\$90 million. This suggests that goodwill impairment charges may contribute to NASDAQ delistings. For information on Verticalnet, see Verticalnet's 2001 10-K and their management discussion and analysis at <http://biz.yahoo.com/e/040330/vert10-k.html>.

¹³ See <http://www.sec.gov/answers/listing.htm> for more information on the listing requirements of NASDAQ and NYSE firms, and for a discussion of the lack of listing requirements for OTC firms.

TABLE 1
Sample Selection

Procedures employed to identify a sample of firms on the Compustat database that have goodwill balances, and were likely to take SFAS 142 write-offs.

	Total Number of Firms
Firms on the Compustat database that have goodwill balances and are relatively more likely to take goodwill write-offs	867
Less	
ADRs	42
Firms that do not have 10-Ks available on Lexis/Nexis	113
Domestic firms on Compustat for which we were able to identify the adoption choices associated with SFAS 142	712
Less	
Firms that do not have 12 consecutive quarters of earnings and returns information	97
Firms that do not have daily returns data on the CRSP database for the year prior to SFAS 142 adoption	62
Firms with sufficient data to calculate ERC, delisting, and control variables	553
Firms with sufficient data to calculate debt contracting, tenure, and bonus proxies	176

Abbreviations: ADR, American Depository Receipts; CRSP, Center for Research in Security Prices; ERC, earnings response coefficient; SFAS, Statement of Financial Accounting Standards.

We then eliminate firms that are American Depository Receipts (ADR) firms and firms that do not have a 10-K disclosure on Lexis/Nexis (which is needed to determine whether a write-off is recorded as a cumulative effects adjustment when SFAS 142 is adopted), reducing our sample size to 712 firms. We also require that the firm have at least 12 consecutive quarters of earnings and returns data on the Center for Research in Security Prices (CRSP)/Compustat merged database and daily returns data on the CRSP database for the year prior to SFAS 142 adoption, reducing our sample by an additional 159 firms that do not have sufficient data to calculate our equity market valuation and delisting proxies. These data requirements leave us with a sample of 553 firms to test our equity market valuation and delisting hypotheses. We then hand collected information on debt covenants and covenant slack using the Loan Pricing Corporation database and copies of firms' debt contracts and compensation and tenure data from firms' proxy statements. We were able to find debt contract and compensation information for 176 firms. Summarizing, our full sample consists of the 553 firms that have sufficient information to determine the following: whether they took SFAS 142 impairments, the firms' ERCs, and our delisting proxies. A reduced sample of 176 firms also has data that can be used to calculate debt contracting, bonus, and tenure proxies.

Write-offs were taken by 232 of the 553 firms in our sample. This compares with an adoption period write-off sample in Bens and Heltzer [2004] of

265 write-offs. This suggests that our sample selection process does not result in losing many write-off observations, but instead eliminates firms that were not expected to take a write-off and did not take one.

4.2 SFAS 142 ADOPTION ANALYSIS

We examine the effects of the hypothesized economic incentives on our sample firms' SFAS 142 accounting choices using two equations. That is, we examine both the decision to take a goodwill write-off and then, conditional on taking a write-off, the percentage of goodwill that is actually taken as a write-off. Since the decision to take a write-off is a dichotomous choice, we model this decision using a probit regression. The percentage of goodwill that is actually written off is examined using a censored regression, because the percentage of goodwill written off is censored below at zero and above at 100%.¹⁴ We estimate these regressions jointly, allowing the error terms to be correlated. We also allow the determinants of each decision and the coefficients on our proxies for the hypothesized determinants to differ across equations.

4.2.1. Proxies for SFAS 142 Write-Off Incentives. To motivate our choice of proxies for debt contracting incentives, we begin by noting that the bank debt for the firms in our sample contains two mutually exclusive types of covenants and each type of covenant may either include or exclude the effects of accounting changes. For firms with tangible net worth covenants, the adoption choices associated with SFAS 142 should not matter, because these covenants are unaffected by intangibles, by definition. However, for firms with net worth covenants, the adoption choices associated with SFAS 142 are likely to be economically important, and are likely to depend on firms' financial slack and whether accounting changes are included in contract calculations.¹⁵ Thus, we create two measures of the debt contracting incentives for firms with net worth covenants.

We start by calculating the amount of covenant slack available to the firms with net worth covenants (*Slack*).¹⁶ Covenant slack is calculated as the

¹⁴ We estimate these equations using the two-stage estimation technique discussed by Maddala [1986, p. 228].

¹⁵ For example, Northwest Pipe states in their footnotes "If, as a result of the implementation of SFAS 141 and/or SFAS 142, we are required to write-down any of our goodwill, our net worth will be reduced. Since our credit agreement contains a covenant requiring us to maintain a minimum net worth, this reduction in net worth, if substantial, may result in an event of default under the credit agreement, which would prevent us from borrowing additional funds." (see <http://www.nwpipe.com/investorssec.html>.) Northwest Pipe, which is a multisegment firm, did not record a goodwill impairment when SFAS 142 was adopted, despite having an aggregate market value of equity below book value of equity.

¹⁶ To determine whether the firm has a net worth covenant in place when SFAS 142 was adopted, we searched the firm's debt contracts filed as material exhibits to their financial statements. For each firm in our sample, we require each contract to have been entered into at least one year before the standard was adopted, and to have been in force in the year the standard was adopted (i.e., none of the contracts in our sample had matured).

book value of equity (Compustat 60) less the net worth covenant threshold (as defined in their debt contract), divided by the goodwill balance at the beginning of the year (Compustat 204). We then rank the firms from the least amount of slack (highest rank) to the most amount of slack. Our first measure is this ranked variable for all firms that have net worth covenants (*NWSlack*). Our second measure is the interaction of *NWSlack* with a dichotomous variable (*Include*) that is one if the firm's contracts include the effects of accounting changes. The resulting product (*INWSlack*) measures the tightness of covenants for firms that have net worth covenants that are affected by accounting changes.

To capture firms' equity market concerns, we need proxies for both the firm's discount rate, which is expected to affect the market capitalization of the write-off due to the accounting change, and for the expected market capitalization of future goodwill impairments. To proxy for firms with a high versus a low discount rate, we split the sample into those with daily stock return variability in the year prior to adopting SFAS 142 above versus below the sample median (*HRisk*).¹⁷ If the manager believes that the market will respond to future goodwill write-offs proportionately to other above-the-line income, then the firm's ERC on income from continuing operations can be used as a proxy for the market capitalization of future goodwill impairments. To create this measure, we run firm-specific regressions of price on earnings per share from continuing operations and net income per share using a minimum of 3 years and a maximum of 5 years of quarterly data in the period prior to the adoption of SFAS 142. We then obtain the coefficient on income from continuing operations and multiply this coefficient by our proxy for firm risk. The resulting variable (*AsstPrc*) is our measure of the firms' equity market incentives to record charges below the line.¹⁸

To capture the effects of bonus compensation on the impairment decision, we create a dichotomous variable (*Bonus*) that is one if the firm has an earnings-based bonus plan in place that is affected by below-the-line charges in the year prior to the adoption of SFAS 142, and zero otherwise. We argue that it is more costly for a manager of a firm that has an earnings-based bonus plan in place that is affected by below-the-line charges to recognize an SFAS 142 charge, relative to a firm that does not have an earnings-based bonus plan, or has a plan that excludes below-the-line charges. To capture the likelihood that the CEO determining the goodwill impairment made the original acquisition decision, we create a variable (*Tenure*) that equals

¹⁷ We examine the sensitivity of our classification of firms into high and low discount rates using the median standard deviation of stock returns for all firms on CRSP. Using the population median results in reclassification of approximately 5% of the firms from the low discount group to the high discount group, the results of the analyses are quantitatively and qualitatively similar to those we report in the paper.

¹⁸ As we discuss below, we have conducted a number of different sensitivity analyses to reduce the potential problems associated with measurement error.

the number of years the CEO has held the position. CEOs with a longer tenure are more likely to have made the acquisition decisions.¹⁹

We measure the importance of exchange listing requirements using three variables. First, we capture differences in listing requirements by creating a dichotomous variable (*Nasdaq/Amex*) that equals one for the exchanges with explicit delisting requirements affected by goodwill impairments. Our second variable is also a dichotomous variable (*Delist*) that equals one if the firm is listed on NASDAQ or AMEX, and if the firm took their expected write-off (as discussed above) the firm would violate their exchange listing requirement. The final variable is the interaction of the *Delist* variable with the *ExpectedWO%*, defined below.

4.2.2. Control Variables—Probit Analysis. In addition to the variables measuring our hypothesized incentives, our probit model includes a variety of control variables capturing other factors that could affect whether a firm is more or less likely to take a write-off. We argue that the firm's economic environment, growth options, propensity to recognize special charges, and risk will all affect the decision to take an SFAS 142 write-off.

Our first set of control variables includes three variables designed to capture how the economic environment of the firm will affect the firm's write-off behavior. Our first proxy is a measure of how past performance affects the expected size of the write-off. Specifically, if the firm's market performance in the past was poor, and the firm did not take a write-off to reduce their book value, then there is a greater likelihood that they will have to take an SFAS 142 write-off. To capture this effect, we create a variable (*ExpectedImpair*), which is a dichotomous variable equal to one if the firm's book value of equity exceeds the market value of equity.²⁰ For a firm with a single reporting unit, this measure is likely to determine whether the firm passes or fails the first step of the two-step process required to determine whether a goodwill impairment is required. For a firm with multiple reporting units, this variable will reflect a composite of the results of the first step for the multiple reporting units.

The expected amount of the write-off should also depend on the number of reporting units. For firms with one reporting unit, there is no goodwill allocation, reducing the manager's write-off discretion and increasing the likelihood of a goodwill write-off (if book value exceeds market value). Although firms typically do not disclose the number of reporting units, the number of units that can be specified is restricted by the number of segments. We argue that single-segment firms are more likely to have one

¹⁹ We winsorize this variable at the 90% level (17 years) to ensure that our results were not driven by a few extreme observations in our sample (tenure of 50 years), although similar inferences can be drawn without winsorization.

²⁰ Tergesen [2002] outlines how Bear Sterns used a similar method to determine expected write-offs.

reporting unit, and include a dichotomous variable (*OneSegment*) that is equal to one for single-segment firms, and this variable is interacted with our expected write-off variable.

We also expect firms' growth options and propensity to record special items to affect their decisions to take SFAS 142 write-offs. Firms that have lots of growth options will be less likely to take SFAS 142 write-offs because they are less likely to have impaired goodwill. We use the ratio of the firm's market value of assets to book value of assets to proxy for its growth options ($M/B(Assets)$). Firms' propensity to recognize "special items" might also affect the likelihood of recording SFAS 142 goodwill impairment charges. On the one hand, firms that have already taken impairment charges might be less likely to take charges when adopting SFAS 142. On the other hand, firms that take a lot of special charges might be more likely to take SFAS 142 adoption impairment charges. We use the fraction of the quarters in which the firm did not recognize a charge associated with a special item in the three years before SFAS 142 adoption to proxy for the firm's propensity to take write-offs (*PropNoW/O*).

Finally, we also expect firms' risk will mechanically affect write-off probabilities. As we discuss in section 2, SFAS 142 requires firms to determine a reporting unit's fair value using discounted cash flows (or market values, or comparable market values). Prior to the adoption of SFAS 142, the reporting unit's "market value" was determined using undiscounted cash flows. Thus, mechanically, firms with higher discount rates (or risk) will be more likely to take SFAS 142 write-offs. We use the standard deviation of daily returns to measure firm risk (*StdRet*). We also include measures of size and leverage in the probit model to control for these firm characteristics.

4.2.3. Control Variables—Censored Regression. Like the probit model, our censored regression includes controls for other factors expected to affect firms' write-offs. That is, we control for both the firm's economic environment and the firm's risk.

Since the dependant variable in this model is continuous, we create a continuous measure of the expected write-off. As with the probit model, we argue that if the market value of equity is below the book value, then according to the FASB guidelines, a firm is likely to have to take a write-off. Thus, we create a variable (*ExpectedWO%*) that is the difference between the firm's book value of equity and market value of equity scaled by beginning of the goodwill period. If the market value of equity is greater than the book value of equity, the variable is set equal to zero. If the difference between the book value of equity and the market value of equity is greater than the amount of goodwill, then the entire goodwill balance is expected to be written off, and the variable is set equal to one. (We do not allow the expected write-off to exceed the amount of goodwill on the books.)

Like the probit model, we also include controls for one-segment firms, and interact our measure of the expected write-off with the variable capturing whether the firm is a one-segment firm. We also control for the risk of the firm, as riskier firms should write off a larger percentage of their goodwill.

Finally, we also control for the firm's size and leverage. We omit our control for growth options (the ratio of the market value of assets to the book value) because our expected impairment proxy also captures growth options. (The correlation analysis reported below indicates that these variables have a correlation coefficient of 0.75.)

Using these proxies, subject to data availability, we run the following regressions:

$$\begin{aligned}
 \text{Impair} = & \alpha + \beta_1 \text{NWSlack} + \beta_2 \text{INWSlack} + \beta_3 \text{AsstPrc} + \beta_4 \text{AsstPrc} * \text{HRisk} \\
 & + \beta_5 \text{Bonus} + \beta_6 \text{Tenure} + \beta_7 \text{Nasdaq/Amex} + \beta_8 \text{Delist} \\
 & + \beta_9 \text{Delist} * \text{ExpectedImpair} + \beta_{10} \text{ExpectedImpair} \\
 & + \beta_{11} \text{OneSegment} * \text{ExpectedImpair} + \beta_{12} \text{M/B(Assets)} \\
 & + \beta_{13} \text{PropNow/o} + \beta_{14} \text{OneSegment} + \beta_{15} \text{StdRet} + \beta_{16} \text{Size} \\
 & + \beta_{17} \text{Leverage} + \varepsilon
 \end{aligned} \tag{1}$$

$$\begin{aligned}
 \text{WO\%} = & \alpha + \beta_1 \text{NWSlack} + \beta_2 \text{INWSlack} + \beta_3 \text{AsstPrc} + \beta_4 \text{AsstPrc} * \text{HRisk} \\
 & + \beta_5 \text{Bonus} + \beta_6 \text{Tenure} + \beta_7 \text{Nasdaq/Amex} + \beta_8 \text{Delist} \\
 & + \beta_9 \text{Delist} * \text{ExpectedWO\%} + \beta_{10} \text{ExpectedWO\%} \\
 & + \beta_{11} \text{OneSegment} * \text{ExpectedWO\%} + \beta_{12} \text{OneSegment} + \beta_{13} \text{StdRet} \\
 & + \beta_{14} \text{Size} + \beta_{15} \text{Leverage} + \varepsilon
 \end{aligned} \tag{2}$$

where:

- Impair* = a dichotomous variable equal to one if the firm recorded a goodwill impairment as a cumulative effect of accounting change from adoption of SFAS 142;
- WO%* = the dollar value of the goodwill impairment recorded as a cumulative effect of accounting change from adoption of SFAS 142 divided by the amount of goodwill at the beginning of the year;
- NWSlack* = (if the firm has a net worth covenant) the rank of covenant slack, calculated as the book value of equity (Compustat 60) less the net worth threshold, divided by the goodwill balance at the beginning of the year (Compustat 204), zero otherwise;
- INWSlack* = *NWSlack*, if mandatory accounting changes are included in covenant calculations, zero otherwise.
- AsstPrc* = the coefficient from a time-series regression of price per share (Compustat quarterly data item 14) on earnings from continuing operations per share (Compustat quarterly data item 177) using the 20 quarters of data prior to the adoption of SFAS 142;

- HRisk* = a dichotomous variable that is one if the firm has a *StdRet* value that is above the median for our sample firms;
- Bonus* = a dichotomous variable equal to one if the firm's proxy statement in the year prior to the adoption of SFAS 142 discloses the existence of an earnings based bonus plan that does not exclude special items, zero otherwise;
- Tenure* = the number of years that the CEO has held that position;
- Nasdaq/Amex* = a dichotomous variable equal to one if the firm trades on either the NASDAQ or the AMEX, zero otherwise;
- Delist* = a dichotomous variable equal to one if recording the expected goodwill impairment would cause the firm to violate the NASDAQ or AMEX listing requirements, zero otherwise;
- Delist * ExpWO%* = *Delist* multiplied by *ExpectedWO%*;
- ExpectedImpair* = a dichotomous variable equal to one if the book value of equity exceeds the market value of equity, zero otherwise;
- M/B(Assets)* = the ratio of the market value of the firm's assets (Compustat 6 – Compustat 60 + Compustat 199 * Compustat 25) divided by the book value of the firm's assets (Compustat 6);
- PropNoW/O* = the fraction of the quarters in the three years before SFAS 142 was adopted that the firm did not recognize a charge associated with a special item (Compustat quarterly data item 177 = Compustat quarterly data item 11), zero otherwise;
- ExpectedWO%* = a truncated variable equal to the amount by which the book value of equity exceeds the market value of equity to the extent that this amount is not greater than the amount of goodwill, and equal to zero if the market value of equity exceeds the book value of equity, divided by the amount of goodwill at the beginning of the year;
- OneSegment* = a dichotomous variable equal to one if the firm has one business segment, zero otherwise;
- StdRet* = the firm's standard deviation of daily returns for the year prior to the adoption of SFAS 142;
- Size* = log of market value of equity (Compustat data item 199 * Compustat data item 25);
- Leverage* = the ratio of debt (Compustat 9 + Compustat 34) to total assets (Compustat 6) in the year prior to SFAS 142 adoption.

TABLE 2

Descriptive Statistics

Mean, median, and standard deviation of the dependent variables, the test variables, and the control variables for a sample of firms expected to take a write-off when they adopted *Statement of Financial Accounting Standards (SFAS) 142 – Goodwill and Other Intangible Assets*. Variables are defined in the appendix.

	No. of Obs.	Mean	Median	Std. Dev.
Dependent variables				
<i>Impair</i>	553	0.42	0.00	0.49
<i>WO%</i>	553	0.20	0.00	0.33
Hypothesized determinants of SFAS 142 write-offs				
<i>NWSlack</i>	176	0.32	0.00	1.16
<i>INWSlack</i>	176	0.09	0.00	0.60
<i>AsstPrc</i>	553	8.55	6.60	6.68
<i>Bonus</i>	176	0.78	1.00	0.42
<i>Tenure</i>	176	7.10	6.00	5.90
<i>Nasdaq/Amex</i>	553	0.46	0.00	0.49
<i>Delist</i>	553	0.05	0.00	0.22
Control variables				
<i>ExpectedImpair</i>	553	0.66	0.50	0.47
<i>M/B(Assets)</i>	553	0.93	0.94	0.18
<i>PropNoW/O</i>	553	0.69	1.00	0.22
<i>ExpectedWO%</i>	553	0.49	0.51	0.45
<i>OneSegment</i>	553	0.39	0.00	0.48
<i>StdRet</i>	553	0.05	0.05	0.03
<i>Size</i>	553	4.19	4.07	1.93
<i>Leverage</i>	553	0.31	0.31	0.21
Other statistics				
<i>TotalWrittenoff</i>	553	51.87	0.00	204.00
<i>ExpectedWrite-off</i>	553	43.25	2.45	264.07

5. Results

5.1 DESCRIPTIVE STATISTICS

Table 2 provides descriptive statistics for our sample firms.²¹ We find that 42% of our sample firms recorded an impairment charge at the time they adopted SFAS 142. Our expectation model predicts that 66% of the sample firms should have recorded an impairment charge. We also find that the mean goodwill write-off at the time SFAS 142 was adopted is 20% of the pre-SFAS 142 goodwill balance. Our expectation model suggests that the mean goodwill write-off should have been 49% of the pre-SFAS 142 goodwill balance. These differences suggest that some firms might have chosen not to recognize goodwill impairments when adopting SFAS 142 to

²¹ Continuous variables have been winsorized to eliminate potential effects of extreme observations. The results of our analyses are not sensitive to this winsorization and similar inferences can be drawn without winsorization.

improve current performance and potentially eliminate the need to ever recognize the expense.

The slack variables are reported for all observations with covenant data. We find that slightly less than half of our sample firms have net worth covenants (not tabulated) and the mean *NWSlack* for firms with net worth covenants is 0.70 (not tabulated). For the 33% of our sample firms with net worth covenants that include the effects of mandatory accounting changes, the average covenant slack is 0.74 (not tabulated). We find that the average difference between the ERC on income from continuing operations and net income for our sample firms is 8.55, and that 46% of the firms in our sample were listed on exchanges that have explicit delisting requirements. Over 78% of our sample firms have earnings-based bonus plans that are affected by special charges, and the median CEO tenure in our sample is 6 years. We find that only 6% of the firms in our sample would have been expected to violate delisting requirements if they took a goodwill write-off equal to our expectation. When we look at the subsample of firms with hand-collected data, this drops to less than 1% (not tabulated); consequently, we drop this variable from the analyses that rely on hand-collected data.

The mean goodwill impairment charge taken at SFAS 142 adoption is \$51.87 million. Our expectation model predicts that, for our sample, the average write-off should be \$43.25 million. When combined with the evidence discussed above, this difference implies that firms' economic incentives affected their SFAS 142 accounting choices.

Table 3 includes a correlation analysis. For the most part, our proxies for our hypotheses are not significantly correlated with one another or with the control variables. Exceptions include the correlations: (1) between *NWSlack* and *INWSlack*, *Nasdaq/Amex* and *Delist*, and *ExpectedImpair* and *ExpectedWO%*, which are correlated by construction, (2) between *NWSlack* and *StdRet*, (3) between *INWSlack* and *Tenure*, (4) between *Size* and *AsstPrc*, *Nasdaq/Amex*, *Delist*, and *Bonus*, and (5) between *ExpectedImpair* and *M/B(Assets)*, *StdRet*, *Size*, and *Leverage*. In addition, several of our control variables are correlated, especially with our proxies for size and growth options.

Table 4 provides information on our expectations of the amount of goodwill to be written off in the absence of economic incentives. In panel A, we examine sample firms with only one segment. In panel B we examine the entire sample. The first row of panel A indicates that there are 57 single-segment sample firms whose market value of equity exceeds their book value of equity. Thus, unless these firms decide that they have multiple reporting units and allocate goodwill to the reporting units that have low market values, these firms are not expected to recognize a write-off when they adopt SFAS 142. Ultimately, 48 firms do not take a write-off, while 9 firms do. This suggests that roughly 16% of the single-segment firms not expected to take a write-off made accounting choices that allowed them to take an SFAS 142 write-off.

TABLE 3
Correlation Analysis
 Pearson correlations of the determinants of Statement of Financial Accounting Standards 142 adoption choices. Variables are defined in appendix.

	NWSlack	AsstPrc	Bonus	Tenure	Nasdaq/Amex	Delist	ExpectedImpair	M/B(Assets)	Prior-w/off	ExpectedWO%	OneSegment	StdRet	Size
NWSlack	1.00												
INWSlack	0.48 (0.01)	1.00											
AsstPrc	-0.02 (0.78)	1.00											
Bonus	0.04 (0.67)	0.07 (0.34)	1.00										
Tenure	0.11 (0.14)	0.22 (0.01)	-0.05 (0.45)	1.00									
Nasdaq/Amex	0.09 (0.19)	0.15 (0.03)	-0.04 (0.38)	0.19 (0.01)	1.00								
Delist	-0.03 (0.68)	-0.01 (0.88)	-0.13 (0.01)	0.05 (0.37)	-0.22 (0.01)	1.00							
ExpectedImpair	0.05 (0.48)	-0.05 (0.53)	-0.09 (0.03)	0.03 (0.04)	0.12 (0.60)	-0.00 (0.99)	1.00						
M/B(Assets)	-0.03 (0.60)	-0.01 (0.91)	0.08 (0.06)	0.17 (0.86)	-0.08 (0.05)	-0.04 (0.29)	-0.73 (0.01)	1.00					
PropNoW/O	0.11 (0.13)	0.15 (0.03)	0.02 (0.55)	0.17 (0.01)	0.18 (0.01)	0.15 (0.01)	0.14 (0.01)	1.00					
ExpectedWO%	0.08 (0.24)	0.01 (0.86)	-0.12 (0.01)	0.05 (0.39)	0.15 (0.01)	0.05 (0.24)	0.05 (0.33)	0.19 (0.01)	1.00				
OneSegment	-0.01 (0.84)	0.06 (0.41)	-0.02 (0.21)	0.04 (0.48)	0.15 (0.01)	0.06 (0.17)	0.04 (0.48)	0.17 (0.01)	0.13 (0.01)	1.00			
StdRet	-0.21 (0.01)	-0.03 (0.63)	-0.07 (0.07)	0.03 (0.58)	-0.01 (0.78)	0.18 (0.01)	0.13 (0.01)	-0.03 (0.42)	0.13 (0.01)	0.17 (0.01)	1.00		
Size	0.14 (0.04)	-0.09 (0.19)	0.21 (0.01)	-0.12 (0.04)	-0.31 (0.01)	0.21 (0.01)	-0.13 (0.01)	0.43 (0.01)	-0.30 (0.01)	-0.42 (0.01)	-0.20 (0.01)	1.00	
Leverage	-0.15 (0.03)	-0.11 (0.11)	-0.03 (0.79)	0.04 (0.49)	-0.03 (0.36)	-0.02 (0.79)	-0.17 (0.01)	0.28 (0.01)	-0.16 (0.01)	-0.27 (0.01)	-0.02 (0.54)	0.12 (0.01)	0.03 (0.44)

TABLE 4
Frequency Analysis

Frequency tables partitioning sample firms by whether they were expected to take write-offs (or not) and by whether they did take write-offs (or not).

	Did Not Take an Impairment Charge When Adopting SFAS 142	Did Take an Impairment Charge When Adopting SFAS 142
Panel A: Sample firms with only one segment		
Not expected to take an impairment charge	48	9
Expected to take an impairment charge	92	69
Panel B: All firms		
Not expected to take an impairment charge	121	64
Expected to take an impairment charge	199	168

Firms are partitioned on whether they took impairment charges or not and whether they were expected to take impairment charges based on their market-to-book ratios. Panel A focuses on single segment firms. Panel B reports on the partitions for the full sample.

SFAS, Statement of Financial Accounting Standards.

The second row of panel A indicates that there are 161 single-segment firms that have a market value below book value, and thus are expected to take a write-off in the absence of economic incentives. Of these 161 firms, only 69 firms ended up taking write-offs. This suggests that these firms most likely elected to have more than one reporting unit, and the managers made goodwill allocation decisions to those reporting units that allowed the firm to avoid taking an SFAS 142 write-off.²²

In panel B, we find that, of the 185 sample firms not expected to take a write-off, 64 firms do take a write-off. Multisegment firms appear to be more likely to have multiple reporting units, and thus are more likely to recognize impairment charges when the market value of equity exceeds book values. We also find that 199 of the 367 firms expected to take a write-off do not. Thus, like the single-segment firms, multisegment firms appear to have made reporting unit decisions and goodwill allocation decisions that allowed them to avoid SFAS 142 write-offs.

Together, the results in table 4 suggest that, to the extent we have developed a good expectation of the probability of taking a write-off, firms' economic incentives play an important role in the write-off decision. Furthermore, it suggests that some firms' economic incentives encouraged them to accelerate the recognition of write-offs to obtain below-the-line accounting while some firms' incentives led them to prefer to risk having to take charges in income from continuing operations in exchange for a chance to never have to recognize an impairment expense.

²² Firms could have one reporting unit and not have to take a write-off if the market value of equity is below book value. Fixed assets could have book values above their market values, and not be written down because of SFAS 121 guidelines. Alternatively, managers might choose an alternative valuation technique to quoted market prices.

5.2 DETERMINANTS OF THE DECISION TO TAKE AN SFAS 142 WRITE-OFF

The results of our probit regression of the determinants of the decision to take a goodwill write-off when SFAS 142 is adopted are reported in the third and fifth columns of table 5. In the third column, we report the marginal effects of each variable and the associated *t*-statistics for the reduced sample including the hand-collected variables. The fifth column reports the results on the marginal effects and *t*-statistics for the full sample of firms, omitting our proxies for debt contracting, tenure, and bonus variables.

The third column provides weak evidence consistent with our first hypothesis. We find that firms with greater net worth covenant slack are more likely to take a write-off when the covenant explicitly *includes* the effect of the accounting change relative to when the covenant excludes accounting changes. Thus, when contracts include the effects of accounting changes, managers facing more binding covenants will prefer to delay expense recognition. We find that the net worth covenant slack when the covenant is *not affected* by the accounting change is not related to the probability of taking a goodwill write-off. This suggests that either firms do not respond to the incentive to accelerate expense recognition to make future covenant violations less likely, or that subsequent impairments recorded under SFAS 142 will also be treated as resulting from an accounting change and therefore will not affect covenant calculations.

We report evidence consistent with our second hypothesis in both the reduced and full samples. Specifically, we find that for riskier firms, our *AsstPrc* variable is positively associated with the probability of taking a write-off when SFAS 142 is adopted. In terms of economic significance, a one standard deviation increase in *AsstPrc* increases the probability of taking a write-off by roughly 6%.

The results of our tests of H3 and H4 are provided in the third column. We find a statistically significant negative coefficient on our variable measuring the incentives provided by bonus-based compensation plans. The marginal effects on *Bonus* indicate that having a bonus-based compensation plan that does not explicitly exclude special items reduces the probability of taking an SFAS 142 write-off by 22%.

This result is inconsistent with the positive prediction implied by Gaver and Gaver [1998] and Dechow, Huson, and Sloan [1994]. Both of these papers provide evidence that managers are not penalized by compensation committees for losses that arise from restructuring charges, extraordinary expenses, and discontinued operations. The results from these two papers indicate that managers have incentives to accelerate goodwill impairment charges, to increase future income without reducing current compensation. The results from our analysis indicate that managers behave as if they anticipate that their bonus will be affected by these losses.

We also find a statistically significant negative coefficient on the *Tenure* variable, consistent with H4 that, when CEOs are unlikely to have made the original acquisition, the firm is more likely to take an SFAS 142 goodwill impairment.

TABLE 5

Joint Probit and Censored Regression Results

Marginal effects and (*t*-statistics) from the joint estimation of the Statement of Financial Accounting Standards (SFAS) 142 write-off decision (probit) and the percentage of goodwill actually written off (censored regression) for two samples of firms. The full sample (columns 5 and 6) consists of all Compustat firms with goodwill and a difference between the market and book value of their equity that is less than their recorded goodwill and that have data available to calculate our proxies (552 firms). The reduced sample (columns 3 and 4) has the same restrictions as our full sample and the data needed to calculate the debt contracting, bonus, and tenure proxies (176 firms). Variables are defined in the Appendix.

Variable	Predicted Sign	Reduced Sample		Full Sample	
		Probit Marginal Effect (<i>t</i> -Statistic)	Censored Regression Marginal Effect (<i>t</i> -Statistic)	Probit Marginal Effect (<i>t</i> -Statistic)	Censored Regression Marginal Effect (<i>t</i> -Statistic)
Intercept	?	—	—	—	—
<i>NWSlack</i>	+	0.001 (0.83)	0.001 (0.54)	—	—
<i>INWSlack</i>	—	-0.002 (-1.42)*	-0.002 (-1.93)**	—	—
<i>AsstPrc</i>	+	0.001 (0.13)	0.002 (0.93)	0.001 (0.23)	0.002 (0.75)
<i>AsstPrc * HRisk</i>	+	0.01 (1.92)**	0.009 (2.27)**	0.01 (3.35)***	0.01 (3.26)***
<i>Bonus</i>	—	-0.22 (-2.45)***	-0.15 (-2.30)**	—	—
<i>Tenure</i>	—	-0.01 (-1.87)**	-0.01 (-2.08)**	—	—
<i>Nasdaq/Amex</i>	—	-0.14 (-1.92)**	-0.11 (-2.16)**	-0.14 (-2.91)***	-0.11 (-3.20)***
<i>Delist</i>	+/-	—	—	-0.14 (-1.69)**	—
<i>Delist * Expected WO%</i>	—	—	—	-0.50 (-2.29)**	-0.44 (-2.82)**
<i>ExpectedImpair</i>	+	0.002 (0.73)	—	0.001 (0.05)	—
<i>ExpectedImpair * OneSegment</i>	+/-	0.17 (1.81)*	—	0.17 (3.01)***	—
<i>M/B(Assets)</i>	—	-0.19 (-1.80)**	—	-0.186 (-2.50)***	—
<i>PropNoW/O</i>	+/-	-0.07 (-1.28)	—	-0.07 (-1.78)*	—
<i>ExpectedWO%</i>	+	—	0.10 (3.18)***	—	0.10 (4.27)***
<i>ExpectedWO% * OneSegment</i>	+/-	—	0.05 (0.40)	—	0.05 (1.51)
<i>OneSegment</i>	+/-	-0.21 (-1.71)*	-0.04 (0.18)	-0.21 (-3.37)***	-0.05 (-1.28)
<i>StdRet</i>	+	1.71 (1.02)	1.60 (0.96)	1.71 (1.59)*	1.60 (2.13)**
<i>Size</i>	+/-	0.04 (0.83)	0.02 (0.01)	0.04 (2.79)***	0.02 (1.96)**
<i>Leverage</i>	+/-	-0.009 (-0.46)	-0.01 (-0.26)	-0.01 (-0.01)	-0.01 (-0.19)
No. of obs.		176	176	552	552

*, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

We also find that the probability of making an SFAS 142 goodwill write-off is lower for firms traded on exchanges with explicit delisting requirements (*Nasdaq/Amex*), which provides indirect support for H5. The marginal effects indicate that firms listed on AMEX or NASDAQ are 14% less likely to take write-offs than firms listed on other exchanges. The evidence in column 3 that firms that are likely to violate their exchange listing requirement take a smaller write-off provides more direct support for our delisting hypothesis, and similar economic significance.

In both samples, we find that our proxy for the firm's expected probability of taking an impairment charge is not significant for multisegment firms. This measure is significant for single-segment firms in the large sample. We also find that in the large sample, many of our control variables are related to the probability of taking a write-off. That is, we find that firms with more growth options are less likely to take a write-off. Firms that have recognized fewer special charges in the past are also less likely to take a write-off. We also find that firms that are riskier are more likely to take a write-off as are firms that are larger.

5.2.1. Determinants of the Percentage of Goodwill Written Off. Our model of the determinants of the percentage of goodwill written off yields similar results to those reported in our probit models. The major differences between the probit analysis and the censored regression are that we find that our proxies for debt contracting and firms' equity market considerations are more significant. Focusing on the debt contracting proxies, we find that a one standard deviation increase in *INWSSlack* reduces the size of the write-off by 22%. We also find that, in both the full sample and reduced samples, our proxies for the expected write-off are significant.

When we test whether the determinants of the decision to make a write-off and the decision on how much is actually written off are the same, and whether the coefficients on the determinants are proportional across these decisions, we find that the test rejects. This indicates that estimating a single model is not appropriate, and suggests the need for separately modeling the decision to take an impairment charge and the percentage of goodwill that is written off. When we test whether the errors across regressions are correlated, the test rejects, indicating that the errors are correlated. Together, these results suggest that estimating these equations jointly is more appropriate than estimating them separately.

5.2.2. Sensitivity Analysis. We tabulate two sensitivity analyses of our full sample examining whether our results are sensitive to our choice of proxy for the firm's equity market concerns. For risky firms, our primary test variable varies with the extent of the markets' response to earnings information. This will be a good measure of the manager's incentive to take below-the-line charges if the manager believes that the market will respond to future impairment charges proportionately to the firm's ERCs on income from continuing operations and discount charges recorded as an effect of an accounting change.

An alternative argument is that, if managers believe that accounting information is not used in pricing, then there is no incentive to accelerate write-offs. If managers believe that accounting information is used in pricing, and below-the-line items are discounted more than above-the-line items, then there *is* an incentive to accelerate the write-off. To capture this idea, we replace our proxy with a dichotomous variable that is one if the firm's ERC on income from continuing operations is positive (*Pos_ERC*). The results, reported in Table 6, are consistent with those reported in table 5. In terms of economic significance, riskier firms with positive ERCs are 14% more likely to take an SFAS 142 write-off, and the size of the write-off is 9% larger.

A second alternative argument is that managers of firms that have a relatively stronger market reaction to earnings from continuing operations than net income are more likely to accelerate write-offs. That is, the market's discounting of below-the-line items might vary across firms. To capture this idea, we create a firm-specific measure of the difference in the ERCs on income from continuing operations and net income (*Diff_ERC*). The difference in the market's pricing of these two components of income represents the potential equity market benefits associated with accelerating the write-off. When we create this measure, we lose roughly one third of our sample. However, the results, reported in table 6 are also consistent with those reported in table 5.

Our incentive variables potentially contain a lot of noise. Measurement error in continuous variables is commonly addressed either by ranking the data or by using a dichotomous variable to partition the data. Although these techniques potentially throw away significant information contained in the magnitudes, which would reduce the power of the research design, they have the potential to mitigate measurement error, which could have an offsetting effect on the power of the tests. In untabulated sensitivity analyses, we rerun our analysis using both ranks and dichotomous variables for our incentive variables. In both cases the results are qualitatively similar to those reported in table 5.

We also investigate whether our results are sensitive to our decision to separately examine the decision to take a write-off (using a probit regression), and the percentage of goodwill actually written off (using a censored regression). First, we use a truncated regression instead of a censored regression for our analysis on the percentage of goodwill written off, and find similar results. We also rerun the analysis using only the firms that took a write-off in the second stage, and find similar results. Finally, we also rerun all of our analyses using a Tobit specification, which places restrictions on the coefficient of both decisions, and find similar results (in terms of statistical and economic significance).

We also investigate whether the results on our independent variables are being driven by industry clustering using two different techniques. First, we include one-digit Standard Industrial Classification (SIC) controls in the regressions, and find similar results. We also include 10 two-digit SIC

TABLE 6
Sensitivity Analysis

Marginal effects and (*t*-statistics) from the joint estimation of the decision to take a Statement of Financial Accounting Standards (SFAS) 142 write-off (probit) and the percentage of goodwill actually written off (censored regression) including alternative proxies for the firms' equity market incentives. Variables are defined in the appendix.

Variable	Predicted Sign	Probit Marginal Effect (<i>t</i> -Statistic)	Censored Regression Marginal Effect (<i>t</i> -Statistic)	Probit Marginal Effect (<i>t</i> -Statistic)	Censored Regression Marginal Effect (<i>t</i> -Statistic)
Intercept	?	—	—	—	—
<i>Diff.ERC</i>	+	(-0.86)	(-3.71)***	(-0.56)	(-3.80)***
<i>Diff.ERC * HRisk</i>	+	-0.001 (-0.29)	-0.001 (-0.27)	—	—
<i>Pos.ERC</i>	+	0.02 (2.92)**	0.01 (2.72)**	—	—
<i>Pos.ERC * HRisk</i>	+	—	—	0.05 (0.75)	0.04 (0.76)
<i>Nasdaq/Amex</i>	+	—	—	0.14 (2.31)**	0.09 (2.15)**
<i>Nasdaq/Amex</i>	-	-0.14 (-2.25)***	-0.11 (-2.66)***	—	-0.10 (-2.97)***
<i>Delist</i>	+/-	-0.17 (-1.31)*	—	-0.14 (-1.76)**	—
<i>Delist * ExpectedWO%</i>	-	—	—	-0.50 (-2.29)**	-0.44 (-2.85)**
<i>ExpectedImpair</i>	+	0.02 (0.55)	—	-0.002 (-0.08)	—
<i>ExpectedImpair * OneSegment</i>	+/-	0.19 (2.79)***	—	0.17 (2.97)***	—
<i>M/B(Assets)</i>	-	-0.19 (-1.95)**	—	-0.19 (-2.49)***	—
<i>PropNoW/O</i>	+/-	-0.09 (-1.57)	—	-0.08 (-1.97)**	—
<i>ExpectedWO%</i>	+	—	0.12 (4.03)***	—	0.10 (4.18)***
<i>ExpectedWO% * OneSegment</i>	+/-	—	0.09 (1.97)**	—	0.05 (1.50)
<i>OneSegment</i>	+/-	-0.20 (-2.61)***	-0.04 (-0.96)	-0.21 (-3.31)***	-0.05 (-1.23)
<i>StdRet</i>	+	2.29 (1.81)**	1.92 (2.19)**	1.70 (1.47)*	1.55 (1.93)**
<i>Size</i>	+/-	0.08 (4.08)***	0.04 (2.89)***	0.05 (3.30)***	0.03 (2.53)**
<i>Leverage</i>	+/-	0.02 (0.14)	0.04 (0.39)	-0.04 (-0.37)	-0.04 (-0.52)
No. of obs.		366	366	552	552

*, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

controls for the 10 two-digit SIC codes with the most observations. Again, the results are similar to those we report in the tables. Finally, we also investigate whether including the price change in the year before the goodwill write-off as a control for prior performance affects our results. We find that this

measure is not significant, and including this variable does not affect the statistical significance of our test variables.

6. Conclusions

A major criticism of fair value accounting is that management bias may result in inappropriate fair value measurements and misstatements of earnings and equity. Watts [2003a, b] argues that the FASB's adoption of SFAS 142 might lead to an increase in the incidence of fraudulent financial reporting. He argues that SFAS 142 requires managers to make unverifiable estimates of the values of firm segments, and subjective allocation of joint benefits associated with goodwill to the firm's segments. These choices are likely to allow the manager to make biased decisions in their determination of whether goodwill is or is not impaired. In this paper, we investigate the outcome of the manager's goodwill allocation and reporting unit decisions by examining the determinants of the SFAS 142 write-off decisions.

The results of our tests indicate that firms' equity market considerations affect their preferences for above-the-line versus below-the-line accounting treatment, and firms' debt contracting, bonus, turnover, and exchange delisting incentives affect their decisions to accelerate or delay expense recognition. Overall, our results suggest that both contracting and market incentives affect firms' accounting choices relating to the trade-off between the timing and the presentation of expense recognition on the income statement. Jointly, these results are consistent with the concerns raised by Watts [2003 a, b]. Our paper provides evidence that, when adopting SFAS 142, managerial incentives do affect their accounting choices. Standard setters should be interested in these findings for at least two reasons. First, the evidence presented in our paper suggests that managers consider the distinction between above-the-line and below-the-line accounting to be important. Second, our paper provides evidence on how economic incentives affect unverifiable fair value estimates.

APPENDIX

Variable Definitions

- Impair*: A dichotomous variable equal to one if the firm recorded a goodwill impairment as a cumulative effect of accounting change from adoption of SFAS 142.
- WO%*: The dollar value of the goodwill impairment recorded as a cumulative effect of accounting change from adoption of SFAS 142 divided by the amount of goodwill at the beginning of the year.
- NWSlack*: If the firm has a net worth covenant, the rank of covenant slack, calculated as the book value of equity (Compustat 60) less the net worth threshold,

divided by the goodwill balance at the beginning of the year (Compustat 204), zero otherwise.

INWSSlack: *NWSSlack*, if mandatory accounting changes are included in covenant calculations, zero otherwise.

AsstPrc: The coefficient from a time-series regression of price per share (Compustat quarterly data item 14) on earnings from continuing operations per share (Compustat quarterly data item 177) using the 20 quarters of data prior to the adoption of SFAS 142.

HRisk: A dichotomous variable that is one if the firm has a *StdRet* value that is above the median for our sample firms.

Bonus: A dichotomous variable equal to one if the firm's proxy statement in the year prior to the adoption of SFAS 142 discloses the existence of an earnings-based bonus plan that does not exclude special items, zero otherwise.

Tenure: The number of years that the CEO has held that position.

Nasdaq/Amex: A dichotomous variable equal to one if the firm trades on either the NASDAQ or the AMEX, zero otherwise.

Delist: A dichotomous variable equal to one if recording the expected goodwill impairment would cause the firm to violate the NASDAQ or AMEX listing requirements, zero otherwise.

*Delist * ExpWO%*: *Delist* multiplied by *ExpectedWO%*.

ExpectedImpair: A dichotomous variable equal to one if the book value of equity exceeds the market value of equity, zero otherwise.

M/B(assets): Calculated as the ratio of the market value of the firm's assets (Compustat 6 – Compustat 60 + Compustat 199 * Compustat 25) divided by the book value of the firm's assets (Compustat 6).

PropNoW/O: The fraction of the quarters in the three years before SFAS 142 was adopted that the firm did not recognize a charge associated with a special item (Compustat quarterly data item 177 = Compustat quarterly data item 11), zero otherwise.

ExpectedWO%: A truncated variable equal to the amount by which the book value of equity exceeds the market value of equity to the extent that this amount is not greater than the amount of goodwill, and equal to zero if the market value of equity exceeds the book value of equity, divided by the amount of goodwill at the beginning of the year.

- OneSegment*: A dichotomous variable equal to one if the firm has one business segment, zero otherwise.
- StdRet*: The firm's standard deviation of daily returns for the year prior to the adoption of SFAS 142.
- Size*: Log of market value of equity (Compustat data item 199 * Compustat data item 25).
- Leverage*: The ratio of debt (Compustat 9 + Compustat 34) to total assets (Compustat 6) in the year prior to SFAS 142 adoption.
- TotalWrittenoff*: The amount of goodwill taken as a goodwill impairment associated with a change in accounting methods following the adoption of SFAS 142.
- ExpectedWrite-off*: A truncated variable equal to the amount by which the book value of equity exceeds the market value of equity to the extent that this amount is not greater than the amount of goodwill, and equal to zero if the market value of equity exceeds the book value of equity.
- Pos_ERC*: A dichotomous variable that is one if the coefficient from a time-series regression of price per share (Compustat quarterly data item 14) on earnings from continuing operations per share (Compustat quarterly data item 177) is positive, zero otherwise. The regression is estimated using the 20 quarters of data prior to the adoption of SFAS 142.
- Diff_ERC*: The difference between the coefficient on income from continuing operations and the coefficient on net income from a time-series regression of price per share (Compustat quarterly data item 14) on earnings from continuing operations per share (Compustat quarterly data item 177) and net income (Compustat quarterly data item 11). The regression uses the 28 quarters of data prior to the adoption of SFAS 142.

REFERENCES

- BEATTY, A.; K. RAMESH; AND J. WEBER. "The Importance of Accounting Changes in Debt Contracts: The Cost of Flexibility in Covenant Calculations." *Journal of Accounting & Economics* 33 (2002): 205–27.
- BEATTY, A., AND J. WEBER. "The Effects of Debt Contracting on Voluntary Accounting Method Changes." *The Accounting Review* 78 (2003): 119–42.
- BENS, D. A., AND W. HELTZER. "The Information Content and Timeliness of Fair Value Accounting: An Examination of Goodwill Write-offs Before, During, and After the Implementation of SFAS 142." Working paper, University of Chicago, 2004.
- DECHOW, P.; M. HUSON; AND R. SLOAN. "The Effects of Restructuring Charges on Executives Cash Compensation." *The Accounting Review* 69 (1994): 138–56.

- DECHOW, P.; A. HUTTON; AND R. SLOAN. "Economic Consequences of Accounting for Stock Based Compensation." *The Journal of Accounting Research* 34 (1996): 1–20.
- D'SOUZA, J. "Rate-Regulated Enterprises and Mandated Accounting Changes: The Case of Electric Utilities and Postretirement Benefits Other than Pensions (SFAS No. 106)." *The Accounting Review* 73 (1998): 387–410.
- D'SOUZA, J.; J. JACOB; AND K. RAMESH. "The Use of Accounting Flexibility to Reduce Labor Renegotiation Costs and Manage Earnings." *Journal of Accounting & Economics* 30 (2000): 187–208.
- EL-GAZZAR, S. "Stock Market Effects of the Closeness to Debt Covenant Restrictions Resulting from Capitalization of Leases." *The Accounting Review* 68 (1993): 258–72.
- ELLIOTT, J. A., AND J. D. HANNA. "Repeated Accounting Write-Offs and the Information Content of Earnings." *Journal of Accounting Research* 34 (Supplement 1996): 135–55.
- ESPAHBODI, H.; P. ESPAHBODI; AND H. TEHRANIAN. "Equity Price Reaction to the Pronouncements Related to Accounting for Income Taxes." *The Accounting Review* 70 (1995): 655–68.
- FIELDS, T.; T. LYS; AND L. VINCENT. "Empirical Research on Accounting Choice." *Journal of Accounting & Economics* 31 (2001): 255–307.
- FINANCIAL ACCOUNTING STANDARDS BOARD (FASB). *Statement of Financial Accounting Standards 142: Goodwill and Other Intangible Assets*. Norwalk, CT: FASB, 2001.
- FRANCIS, J.; J. D. HANNA; AND L. VINCENT. "Causes and Effects of Discretionary Asset Write-Offs." *Journal of Accounting Research* 34 (Supplement 1996): 117–34.
- FRANK, R., AND R. SIDEL. "Firms That Live by the Deal in the '90s Now Sink by the Dozen." *The Wall Street Journal*, June 6, 2002: Section J, p. A1.
- GAVER, J., AND K. GAVER. "The Relation Between Nonrecurring Accounting Transactions and CEO Cash Compensations." *The Accounting Review* 73 (1998): 235–54.
- HARRIS, R., AND J. CAPLAN. "Coming Into Focus: New Merger-Accounting Rules May Sharpen Investors' Views of Intangibles, but CFOs Should Also Consider the Impact of Write-offs." *CFO* 18 (January 2, 2002): 53.
- HEALY, P., AND K. PALEPU. "Effectiveness of Accounting-Based Dividend Covenants." *Journal of Accounting & Economics* 12 (1990): 97–124.
- HEPBURN, B. "A Necessary Evil." *Marketing Management* 11 (November 1, 2002): 34.
- KEATING, A. S., AND J. L. ZIMMERMAN. "Depreciation-Policy Changes: Tax, Earnings Management, and Investment Opportunity Incentives." *Journal of Accounting & Economics* 28 (1999): 359–89.
- LEWIS, E. E.; J. W. LIPPITT; AND N. J. MASTRACCHIO JR. "Users' Comments on SFAS 141 and 142 on Business Combinations and Goodwill." *The CPA Journal* 71 (2001): 76.
- LYS, T. "Mandated Accounting Changes and Debt Covenants: The Case of Oil and Gas Accounting." *Journal of Accounting & Economics* 6 (1984): 39–65.
- MADDALA, G. S. *Limited Dependent and Qualitative Variables in Econometrics*. Cambridge: Cambridge University Press, 1986.
- MOHRMAN, M. "Debt Contracts and FAS 19: A Test of the Debt Covenant Hypothesis." *The Accounting Review* 68 (1993): 273–88.
- MOHRMAN, M. "The Use of Fixed GAAP Provisions in Debt Contracts." *Accounting Horizons* 10 (1996): 78–91.
- RAMESH, K., AND L. REVSINE. "The Effects of Regulatory and Contracting Costs on Banks' Choice of Accounting Method for Other Postretirement Employee Benefits." *Journal of Accounting & Economics* 30 (2000): 159–86.
- REES, L. S.; S. GILL; AND S. GORE. "An Investigation of Asset Write Downs and Concurrent Abnormal Accruals." *Journal of Accounting Research* 34 (Supplement 1996): 157–69.
- RIEDL, E. J. "An Examination of Long Lived Asset Impairments." *The Accounting Review* 79 (2004): 823–59.
- SCHRAND, C., AND F. WONG. "Earnings Management Using the Valuation Allowance for Deferred Tax Assets under SFAS 109." *Contemporary Accounting Research* 20 (2003): 579–611.
- SEGAL, B. "Goodwill Write-Downs and the Adoption of SFAS 142." Working paper, University of California–Davis, 2003.

- SWEENEY, A. "Debt-Covenant Violations and Managers' Accounting Responses." *Journal of Accounting & Economics* 17 (1994): 281-308.
- TERGESEN, A. "How Much Is the Goodwill Worth?" *Business Week* 16 (September 2002): 83-84.
- WATTS, R. "Conservatism in Accounting Part I: Explanations and Implications." *Accounting Horizons* 17 (2003a): 207-23.
- WATTS, R. "Conservatism in Accounting Part II: Evidence and Research Opportunities." *Accounting Horizons* 17 (2003b): 287-301.
- WATTS, R., AND J. L. ZIMMERMAN. *Positive Accounting Theory*. Englewood Cliffs, NJ: Prentice Hall, 1986.
- WATTS, R., AND J. L. ZIMMERMAN. "Positive Accounting Theory: A Ten Year Perspective." *The Accounting Review* 65 (1990): 131-56.