

**GOODWILL IMPAIRMENT CHARGES UNDER SFAS 142:
ROLE OF EXECUTIVES' INCENTIVES AND
CORPORATE GOVERNANCE**

A Dissertation

by

LALE GULER

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2007

Major Subject: Accounting

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ABSTRACT

Goodwill Impairment Charges under SFAS 142:

Role of Executives' Incentives and Corporate Governance. (May 2007)

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This study examines factors that influence managers' choice to recognize goodwill impairment under Statement of Financial Accounting Standards No. 142 (SFAS 142). The debate surrounding SFAS 142's effectiveness centered on whether the managerial discretion allowed by the standard could lead to biased decisions in managers' determination of goodwill impairment.

I use a conditional logistic regression to compare 130 firms that did recognize the existing impairment losses (write-off firms) to a control sample of 130 matching firms that did not recognize the existing impairment losses (no write-off firms). I find that the likelihood of recognizing the existing impairment losses significantly decreases when the managers have sizable holdings of in-the-money stock options. On the other hand, the likelihood of recognizing the existing impairment losses significantly increases when firms have stronger corporate governance, as measured by percentage of outside directors, percentage of outside directors' ownership, number of busy directors, and separation of CEO and Chair titles.

Additionally, I find that during the period leading up to the SFAS 142 write-off, there have been more favorable changes in corporate governance structures of the write-off firms, compared to that of no write-off firms. These favorable changes in governance structures occurred to a greater extent in firms that have delayed the recognition of existing impairment losses to the sample period compared to the firms that have been recognizing the write-offs on a timely basis. These results are consistent with the notion that favorable changes in corporate governance induce firms to take SFAS 142 impairment losses, which managers have avoided taking in the prior period.

Overall, the results imply that managerial incentives do affect the implementation of standards that expand managerial discretion and highlight the importance of corporate boards in the monitoring of discretion allowed by such standards.

To my mother, Necla Güler, and my father, Rıdvan Güler

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1. INTRODUCTION

The Financial Accounting Standards Board (FASB) issued SFAS 142, *Accounting for Goodwill and Other Intangible Assets* in 2001. The standard, effective for fiscal years beginning after December 15, 2001, requires companies to review goodwill for impairment each year at the lowest level of business units for which discrete financial information is available (“reporting units”). Testing goodwill for impairment is a complex process that involves making a number of accounting choices and estimates, of which determination of the reporting units and assessment of the fair values at the level of reporting units are the most important. Given that fair values of reporting units are not readily available, managers have a significant amount of discretion in impairment testing. While the FASB concludes that SFAS 142 will improve financial reporting of goodwill and other intangible assets, critics argue that the managerial discretion inherent in the process of testing for impairment may lead managers to manipulate financial reports.¹

I examine the roles of managers’ in-the-money stock option holdings and board of directors’ characteristics in managers’ decisions to record goodwill impairment charges in order to provide information relevant to this debate.² I focus on managers’ in-the-money stock option holdings and board of directors’ characteristics because managers’ review of goodwill impairments as a form of accounting choice is likely to be

This dissertation follows the style of Journal of Accounting Research.

¹ For example, Watts (2003, p. 217) argues that because SFAS 142 requires managers to make unverifiable estimates, the incidence of fraudulent reporting might increase.

² SFAS 142 does not affect the tax treatment of goodwill. For tax purposes, goodwill is amortized over a 15 year period.

affected by their incentives to act opportunistically, as implied by agency theory (Jensen and Meckling, 1976; Watts and Zimmerman, 1986), and constrained by the oversight role of boards.

Agency theory implies that executives who have more in-the-money stock options are less inclined to recognize goodwill impairment charges. When option holdings of executives are in the money, any decline in stock price would directly result in a reduction in executives' wealth. If managers have concerns regarding the negative valuation consequences of goodwill impairment losses on firms' stock prices, and thereby on the value of their in-the-money stock option holdings, managers could use the accounting discretion granted by SFAS 142 to understate the existing impairments of goodwill.³ Consistent with this notion, prior literature documents that managers with substantial in-the-money option holdings are more likely to issue misstated accounting information (e.g., Efendi et al., 2006). Although there is empirical evidence on the relation between option holdings and accounting misstatements, the empirical evidence on the relation between option holdings and specific accounting choices is scant. I aim to fill this gap by examining the relation between managers' option holdings and the likelihood of recognizing goodwill impairment losses.

While managers' review of goodwill impairments as a form of accounting choice is likely to be affected by their incentives to act opportunistically, this behavior should

³ Bens and Heltzer (2006) provide evidence of a negative market reaction to the announcements of goodwill write-offs subsequent to the adoption of SFAS 142. More specifically, the authors find that abnormal returns for their post-SFAS 142 sample (measured as the buy-and-hold returns over the period beginning the day of the goodwill write-off announcement and ending on the first trading day after the announcement) have a mean of -4%.

be constrained by the oversight role of boards. Boards of directors are responsible for oversight of the financial reporting process, and therefore, board oversight may constrain some of the managerial discretion afforded by SFAS 142. Prior studies (e.g., Dechow et al., 1996; Beasley 1996) show that weak corporate governance is associated with financial statement fraud. However, only a few studies examine whether board characteristics favorably affect the monitoring of accounting choice (e.g., Ahmed and Duellman, 2006). Given the importance of the relation between managers' use of accounting choice and the quality of the financial reporting, it is important to identify governance mechanisms that favorably affect the monitoring of accounting choice. Because the reported goodwill impairment loss is highly sensitive to changes in underlying managerial assumptions and estimates, the impairment-testing only approach under SFAS 142 provides a powerful setting for testing this important question.

I perform two tests for examining the roles of managers' option holdings and board of directors' characteristics in managers' choice to recognize goodwill impairment losses. In the first test, I use a conditional logistic regression to compare 130 firms that did recognize the existing impairment losses (write-off firms) to a control sample of 130 matching firms that did not recognize the existing impairment losses (no write-off firms). I find that impairment losses are negatively associated with executives' in-the-money option holdings and bonus grants, controlling for other determinants of impairment losses. I also find a strong positive association between firms' decision to recognize existing SFAS 142 impairments and the strength of their corporate governance, as measured by percentage of outside directors, percentage of outside

directors' ownership, number of busy directors, and separation of CEO and Chair titles. As an additional test, I use a censored regression to separately analyze the percentage of goodwill written off. The results of the censored regression yield similar results those reported in the logistic analysis. The inferences hold after controlling for firm-specific variables, industry variables and other determinants of asset write-offs and are robust to a number of alternative specifications.

In the second test, I examine what changes occur in various aspects of firm economics, executive compensation, and governance structures in the period leading up to the SFAS 142 write-off. I find that during the period leading up to the SFAS 142 write-off, there have been more favorable changes in corporate governance structures of the write-off firms, compared to that of no write-off firms. On average, write-off firms, compared to no write-off firms, were more active in reducing the percentage of inside directors, the number of busy directors, and the number of directors who are active CEOs. Similarly, in the same period, more write-off firms compared to no write-off firms separated their Chairman and CEO positions. Furthermore, these favorable changes in governance structures occurred to a greater extent in firms that have delayed the recognition of existing impairment losses to the sample period compared to the firms that have been recognizing the write-offs on a timely basis.⁴ In the logistic regression of

⁴ As explained in Section 6 in further detail, I identify four categories of my sample firms based on their SFAS 142 choices across multiple periods: (1) timely write-off, (2) delayed write-off, (3) postponing (no write-off), and (4) acceleration (no write-off). Timely write-off firms are the firms that take a write-off when expected and do not take a write-off when not expected. Delayed write-off firms are the firms that do not take a write-off when they were expected (in the prior period) and delay the write-off until the sample period. A firm is likely to take a SFAS 142 write-off if the difference between its market value and book value is less than its recorded goodwill.

the *change* in SFAS 142 reporting behavior on the annual *change* in the variables which capture the economic incentives, reporting incentives and corporate governance, the annual change in governance variables of main interest are generally significant in predicted direction. These results are consistent with the notion that favorable changes in corporate governance induce firms to take SFAS 142 impairment losses which managers avoided taking in the prior period.

In related research, Beatty and Weber (2006) examine the determinants of the SFAS 142 transition period write-offs by focusing on the trade-off between recording current impairment charges below-the-line and uncertain future impairment charges above-the-line.⁵ The authors document that if the managers have bonus plans that rely on earnings then SFAS 142 transition charges are less likely to be recorded and tend to be lower in magnitude. Additionally, they find that if a firm's stock is traded on an exchange that uses financial statement measures to determine trading eligibility, then such firms are less likely to record the SFAS 142 transition charges. Beatty and Weber (2006) also find that the longer the CEO's tenure, the less likely that a transitional impairment charge is recorded. On the other hand, they find that when firms' income from continuing operations has a higher stock market multiple, managers are more likely to record the SFAS 142 transition charges.

This study differs from Beatty and Weber (2006) in at least two ways. First, in contrast to Beatty and Weber (2006), I examine the roles of both managers' *in-the-*

⁵ The SFAS 142 transition period impairment charges were recorded 'below-the-line' items as losses from a change in accounting principles while impairment losses subsequent to the SFAS 142 transition period are recorded 'above-the-line' in operating income.

money stock option holdings and firms' *board of directors' characteristics* on managers' choice to recognize goodwill impairment losses. It is important to examine managers' in-the-money stock option holdings and firms' board of directors' characteristics because the theory (as explained above) suggests that they represent additional forces which affect managers' choice to recognize goodwill impairment losses.

Second, unlike Beatty and Weber (2006), the focus of this study is managers' reporting choices with respect to impairment losses following the adoption of SFAS 142 as opposed to the SFAS 142 transition period impairment losses. As noted earlier, the SFAS 142 transition period impairment charges were regarded as losses from a change in accounting principles and provided a one-time 'below-the-line' treatment while impairment losses subsequent to the SFAS 142 transition period are recorded 'above-the-line' in operating income. It is important to examine goodwill impairment losses subsequent to initial application of SFAS 142 because impairment losses subsequent to the transitional period are less likely to be affected by the managerial incentives specific to the transitional period. In the period subsequent to the transition to SFAS 142, the intensity and nature of managerial incentives and other determinants of impairment losses can change. Additionally, prior research shows that investors place a higher valuation weight on recurring earnings than on special items (e.g., Elliott and Hanna, 1996). This implies that the study of goodwill impairment losses subsequent to the transition period is both important and timely. As a result, in my main analyses, I focus on goodwill impairment losses subsequent to the transition period. However, I do analyze the transition period write-offs as an additional test (Section 6.1).

Overall, the results suggest that while managers with substantial holdings of in-the-money options are reluctant to recognize impairment losses, strong boards constrain this incentive. Thus, I contribute to the stream of accounting choice literature which examines how multiple forces affect accounting choice, and address one of the questions posed by Fields, Lys, and Vincent (2001) of how multiple and often conflicting forces affect accounting choice.

Given the current trend of increasing managerial discretion allowed under the U.S. GAAP as the FASB continues to move towards ‘fair value accounting’ and ‘principles-based standards’, these results are potentially of interest to standard setters for at least two reasons. First, the results suggest that managerial incentives do affect the implementation of standards that allow for expanded managerial discretion. Second, the results highlight the importance of corporate boards in monitoring of discretion allowed by such standards.

This study proceeds as follows. In section 2, I present background on SFAS 142 and main findings of the prior research. Section 3 provides a description of my hypotheses. Section 4 describes the data and the research methodology. Section 5 describes my empirical results. Section 6 presents the results of additional analyses and I conclude in Section 7.

2. BACKGROUND

2.1. Accounting for Goodwill

Prior to the enactment of SFAS 142, accounting for goodwill was based on APB Opinion No. 17, *Intangible Assets*. Issued in 1970, APB Opinion No. 17 required any goodwill recorded following an acquisition to be amortized over a period not to exceed 40 years. Empirical evidence shows that many companies adopted the 40-year maximum as the useful life in calculating amortization expense to minimize the periodic earnings effect (Duvall et al. 1992). Investors did not regard goodwill amortization expense as value-relevant (e.g., Jennings et al., 1996). Additionally, many companies attempted to neutralize the income effect of goodwill amortization by providing supplementary ‘pro forma’ reports (Huefner and Largay, 2004). The assumption underlying these practices was that goodwill does not necessarily decrease on a regular and systematic basis, which is inconsistent with the requirement of amortizing a fixed amount of goodwill every year.

APB Opinion No.17 called for tests for goodwill impairment at the “enterprise level.” However, it did not detail *when* and *how* to measure the existence or extent of enterprise level goodwill impairment, and it was not precise as to when recognition of impairment is necessary in cases where the unamortized value of goodwill was greater than its economic value. If a group of assets were being tested for impairment and goodwill was related to the asset group, then goodwill was tested for impairment

according to SFAS 121.⁶ Relative to APB Opinion No. 17, SFAS 121 provided more specific guidelines for identifying and measuring impairment at asset group level. However, the concern about SFAS 121 was that its threshold for impairment which was based on undiscounted cash flows might not be sensitive enough to detect existing impairments of goodwill.

The central objective of SFAS 142 is to reflect the underlying economic value of goodwill on their financial statements. SFAS 142 eliminates the amortization of goodwill and requires testing of impairment at least annually, at the reporting unit level.⁷ To test goodwill for impairment, managers must first define their 'reporting units' and then assign the recorded goodwill to reporting units. A reporting unit is defined by FASB as the lowest level of business units for which discrete financial information is available.⁸ Once assignment of goodwill to reporting units is completed, an impairment test is performed at the reporting unit level.

Under SFAS 142, the impairment test is carried out in two steps. In step one, a reporting unit's carrying amount is compared to its fair value. To determine the fair value of a reporting unit, SFAS 142 allows the use of multiple valuation methodologies.⁹ If the reporting unit's carrying amount is less than its fair value, there is no impairment,

⁶ *Accounting for the Impairment of Long-Lived Assets and Long-Lived Assets to be disposed of*

⁷ According to FASB guidelines, interim testing between annual tests is necessary if there is: (i) market decline, (ii) a regulatory action concerning the company's business, (iii) a change in legal environment which impacts the company, (iv) unexpected competition, (v) loss of key personnel, (vi) expectation to sell or dispose a reporting unit.

⁸ Reporting units can be the firm's operating segments identified under SFAS 131 or a component of an operating segment (SFAS 142, paragraph 30).

⁹ "Board members generally agreed that each of these methods (market capitalization, discounted cash flow, residual income valuation, cash flow return on investment, and economic value added) could be used to determine the fair value of a reporting unit..." (SFAS 142, paragraph 71).

and the test is complete. If the reporting unit's carrying amount exceeds its fair value, then a potential impairment exists, and the company follows the procedures of the second step.

In step two, the company estimates the *implied* fair value of the reporting unit's goodwill by subtracting estimated fair values of the reporting unit's identifiable net assets from the reporting unit's estimated fair value. The difference is compared with the carrying amount of the goodwill. If the implied fair value is greater than the carrying amount of the goodwill, goodwill is not impaired and there is no impairment loss. If the implied fair value is less than the carrying amount of the goodwill, the company must record an impairment write-off equal to the difference.

While SFAS 142 forces managers to perform a goodwill impairment test every year, it also provides them with several important accounting choices. The first accounting choice is the managerial flexibility with respect to the definition of reporting units. Under SFAS 142, a reporting unit does not have to be a specific component, division, branch or subsidiary.

The second accounting choice provided by SFAS 142 is the managerial discretion with respect to the assessment of fair values, both at the level of reporting unit as a whole and at the level of net assets that comprises the reporting unit. In order to come up with fair value of reporting units both as a whole and as composition of identifiable assets, managers must use their judgment to forecast future performance, choose a proper discount rate, and assess replacement value of assets. Consequently, it has been argued that "management may selectively opt to 'manage earnings' through

cursory, rather than intensive review of goodwill asset impairment” (Massoud and Raiborn, 2003, p. 30). If managers have incentives to maximize or minimize goodwill impairment losses, they can be selective with respect to the underlying assumptions of their definitions of reporting units and fair value calculations in the impairment testing process. Thus, SFAS 142 provides managers with significant accounting discretion with respect to the probability, timing and amount of a loss recognition.

2.2. Prior Literature

Beatty and Weber (2006) examine the determinants of managers’ impairment charge decisions in the SFAS 142 transition period. The authors find that, in the transition period, firms accelerate goodwill impairment charges (and obtain below-the-line accounting treatment) when their income from continuing operations has a higher stock market multiple. They also find that, in the transition period, firms delay impairment losses when their debt covenants are affected by below-the-line items, when they have bonus plans tied to financials, when their CEOs have longer tenure, and when they encounter financial based delisting requirements.

This study differs from Beatty and Weber (2006) in several respects. First, Beatty and Weber (2006) test an association between financial based bonus plans and the transitional goodwill impairment loss. Extending Beatty and Weber (2006), I add the role of both stock option compensation and the board of directors on managers’ choice to recognize goodwill impairment losses subsequent to adoption period.

Second, Beatty and Weber (2006) exclusively examine transitional goodwill impairment charges whereas I focus on goodwill impairment charges subsequent to the

adoption of SFAS 142. As noted earlier, the initial application of SFAS 142 was regarded as losses from a change in accounting principles and provided a one-time below-the-line treatment while impairment losses subsequent to the initial application of SFAS 142 are reflected 'above-the-line' in operating income. Hirschey and Richardson (2003, p.77) observe that 'for many companies, such a one-time chance created a strong incentive to aggressively recognize goodwill impairment losses during fiscal year 2002 (transition period).' Thus, it is important to examine goodwill impairment losses subsequent to initial application of SFAS 142 because impairment losses subsequent to the transitional period are less likely to be affected by the managerial incentives specific to the transitional period. In the period subsequent to the transition to SFAS 142, the intensity and nature of managerial incentives and other determinants of impairment losses can change. While I focus on goodwill impairment losses subsequent to the transition period in my main analyses, I do analyze the transition period write-offs as an additional test (Section 6.1).

Li et al. (2006) report downward revision of expectations and negative abnormal returns on the announcement of goodwill impairment losses. Bens and Heltzer (2006) document a negative market reaction to the announcements of goodwill write-offs during and subsequent to the adoption of SFAS 142. The implication of these results for my study is that if managers are concerned about possible negative repercussions of goodwill impairment losses for equity values, managers may intentionally use their discretion afforded by SFAS 142 to mislead financial statement users regarding the underlying value of reported goodwill.

As goodwill impairment losses are a subset of asset write-offs, the second related literature is the stream of research which examines asset write-offs. Asset write-offs generally result in negative price changes at the announcement (Strong and Meyer, 1987; Elliott and Shaw, 1988; Aboody, 1996; Bartov et al. 1998). Market reactions depend on the cash flow implications of the event leading to the write-off (Bunsis, 1997). Write-offs appear to be reported in the fourth quarter (Elliott and Shaw, 1988; Zucca and Campbell, 1992; Francis et al. 1996), which may be due to the annual audit or managers' strategic choice with respect to the timing of write-offs (Alciatore et al.1998).

Write-off firms tend to perform poorly both prior to and subsequent to the write-off, relative to industry or control groups (Elliott and Shaw, 1988; Rees et al.1996). Majority of write-offs are recorded when earnings were below expectations (Chen, 1991; Chen and Lee, 1995; Riedl, 2004). Some asset write-offs are recorded when earnings exceed expectations (Zucca and Campbell, 1992). Evidence in Strong and Meyer (1987) and Francis et al. (1996) indicates that write-off firms are more likely to have recent changes in management, suggesting that new management "clears the deck" at the beginning of its tenure with the firm. Finally, Riedl (2004) finds that write-offs of long-lived assets reported in post SFAS 121 regime have significantly lower associations with economic factors and higher associations with reporting incentives.

3. HYPOTHESES DEVELOPMENT

3.1. Executives' Incentives

The recognition of goodwill impairments is theoretically a function of economic factors underlying the performance of the firm, reporting incentives of top executives, and oversight of the board of directors over the financial reporting process. In other words, conceptually, if managers detect that the value of a reporting unit's net assets has declined below the carrying value, then they should record a goodwill impairment charge, based on the guidance provided by SFAS 142. However, consistent with the agency theory (Jensen and Meckling 1976), corporate executives, who are agents for equity holders and acting in their own self-interest, may or may not recognize goodwill impairment leading to possible wealth extraction from other parties to the firm. As Massoud and Raiborn (2003) argue, managers have the flexibility to calculate either impairment or non-impairment, based on their selected underlying assumptions. Furthermore, Watts (2003, p.218) recognizes that "assessing impairment (under SFAS 142) requires valuation of future cash flows. Because those future cash flows are unlikely to be verifiable and contractible, they, and valuation based on them, are likely to be manipulated." Agency theory predicts that by using this discretion afforded by the accounting standard, executives will transfer wealth from shareholders to themselves.

Based on the managerial discretion allowed under the impairment approach and on related implications of agency theory, I consider the role of executives' contractual and perceived reporting incentives on their use of discretion to recognize goodwill impairments. Bonus plans (which are directly linked to earnings) provide executives

with incentives to reduce goodwill impairment charges.¹⁰ By using the accounting discretion allowed under SFAS 142 opportunistically, executives may transfer wealth (in the form of higher bonus) from shareholders to themselves. Beatty and Weber (2006) document 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 percent. Focusing on goodwill impairment charges subsequent to the SFAS 142 adoption period, I predict that executives who have earnings-based bonus plans are less inclined to recognize goodwill impairment charges.

I also consider perceived reporting incentives in connection with the stock price effects of goodwill impairments. Recording a goodwill impairment loss is likely to result in a decline in the value of expected future cash flows of the firms and a decrease in stock price. The findings of studies examining the market reaction to goodwill impairments confirm this prediction (Li et al. 2006; Bens and Heltzer, 2006). These studies document a negative market reaction to the announcement of goodwill impairment losses.

Executives are likely to be particularly sensitive about a decrease in the firm's stock price when their options are 'in-the-money.' When option holdings of executives are in the money, any decline in stock price would directly result in a reduction in executives' wealth. Prior research documents that executives with substantial option

¹⁰ Bonus related incentives may not be uniform across firms. In other words, not all executives who have bonus plans may want to maximize reported income. There are generally caps on bonus plans and the effects on future-period earnings (i.e., earnings smoothing incentives) that need to be considered. Below, I consider the role of earnings smoothing incentives.

holdings are more likely to issue misstated accounting information (Cohen et al., 2005; Efendi et al., 2006). Accordingly, I predict that executives who have more in-the-money stock options are less inclined to recognize goodwill impairment charges.

These arguments lead to the first two hypotheses (stated in alternative form):

H₁: Other things being equal, firms whose top executives have higher amounts of earnings based bonuses record lower goodwill impairment losses.

H₂: Other things being equal, firms whose top executives have higher amount of in-the-money exercisable options record lower goodwill impairment losses.

While executives have incentives to understate (or simply not to recognize) goodwill impairments, they may also have incentives to overstate goodwill impairments. Prior literature shows that managers may use reporting discretion to take “big bath” charges and/or to “smooth” earnings (Schipper 1989; Healy and Wahlen 1999). Massoud and Raiborn (2003) argue that executives may decide to record large goodwill write-offs when operations are at a downturn. The rationale of executives would be that taking an impairment loss could not make a significant difference in a period of downward trend. On the other hand, managers may take goodwill impairment losses during the periods in which actual earnings would have been substantially above expectations. In other words, given the subjectivity inherent in annual goodwill impairment testing process under SFAS 142, executives may take higher than the necessary economic impairment when their firms’ earnings are unexpectedly low (bath) and when their firm’s earnings are unexpectedly high (smoothing), misrepresenting the underlying economics of the firm. Thus, the third hypothesis is:

H₃: Other things being equal, firms with unexpectedly low earnings and firms with unexpectedly high earnings record higher goodwill impairment losses.

3.2. Board of Directors' Control

Although managers' incentives to act opportunistically are likely to affect review of goodwill impairments, this behavior should be constrained by the oversight role of boards. Boards of directors are responsible for oversight of the financial reporting process. Prior research documents a positive association between the strength of corporate governance and financial reporting quality. For example, companies with independent members on the board are: (1) less likely to be involved in financial statement fraud (Beasley, 1996), (2) less likely to dismiss their auditor following the receipt of a first-time going concern opinion (Carcello and Neal, 2003), and (3) more likely to have higher audit fees (Abbott et al. 2003). Klein (2002) finds a negative association between board independence and the magnitude of abnormal accruals. Krishnan (2005) documents that the quality of the audit committee is positively associated with the quality of corporate internal control. Finally, Ahmed and Duellman (2006) provide evidence that the quality of the board of directors is associated with conservative reporting choices.

Taken together, these studies imply that effective monitoring by board of directors is likely to reduce managerial opportunism associated with the goodwill impairment review process. This leads to the following hypothesis:

H₄: Other things being equal, there is a positive association between the strength of the board and the amount of recorded goodwill impairment losses.

4. RESEARCH DESIGN

4.1. Sample

Panel A of table 1 outlines the sample selection process. In order to select my sample, I first identify COMPUSTAT firms with a goodwill balance at the beginning of fiscal years 2003 and 2004. Following Beatty and Weber (2006), I restrict the sample to firms with a difference between market and book value of equity that is less than their recorded goodwill, and thereby remove from the sample firms that have a remote probability of having to take a goodwill impairment charge.¹¹ I retain only the firms that have December 31 year-end to ensure that my sample firms have passed the SFAS 142 adoption period. This procedure results in 1,226 firms on COMPUSTAT that are relatively more likely to take goodwill write-offs.

Of the 1,226 firms, I exclude 61 firms that are American Depository Receipts (ADR) firms and 113 firms that do not have necessary data available on COMPUSTAT to run my tests, reducing my sample to 1,052 firms.

I then partition the data based on whether the firms took SFAS 142 write-offs. Of the 1,052 firms that are expected to take SFAS 142 write-off, 133 firms did take a SFAS 142 write-off (“initial write-off sample”) while 919 firms did not take a SFAS 142 write-off (“all potential no write-off sample”). To have a more powerful design and reduce the

¹¹ As explained in Section 2, under SFAS 142, goodwill is tested for impairment using a two-step process which begins with an estimation of the fair value of a reporting unit. The first step is a screen for potential impairment by comparing the reporting unit’s carrying amount to its fair value. If the reporting unit’s carrying amount exceeds its fair value, then a potential impairment exists, and the company follows the procedures of second step to measure the amount of impairment. Ideally, in empirical analyses, one should use reporting unit’s market value to book value to identify firms that are likely to take a write-off. Since reporting units and their ratios of market value to book value are not observable, similar to approach followed by Beatty and Weber (2006) I use firm-wide market to book comparison.

amount of hand-collected data, I match every firm in the initial write-off sample with a firm from the all potential no write-off sample based on year, industry, and size. More specifically, a matched firm is a firm from the dataset all potential no write-off sample which belongs to the same year, has the same two-digit SIC code (at a minimum) and is within 30% of the size (as measured by total assets) of a write-off firm. For three firms in the initial write-off sample, no matching firms exist among all potential no write-off sample with a match on size and industry. These procedures result in a final sample of 260 firms, comprised of 130 write-off firms and 130 matching no write-off firms.

I obtain financial data from COMPUSTAT. The transition period impairments are treated as the effect of accounting change, and therefore, they are not included in Compustat annual data item number 368, “impairments of goodwill”. Thus, I hand-collected the SFAS 142 transition period impairment losses from 10-K reports. For 129 firms, I was able to find executive compensation data (salary, bonus, options, and total compensation) in ExecuComp database. For the remaining 131 firms, I hand-collected the executive compensation data from firms’ proxy statements. Corporate governance data (percentage of inside directors, separate chair, directors who serve over four boards, directors who are active CEOs, outside directors’ ownership percentage, inside directors’ ownership percentage, institutional owners’ percentage) was available through the Corporate Library database for 111 firms. I hand-collected the corporate governance data from firms’ proxy statements for the rest of 149 firms.

Panel B of table 1 details the industry composition of overall sample (domestic firms with a goodwill balance and were likely to take SFAS 142 write-offs). The

industry that is most heavily represented (20 percent of sample observations) is business services.

4.2. Empirical Models

I use the following general model to assess the determinants of goodwill impairment losses:

$$\text{Impair} = f \{ \text{economic determinants, executives' incentives, board characteristics} \}$$

First, I investigate firms' decisions to take SFAS 142 goodwill impairment charge. Because the decision to recognize an impairment charge is a dichotomous choice, I use a dichotomous logistic model. Second, I examine the determinants of the percentage of goodwill that is written off using a tobit model. I use a tobit specification because when data are censored, a tobit specification is appropriate [Greene (2003)]. Since SFAS 142 does not allow for the recognition of increases in the economic value of goodwill, firms that experience an increase in the economic value of their goodwill cannot record such increases, causing my dependent variable to be censored at zero. Specifically, I use the following conditional logistic and tobit regressions to examine the effects of hypothesized incentives and constraints on executives' SFAS 142 reporting choices:

$$\begin{aligned} \text{Impair}_t = & \alpha + \beta_1 \Delta \text{ROA}_t + \beta_2 \Delta \text{Sales}_t + \beta_3 \text{B/M}_t + \beta_4 \text{One Segment}_t + \beta_5 \text{Size}_t \\ & + \beta_6 \text{Bath}_t + \beta_7 \text{Smooth}_t + \beta_8 \text{Debt Ratio}_{t-1} + \beta_9 \text{CEO Change}_t \\ & + \beta_{10} \text{Bonus}_{t-1} + \beta_{11} \text{In the Money Options}_{t-1} + \beta_{12} \text{Inside Director } \%_t \\ & + \beta_{13} \text{Separate Chair}_t + \beta_{14} \text{Directors Over 4 Boards}_t \\ & + \beta_{15} \text{Directors Active CEOs}_t + \beta_{16} \text{Outside Director Ownership } \%_t \\ & + \beta_{17} \text{Inside Director Ownership } \%_t + \beta_{18} \text{Institutional Holdings } \%_t + \varepsilon \quad (1) \end{aligned}$$

$$\begin{aligned}
WO \%_t &= \alpha + \beta_1 \Delta ROA_t + \beta_2 \Delta Sales_t + \beta_3 B/M_t + \beta_4 One\ Segment_t + \beta_5 Size_t \\
&+ \beta_6 Bath_t + \beta_7 Smooth_t + \beta_8 Debt\ Ratio_{t-1} + \beta_9 CEO\ Change_t \\
&+ \beta_{10} Bonus_{t-1} + \beta_{11} In\ the\ Money\ Options_{t-1} \\
&+ \beta_{12} Inside\ Director\ \%_t + \beta_{13} Separate\ Chair_t + \beta_{14} Directors\ Over\ 4\ Boards_t \\
&+ \beta_{15} Directors\ Active\ CEOs_t + \beta_{16} Outside\ Director\ Ownership\ \%_t \\
&+ \beta_{17} Inside\ Director\ Ownership\ \%_t + \beta_{18} Institutional\ Holdings\ \%_t + \varepsilon \quad (2)
\end{aligned}$$

Impair_t: A dichotomous variable equal to one if the firm recorded an annual (non-adoption period) goodwill impairment loss under SFAS 142 at the end of t.

WO %_t: The dollar value of annual (non-adoption period) goodwill impairment loss under SFAS 142 at the end of t divided by the amount of goodwill at the end of t-1.

ΔROA_t: The percent change in return on assets for firm from period t-1 to t.

ΔSales_t: The percent change in sales (COMPUSTAT data item 12) for firm from period t-1 to t.

B/M_t: Book value of equity (COMPUSTAT data item 60) divided by market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

One Segment_t: A dichotomous variable equal to one if the firm has one business segment at the end of t, and zero otherwise (COMPUSTAT segment file).

Size_t: Log of market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

Bath_t: The proxy for “big bath” reporting, equal to the change in firm’s pre-write-off earnings from period t-1 to t, divided by total assets at the end of t-1, if value of this variable negative, and zero otherwise.

Smooth_t: The proxy for “earnings smoothing” reporting, equal to the change in firm’s pre-write-off earnings from period t-1 to t, divided by total assets at the end of t-1, if value of this variable positive, and zero otherwise.

Debt Ratio_{t-1}: Total liabilities (COMPUSTAT data item 181) at the end of t-1 divided by total assets (COMPUSTAT data item 6) at the end of t-1.

CEO Change_t: An indicator variable equal to one if firm experiences a change in CEO from year t-2 to t, and zero otherwise.

Bonus_{t-1}: Value of bonus compensation for the CEO at the end of t-1 divided by CEO’s salary at the end of t-1.

In-the-Money Options_{t-1}: Value of in-the-money exercisable options for the CEO at the end of t-1 divided by CEO’s salary at the end of t-1.

Inside Director %_t: Percentage of directors who are currently employed or have been employed by the firm for the past three years, are related to current management, and/or are related to the firm-founder.

Separate Chair_t: An indicator variable equal to one if the CEO is not chairman of the board, and zero otherwise.

Directors over 4 Boards_t: Sum of all directors with more than 4 corporate directorships on a firm’s board of directors.

Directors Active CEOs_t: Sum of all directors on a board who are active CEOs of public or private companies.

Outside Director Ownership%_t: The common shares held by outside directors divided by total common shares outstanding.

Inside Director Ownership $\%_t$: The common shares held by inside directors divided by total common shares outstanding.

Institutional Holdings $\%_t$: The common shares held by institutional investors divided by total common shares outstanding.

4.2.1. Economic Factors

The reliability of this study's findings depends on the extent to which the research design controls for economic factors driving the phenomena under examination. Consequently, I include proxies for economic factors to capture the underlying value of firm's goodwill. Ideally, all economic factors that influence managers' unbiased expectations regarding the future performance of reporting units' assets should be included. However, this is challenging for at least two reasons. First, managers' expectations are not observable. Second, unless a firm is composed of only one reporting unit, there is no publicly available data at the reporting unit level. Consequently, similar to prior research (Francis et al., 1996; Riedl, 2004; Beatty and Weber, 2006), I use empirical proxies to reflect manager's expectations regarding the future performance of reporting units' assets.

The first set of variables includes the proxies designed to capture economic impairment of goodwill. I include two proxies for economic factors associated with firm-specific prior performance and firm-specific changes in performance. Similar to Francis et al. (1996), I control for firm performance by including the change in return on assets (ΔROA_t). ROA is measured by income before extraordinary items divided by average total assets. The worse the firm's past performance, the higher the likelihood and

magnitude of annual goodwill impairment losses (Francis et al., 1996). Similar to Riedl (2004), $\Delta SALES_t$, the percent change in sales for firm from prior year is included to capture the change in firm performance. Both variables have predicted negative signs.

I include book-to-market ratio (B/M_t) in the model (i) to capture the intensity of the expected economic impairment of goodwill and (ii) to proxy for growth options. Following FASB guidelines, firms with excess amount of book value over market value (both measured at reporting unit level) are more likely to incur goodwill impairment charges. Thus, book-to-market ratio provides an indication of a possible SFAS 142 impairment at the firm level. Furthermore, Beatty and Weber (2006) argue that firms with more growth options are less likely to have impaired goodwill; therefore, they are less likely to take annual goodwill impairment charges. This assumption is plausible because the goodwill impairment test under SFAS 142 requires managers to consider not only backward-looking but also forward-looking information when they evaluate goodwill for impairment. Consequently, I include B/M_t as a forward-looking construct, reflecting the larger information set available to managers. I measure this construct by dividing the book value of equity and market value of equity. I expect a positive association between B/M_t and reported annual goodwill impairment charges.

I include a variable to capture the likelihood of goodwill impairment related to firms' organizational structure ($One\ Segment_t$). At the extreme, for a firm with only one reporting unit, no allocation of goodwill balance among reporting units is necessary. As such, an avenue for opportunistic managerial discretion through goodwill allocation is eliminated for firms with one reporting unit (Beatty and Weber, 2006). Consequently,

firms with one reporting unit might be more likely to record existing goodwill impairment. On the other hand, a firm with more reporting units might incur higher annual goodwill impairment losses because higher complexity of the organization would make it harder to achieve the optimum coordination among asset groups, leading to possible goodwill impairment losses. As a result, I do not predict a sign on *One Segment_t*.

Finally, similar to Francis et al. (1996) and Beatty and Weber (2006), I control for firms' public exposure and any disclosure biases that may arise from it. Thus, I include a measure of the size of the firm. I define *Size_t* as the log of total assets in the year of write-off. I do not predict a sign on *Size_t*.

4.2.2. Proxies for Executives' Incentives

The second group of proxies is designed to incorporate reporting incentives of managers in their decision to recognize annual goodwill impairment losses. To capture the impact of executives' bonus compensation, I include *Bonus_{t-1}*, value of bonus compensation for the CEO at the beginning of the SFAS 142 write-off year divided by CEO's salary at the beginning of the SFAS 142 write-off year. Consistent with my first hypothesis, I expect a negative association between CEOs' bonus compensation and the SFAS 142 write-offs.

To capture the effects of executives' concerns for the value of their stock options, I define *In-the-Money Options_{t-1}*, value of in-the-money exercisable options for the CEO at the beginning of the SFAS 142 write-off year divided by CEO's salary at the beginning of the SFAS 142 write-off year. Consistent with executives' incentives to

support the stock price, thereby the value of their in-the-money exercisable stock options (the second hypothesis), I predict a negative association between SFAS 142 write-offs and this variable.

To incorporate managers' incentives to take big bath charges and/or earnings smoothing behavior, I include proxies for when earnings are unexpectedly high and unexpectedly low. Following Francis et al. (1996) and Riedl (2004), I define the variable $Bath_t$ as follows. I calculate the change in firm's pre-write-off earnings from prior year, and divide it by total assets at the end of prior year. If the value of this variable negative, I include the value as it is. On the other hand, if the value is non-negative, I code it as zero. Similarly, I define the variable $Smooth_t$ as the change in firm's pre-write-off earnings from prior year, divided by total assets at the end of prior year, if value of this variable positive, and zero otherwise. Consistent with hypothesis 3, I expect a positive (negative) sign on $Smooth_t$ ($Bath_t$).

I control for some other reporting incentives identified by prior literature. Consistent with Riedl (2004) and Beatty and Weber (2006), I incorporate into the model a proxy for managers' incentives in relation to the existing debt covenants. On the one hand, managers may follow income-increasing accounting choices in attempt to avoid costly violations of debt covenants. On the other hand, existing debt covenants may introduce higher scrutiny on financial reporting process including the exercise of accounting discretion with respect to SFAS 142 impairment testing. I measure $Debt\ Ratio_{t-1}$ as total liabilities at the beginning of write-off year divided by total assets at the

beginning of write-off year. Because of the competing effects, I do not have a priori prediction on the coefficient of this variable.

Consistent with prior research (Francis et al., 1996; Riedl 2004; Beatty and Weber, 2006), I control for the probability that the decision to recognize a SFAS 142 write-off will be affected by a change in top management. Prior literature suggests that a new CEO may take a more critical examination over the existing assets. This could be the case either because of a shift in firm's strategic focus after the new management or a managerial incentive to attribute potential charges to the prior management with the hope of lowering the benchmark against which the new management will be compared to the prior management. Therefore, I expect that *CEO Change_t* is positively associated with the likelihood of taking SFAS 142 goodwill impairment.

4.2.3. Proxies for Board of Directors' Control

I use five proxies for the effectiveness of board as a monitoring mechanism for managers' choice to recognize existing annual goodwill impairments: (1) percentage of inside directors on the board (*Inside Director %_t*), (2) separation of CEO and chairman positions (*Separate Chair_t*), (3) number of directors serving over four boards (*Directors over 4 Boards_t*), (4) number of directors who are active CEOs (*Directors Active CEOs_t*), and (5) outside director ownership (*Outside Director Ownership %_t*).

I include *Inside Director %_t* and *Separate Chair_t* in the model as surrogates for the independence of board of directors. Prior research provides evidence that one of the most important determinants of directors' effectiveness is their independence from the management. Impaired independence of directors results in less effective oversight,

which may allow executives opportunistically determine the accounting choice with respect to recognition of existing goodwill impairment. As a result, I define *Inside Director %_t* as percentage of directors who are currently employed or have been employed by the firm for the past three years, are related to current management, and/or are related to the firm-founder. *Separate Chair_t* is an indicator variable that takes the value of one if the CEO is not chairman of the board, and zero otherwise. I expect a negative association between *Inside Director %_t* and the SFAS 142 annual impairment charges and positive association between *Separate Chair_t* and the SFAS 142 annual impairment charges.

I measure the sum of all directors with more than four corporate directorships on a firm's board of directors to proxy for the effectiveness of the monitoring by the board of directors. Prior research suggests that serving on numerous boards can result in over-committed directors who may not be effective monitors on any board.¹² Similar to Larcker, Richardson and Tuna (2005), I use a cutoff of four for the number of boards concurrently served as the metric because there is a wide dispersion in the number of board seats held by directors making an alternative metric such as average number of directorships a noisy measure. I expect a negative association between *Directors over 4 Boards_t* and the SFAS 142 annual impairment charges.

As an additional proxy for over-commitment and independence of directors, I include *Directors Active CEOs_t*, which is defined as the sum of all directors on a board

¹² For example, Beasley (1996), Core, Holthausen, and Larcker (1999), Fich and Shivdasani (2006) and Larcker, Richardson and Tuna (2005).

who are active CEOs of other public or private companies. Directors, who are active CEOs may not be optimally independent of management's views. Therefore, this variable serves as an additional proxy for the independence of directors. I expect a negative association between *Directors Active CEOs_t* and the SFAS 142 impairment charges.

I use *Outside Director Ownership %_t*, the percentage of outstanding common shares held by outside directors as a proxy for the strength of their monitoring incentives. Prior research provides evidence that, in general, outside director ownership enhances monitoring incentives of board of directors. For example, larger directors' ownership percentage is associated with lower likelihood of financial statement fraud (Beasley, 1996) and higher bond ratings (Ashbaugh et al. 2004). I expect a positive association between *Outside Director Ownership %_t* and the SFAS 142 impairment charges.

I control for the percentage of ownership held by inside directors because insider ownership may impact accounting choices of the firm. 'Convergence of interests' hypothesis in Jensen (1993) suggests that insider shareholdings help align the interests of shareholders and managers. However, Morck et al. (1988) and Kole (1995) provide evidence that while the convergence of interest hypothesis holds over smaller and larger insider ownership ranges, over the medium insider range (generally 5-25%), there is a negative relation between firm value and insider ownership, which is consistent with 'entrenchment hypothesis'. Over this medium range, private benefits of agency driven

decisions outweigh the costs to insiders in terms of value loss from suboptimal choices. Due to the competing effects, I do not predict a sign on the coefficient of this variable.

I also control for the institutional ownership because prior research views institutional owners as an alternative governance mechanism, which actively or passively monitor management's actions. Shleifer and Vishny (1986) argue that institutional owners, by virtue of their large stockholdings, would have incentives to monitor management since they have greater benefits through this monitoring and have greater voting power which makes it easier to take corrective action when it is necessary. Consistent with this theory, Bhojraj and Sengupta (2003) find that firms that have greater institutional ownership enjoy lower bond yields and higher ratings on their new bond issues. On the other hand, other studies argue that institutional investors have limited incentives to monitor management actions because of free-riding problem (e.g., Admati et al. 1994). Because of the competing theories, I do not have a priori prediction on the coefficient of this variable.

5. RESULTS

5.1. Descriptive Statistics

Table 2 provides descriptive statistics for write-off and no write-off sample.¹³ I find that the mean goodwill write-off is 29% of the beginning of the period goodwill balance. On average, goodwill constitutes 23% of total assets for write-off firms, which does not differ at normal probability levels from the mean of 21.6 % for no write-off firms. As expected given my sample selection criteria, write-off firms match the no write-off firms closely on size and industry specific changes.

Operating performance statistics indicate that neither write-off firms nor no-write-off firms exhibit strong financial performance. This result is expected as the sample selection process retains only those firms which are expected to take a write-off. Furthermore, summary statistics indicate that write-off firms perform poorly relative to the no write-off firms. The median ΔROA_t from the year prior to write-off is -6.4 % for write-off firms versus -0.4% no write-off firms. Reflected also in significantly lower means and medians for $\Delta Sales_t$, write-off firms exhibit worse financial performance relative to no write-off firms. There are no differences between two categories firms in terms of their B/M_t and *One Segment_t*.

Table 2 also presents descriptive statistics related to the variables designed to capture executives' reporting incentives. Compared to no write-off firms, write-off firms have significantly stronger downward trend in their earnings, which is indicated by

¹³ Continuous variables have been winsorized at the top and bottom 1% in order to eliminate the effects of extreme observations. The inferences are similar without any winsorization.

lower $Bath_t$ for these firms. Consistent with prior research, write-off firms have significantly higher rates of CEO turnover within two-year period prior to the write-off. On the other hand, CEOs in no write-off firms, compared to CEOs in write-off firms, have higher values of bonus and in-the-money options as proportion of their salary. $Smooth_t$ and $Debt Ratio_{t-1}$ do not statistically differ between two categories of firms.

Table 2 also provides descriptive statistics related to the governance-related variables. Write-off firms and no write-off firms match very closely on board size and the percentage of institutional ownership. No write-off firms, however, have significantly less independent boards, with 31.4% inside directors as compared to 22.4% for write-off firms. Similarly, no write-off firms, compared to write-off firms, have higher incidence of CEOs also holding the title of chairman titles (34.6% of no write-off firms and 56.1% of write-off firms have CEO and chair separation). The number of directors who serve over four boards is higher in no write-off firms, compared to write-off firms, indicating that the extent of over-commitment on the part of directors differs across two categories of firms. While outside director ownership percentage is significantly higher in write-off firms, inside director ownership percentage is significantly higher in no write-off firms. There are no differences between write-off and no write-off firms in terms of the number of active CEOs serving on their boards.

Table 3 presents Pearson correlations among variables. Several of the reporting incentives-related variables ($Bath_t$, $Bonus_{t-1}$, and $In-the-Money Options_{t-1}$) are correlated with SFAS 142 impairment charges in the predicted direction. Majority of governance variables ($Inside Director \%_b$, $Separate Chair_b$, $Directors over 4 Boards_b$, and $Outside$

Director Ownership%) are also correlated with SFAS 142 impairment charges in the predicted direction.

5.2. Determinants of the Decision to Take an SFAS 142 Write-off

Table 4 presents the results of the logistic regression examining the determinants of the decision to take an SFAS 142 write-off. The likelihood ratio Chi-square is statistically significant at the 0.001 probability level. The pseudo R-square is 41%.

I find that the probability of taking an SFAS 142 goodwill write-off is higher for firms that have poorer financial performance as indicated by significantly negative signs on ΔROA_t and $\Delta Sales_t$. As expected, firms with higher B/M_t are more likely to take a write-off. I also find that firms that are larger are more likely to take a write-off. However, there is no association between *One Segment*_{*t*} and the likelihood of taking a write-off.¹⁴

For the reporting incentive proxies, *Bonus*_{*t-1*} is significantly negative, providing evidence consistent with my first hypothesis. I find that CEOs with greater bonus values in relation to their salary in the year prior to the write-off are less likely to take SFAS 142 write-offs. This result is consistent with Beatty and Weber (2006) in that managers behave as if they expect their bonus plans will be affected by recognizing SFAS 142 write-offs.

Providing strong support for my second hypothesis, *In-the-Money Options*_{*t-1*} is highly significant with a Chi-square statistic of 4.914 (significant at the 0.01 level). The

¹⁴ As explained in Section 6, I alternatively include a continuous measure of the segment variable (number of segments) and obtain similar results.

marginal effects on *In-the-Money Options*_{*t-1*} indicate that for a one standard deviation increase in this variable, other things equal, the odds of a firm taking a SFAS 142 write-off are decreased by 32.6%.¹⁵ This result is consistent with the negative prediction implied by Efendi et al. (2006) and Cohen et al. (2005). The results from these two papers indicate that executives with substantial option holdings have incentives to issue misstated accounting information. The results from my analysis indicate that executives postpone goodwill impairment charges in order to protect their wealth in their option holdings.

*Smooth*_{*t*} is significantly positive indicating that firms are more likely to take SFAS 142 write-offs when they have unusually high earnings. Although the downward trend in earnings (*Bath*_{*t*}) is negatively associated with the likelihood of taking SFAS 142 write-off as expected, it is not statistically significant. Overall, I find only partial support for my third hypothesis.

I also find a statistically significant positive coefficient on the *CEO Change*_{*t*} variable, consistent with prior literature (e.g. Francis et al., 1996; Riedl, 2004). When there is a change in senior management, firms are more likely to take SFAS 142 goodwill impairment charges. The coefficient on *Debt Ratio*_{*t-1*} is negative and

¹⁵ I also examine whether the results for compensation-related variables (bonus and in the money options) are sensitive to the choice of the scaling factor. Alternatively, I deflate each compensation variable by *Total Compensation*_{*t-1*}, where Total Compensation is defined as all compensation including option grants. The mean and median values of Bonus_{*t-1*} to Total Compensation_{*t-1*} and In the Money Options_{*t-1*} to Total Compensation_{*t-1*} are significantly larger for no write-off firms, compared to the write-off firms. In untabulated sensitivity analyses, I re-run my regression models using Bonus_{*t-1*} to Total Compensation_{*t-1*} and In the Money Options_{*t-1*}. The results from these analyses are essentially similar to those reported in tables 4 and 5. However, scaling by salary rather than total compensation is more appropriate for my tests because I have separate hypotheses for incentives related to bonuses and options. Since salary includes none of those components, it provides cleaner tests for my hypotheses.

insignificant, consistent with the result for the related variable in Beatty and Weber (2006).

Consistent with the fourth hypothesis, the results indicate strong associations between the likelihood of taking SFAS 142 write-offs and firms' governance characteristics. The coefficient on *Inside Director %_t* is negative and significant at the 1% level. In terms of economic significance, for a one standard deviation increase in *Inside Director %_t*, other things equal, the odds of a firm taking a SFAS 142 write-off are decreased by 25.3%. The coefficient on *Separate Chair_t* is positive and significant at 5% level. These results are consistent with the notion that the decision to recognize SFAS 142 goodwill impairment is associated with higher director independence.

I also find that the number of directors who serve over four boards is negatively related to the likelihood of taking a write-off implying that over-commitment on the part of directors decreases the amount of monitoring received from these directors. For a one standard deviation increase in *Directors Over 4 Boards_t*, other things equal, the odds of a firm taking a SFAS 142 write-off are decreased by 40.2%.

The coefficient on *Directors Active CEOs_t* is also negative as expected but it is not statistically significant. This is most likely because of the high correlation between this variable and *Directors over 4 Boards_t*. Consistent with my prediction that monitoring incentives of outside directors are positively associated with the decision to take a SFAS 142 write-off, the coefficient on *Outside Director Ownership%_t* is positive and significant at 1% level. Specifically, for a one standard deviation increase in *Outside*

Director Ownership $\%_t$, other things equal, the odds of a firm taking a SFAS 142 write-off are increased by 35.8%.

The coefficient on *Inside Director Ownership* $\%_t$ is negative and insignificant implying that insider ownership is not associated with SFAS 142 write-off decisions. The coefficient on *Institutional Holdings* $\%_t$, as a control for an alternative governance mechanism, is also negative and insignificant. This result indicates that institutional owners do not seem to play an active monitoring role in executives' decisions to recognize SFAS 142 write-offs.

5.3. Determinants of the Percentage of Goodwill Written off

Table 5 reports the results of the censored regression (tobit) model examining the determinants of the percentage of goodwill written off. This analysis yields similar results to those reported in the logistic analysis. There are three differences between the results of two types of analyses. First, the variable of downward trend in earnings (*Bath*_{*t*}) becomes highly significant in the predicted direction in the censored regression. Second, the dichotomous variable *Separate Chair*_{*t*} is insignificant in the censored regression. This is consistent with the notion that while the incidence of CEO and chair separation affects the decision to take a write-off, it does not affect the extent of goodwill written off. Finally, the coefficient on $\Delta Sales_t$ is insignificant while it has the predicted sign.

6. ADDITIONAL ANALYSES

6.1. Changes Analyses

In the previous section, I provide evidence that in the years subsequent to the adoption of SFAS 142, the likelihood of recognizing the existing impairment losses (equation 1) and the amount of goodwill written off (equation 2) are (1) positively associated with the strength of firms' corporate governance, and (2) negatively associated with the executives' holdings of in-the-money stock options and bonuses.

Although equations (1) and (2) permit testing the hypothesized associations, they have two potential limitations. First, the choices that firms make in the transition period may impact firms' decisions to take impairment charges in the subsequent periods, and it is possible that the differences between the write-off and no write-off firms (as presented in Section 5) might be driven by the impact of firms' transition period choices on the subsequent period. More specifically, the SFAS 142 transition period provides firms with three reporting options: in the transition period, firms could choose to (1) report existing impairment losses in a timely and unbiased manner; (2) accelerate impairment charges ("transition period-accelerated firms") and obtain below the line treatment (thereby avoid future charges to core earnings); (3) delay impairment charges ("transition period-delayed firms"), potentially indefinitely, but face the risk of recognizing impairment losses as a charge to their core earnings. Thus, an important question is whether the write-off firms in my sample are predominantly "transition period-delayed firms," and the no write-off firms are predominantly "transition period-

accelerated firms”. If it is the case, the results presented in Section 5 might be driven by firms’ transition period choices.

The second limitation is that equations (1) and (2) do not address the issue of why the write-off firms did not take a below-the-line write-off in the transition period but chose to wait and recognize a charge to core earnings in the subsequent period.

In order to address these issues, I categorize the sample firms based on their choices across the SFAS 142 transition and post-transition periods. Then, for each category, I examine what changes occur in various aspects of firm economics, compensation variables, and governance structures in the period leading up to the post-adoption period SFAS 142 write-off.

As presented in table 6, I identify the following categories of firms based on the interaction of their choices across SFAS 142 transition and post-transition periods:

(1) *Timely write-off* firms are the firms that (a) were *expected*¹⁶ to take a write-off both in the transition and the subsequent period and *did take* write-offs both in the transition and subsequent periods, and (b) were *not expected* to take a write-off in the transition period and *did not take* a write-off in the transition period; and were *expected* to take a write-off in the subsequent period and *did take* a write-off in the subsequent period (categories a and b represent 75 out of 130 write-off firms).

¹⁶ As explained in Section 4, the expectation model that I use to identify the firms that are likely to take write-off is based on the firm-wide market to book comparison, similar to approach followed by Beatty and Weber (2006). A firm is expected to take a write-off, if the difference between its market value and book value is less than its recorded goodwill.

(2) *Delayed write-off* firms are the firms that were *expected* to take a write-off in the transition period; *did not take* a write-off in the transition period but took a write-off in the subsequent period (55 out of 130 write-off firms).

(3) *Postponing* (no write-off) firms are the firms that (a) were *expected* to take a write-off in the transition period, and *did not take* a write-off in the transition and subsequent periods; (b) were *expected* to take a write-off in the subsequent period, and *did not take* a write-off in the subsequent periods (categories a and b represent 123 out of 130 no write-off firms).

(4) *Acceleration* (no write-off) firms are firms that were not expected to take a write-off in the transition period; did take a substantial write-off in the transition period; and did not take a write-off in the subsequent period (7 out of 130 no write-off firms).

The results of descriptive analyses on the change in governance variables (reported in table 7) indicate that during the era from the SFAS 142 transition period to the subsequent period, there have been more favorable changes in corporate governance structures of the *write-off* firms, compared to that of *no write-off* firms. On average, write-off firms, compared to no write-off firms, were more active in reducing the percentage of inside directors, the number of busy directors, and the number of directors who are active CEOs (p value of 0.05 or better). Similarly, in the same period, more write-off firms compared to no write-off firms separated their Chairman and CEO positions (p value of 0.001). These favorable changes in governance structures occurred to a greater extent in *delayed write-off* firms compared to the *timely write-off* firms.

Table 7 shows that in the period from t-2 to t-1, the mean change in the value of in-the-money options is significantly positive for no write-off firms while it is negative for write-off firms. The mean change in bonus values is significantly positive for timely write-off firms and for each category of no write-off firms while it is negative for delayed write-off firms. These results are consistent with the notion that executives' motivation to protect the value of their compensation plays an important role in firms' decisions to recognize SFAS 142 write-offs.

Table 7 also shows that in the period prior to the write-off, both *timely write-off* and *delayed write-off* firms experience a CEO change more than each category of no write-off firms did. Additionally, the results show that the mean CEO change variable for *delayed write-off* firms is higher than that for *timely write-off* firms. This result suggests that one of the reasons why the *delayed write-off* firms do not take a below-the-line write-off in the transitional period but take an above-the-line write-off in subsequent period is the change in reporting strategy introduced by new CEOs in such firms.

Additionally, I perform multivariate tests using the following changes specifications:

$$\begin{aligned}
 \Delta \text{Impair}_t = & \alpha + \beta_1 \Delta \text{ROA}_t + \beta_2 \Delta \text{Sales}_t + \beta_3 \Delta \text{B/M}_t + \beta_4 \Delta \text{Size}_t \\
 & + \beta_5 \text{Bath}_t + \beta_6 \text{Smooth}_t + \beta_7 \Delta \text{Debt Ratio}_{t-1} + \beta_8 \text{CEO Change}_t \\
 & + \beta_9 \Delta \text{Bonus}_{t-1} + \beta_{10} \Delta \text{In the Money Options}_{t-1} \\
 & + \beta_{11} \Delta \text{Inside Director \%}_t + \beta_{12} \Delta \text{Separate Chair}_t \\
 & + \beta_{13} \Delta \text{Directors Over 4 Boards}_t + \beta_{14} \Delta \text{Directors Active CEOs}_t \\
 & + \beta_{15} \Delta \text{Outside Director Ownership \%}_t + \beta_{16} \Delta \text{Inside Director Ownership \%}_t \\
 & + \beta_{17} \Delta \text{Institutional Holdings \%}_t + \varepsilon
 \end{aligned} \tag{3}$$

$$\begin{aligned}
\Delta WO \%_t = & \alpha + \beta_1 \Delta ROA_t + \beta_2 \Delta Sales_t + \beta_3 \Delta B/M_t + \beta_4 \Delta Size_t \\
& + \beta_5 Bath_t + \beta_6 Smooth_t + \beta_7 \Delta Debt Ratio_{t-1} + \beta_8 CEO Change_t \\
& + \beta_9 \Delta Bonus_{t-1} + \beta_{10} \Delta In the Money Options_{t-1} \\
& + \beta_{11} \Delta Inside Director \%_t + \beta_{12} \Delta Separate Chair_t \\
& + \beta_{13} \Delta Directors Over 4 Boards_t + \beta_{14} \Delta Directors Active CEOs_t \\
& + \beta_{15} \Delta Outside Director Ownership \%_t + \beta_{16} \Delta Inside Director Ownership \%_t \\
& + \beta_{17} \Delta Institutional Holdings \%_t + \varepsilon
\end{aligned} \tag{4}$$

$\Delta Impair_t$: A dichotomous variable equal to one if the firm recorded a goodwill impairment loss under SFAS 142 at the end of t and did not record a goodwill impairment loss under SFAS 142 at the end of t-1, zero otherwise.

$\Delta WO \%_t$: Annual change in the dollar value goodwill impairment loss under SFAS 142 at the end of t divided by the amount of goodwill at the end of t-1.

ΔROA_t : The percent change in return on assets for firm from period t-1 to t.

$\Delta Sales_t$: The percent change in sales (COMPUSTAT data item 12) for firm from period t-1 to t.

$\Delta B/M_t$: Annual change in book value of equity (COMPUSTAT data item 60) to market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

$\Delta Size_t$: Annual change in log of market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

$Bath_t$: The proxy for “big bath” reporting, equal to the change in firm’s pre-write-off earnings from period t-1 to t, divided by total assets at the end of t-1, if value of this variable negative, and zero otherwise.

Smooth_t: The proxy for “earnings smoothing” reporting, equal to the change in firm’s pre-write-off earnings from period t-1 to t, divided by total assets at the end of t-1, if value of this variable positive, and zero otherwise.

ΔDebt Ratio_{t-1}: Annual change in total liabilities (COMPUSTAT data item 181) divided by total assets (COMPUSTAT data item 6) at the end of t-1.

CEO Change_t: An indicator variable equal to one if firm experiences a change in CEO from year t-2 to t, and zero otherwise.

ΔBonus_{t-1}: Change in the ratio of CEO’s bonus compensation to CEO’s salary from the end of t-2 to the end of t-1.

ΔIn-the-Money Options_{t-1}: Change in the ratio of in-the-money exercisable options for the CEO to CEO’s salary from the end of t-2 to the end of t-1.

ΔInside Director %_t: Annual change in the percentage of directors who are currently employed or have been employed by the firm for the past three years, are related to current management, and/or are related to the firm-founder.

ΔSeparate Chair_t: Annual change in the indicator variable *Separate Chair* which is equal to one if the CEO is not chairman of the board, and zero otherwise.

ΔDirectors over 4 Boards_t: Annual change in sum of all directors with more than 4 corporate directorships on a firm’s board of directors.

ΔDirectors Active CEOs_t: Annual change in sum of all directors on a board who are active CEOs of public or private companies.

ΔOutside Director Ownership%_t: Annual change in the ratio of the common shares held by outside directors to total common shares outstanding.

Δ *Inside Director Ownership* $\%_t$: Annual change in the ratio of the common shares held by inside directors to total common shares outstanding.

Δ *Institutional Holdings* $\%_t$: Annual change in the ratio of the common shares held by institutional investors to total common shares outstanding.

The estimation results for the changes models, presented in tables 8 and 9, are consistent with the results of the descriptive analyses and the levels models. The results presented in table 8 provide evidence that Δ *Inside Director* $\%_t$, Δ *Separate Chair*, Δ *Directors over 4 Boards*, and Δ *Outside Director Ownership* $\%_t$ are significant (p value of 0.01 or less) in explaining the change in the likelihood of SFAS 142 write-off decision. The coefficient on Δ *Directors Active CEOs* $_t$ is statistically insignificant indicating that the change in number of directors who are active CEOs is not associated with the change in change in the likelihood of SFAS 142 write-off decision.

The coefficients on Δ *Bonus* $_{t-1}$ and Δ *In-the-Money Options* $_{t-1}$ are negative and statistically significant, suggesting that firms are less likely to change their SFAS 142 behavior to write-off decision from no write-off decision when there are positive changes in their CEO compensation variables in the prior period.

The coefficients on the control variables generally have the predicted signs. As expected, positive changes in ROA and sales are associated with negative changes in SFAS 142 behavior (to no write-off decision from write-off decision). Although the change in book to market ratio has the predicted sign, it is not statistically significant at conventional levels in explaining the change in the likelihood of SFAS 142 write-off

decision. Similarly, the coefficients on $Bath_t$ and $Smooth_t$ are as expected but have no significance at conventional levels.

Table 9 reports the results of the Ordinary Least Squares regression model examining the determinants of the change in percentage of goodwill written off. This analysis yields similar results to those reported in table 8. Major differences between the results of two types of analyses are as follows. First, the variable of downward trend and upward trend in earnings ($Bath_t$ and $Smooth_t$) are highly significant in the predicted direction. Second, the variables $CEO\ Change$ and $\Delta\ Outside\ Director\ Ownership\ \%_t$ is insignificant in this model. This is consistent with the notion that while the change in CEO and the change in stock ownership of outside directors impact the change in decision to take a write-off, these variables do not affect the change in percentage of goodwill written off.

To summarize, the results of descriptive analyses and changes models provide evidence that annual change in governance variables of main interest are generally significant ($p\ value$ of 0.10 or better) in predicted direction in explaining the change in the likelihood of SFAS 142 write-off decision. These results are consistent with the notion that favorable changes in corporate governance induce firms to take SFAS 142 impairment losses which managers avoided taking in the transition period.

The results of frequency analysis (partitioning sample firms by whether they did take transition period write-offs or not and by whether they did take subsequent period write-offs or not) imply that transition period charges may affect firms' propensity to take a write-off in the subsequent period. More specifically, for 55 firms in write-off

sample which delayed the recognition of the transition period charges, it is plausible that their transition period behavior significantly affected their likelihood of taking a write-off in the subsequent period. Similarly, for 7 firms in the no write-off sample which accelerated the recognition of the transition period charges, it is plausible that their transition period behavior significantly affected their likelihood of not taking a write-off in the subsequent period. These firms together make up of 24% of the sample. Thus, for about 24% of the sample, transition period charges may affect firms' propensity to take a write-off in the subsequent period. Although this analysis suggests that the results are unlikely to be driven by the firms' transition period choices, I control for firms' transition period behavior in the primary multivariate analyses.

In order to control for firms' transition period choices, I define four variables: (1) *transition write-off*_{*t-1*} : an indicator variable 1 if the firm recognized a SFAS 142 transition period write-off, 0 otherwise, (2) *transition write-off %*_{*t-1*} : the amount of SFAS 142 transition period write-off as a proportion of beginning of the period goodwill, (3) *acceleration no write-off firm*: an indicator variable which is equal to 1 if the firm is of *acceleration no write-off firm* category, 0 otherwise, and (4) *delayed write-off firm*: an indicator variable which is equal to 1 if the firm is of *delayed write-off firm* category and 0 otherwise. The coefficients on *transition write-off*_{*t-1*} and *transition write-off %*_{*t-1*} are unclear *a priori*. Consistent with the prior literature (Francis et al. 1996), firms that recognize write-offs may recognize additional write-offs in the post-transition period. This would imply positive coefficients on *transition write-off*_{*t-1*} and *transition write-off %*_{*t-1*}. On the other hand, if firms accelerate SFAS 142 transition period write-

offs then they are less likely to recognize post-transition period SFAS 142 write-offs. This would imply negative coefficients on *transition write-off*_{*t-1*} and *transition write-off* %_{*t-1*}.

Table 10 presents descriptive statistics relating to SFAS 142 transition period write-off variables across *write-off* and *no write-off* sub-samples. Approximately, 25% of write-off firms recognize transition period charges while 16% of no write-off firms transition period charges. The transition period charges are, on average, 15% of the beginning of the period goodwill for write-off firms and 13% of the beginning of the period goodwill for no write-off firms.

I re-estimate equation (1) alternatively incorporating two transition period related variables as additional factors: (1) *transition write-off*_{*t-1*} and (2) indicator variables of *acceleration no write-off firm* and *delayed write-off firm*. Table 11 presents the results of this analysis, which are similar to those previously reported. The coefficient estimate on *transition write-off*_{*t-1*} is positive and not significant at conventional levels. Alternative specifications incorporating indicator variables of *acceleration no write-off firm* and *delayed write-off firm* (excluding *transition write-off*_{*t-1*}) produce similar results.

Additionally, I re-estimate equation (2) alternatively incorporating two transition period related variables as additional factors: (1) *transition write-off* %_{*t-1*} and (2) transition period charges of *acceleration no write-off firm* and *delayed write-off firm*. The results in table 12 are similar to those previously reported. The coefficient estimate on *transition write-off*%_{*t-1*} is positive and significant at the 10% level. The coefficients on the variables of interest are essentially similar to those reported earlier except that

$Bonus_{t-1}$ is not significant at conventional levels. Other specifications including transition charge variables of *acceleration no write-off firm* and *delayed write-off firm* (excluding *transition write-off_{t-1}*) produce similar results. Overall, the results are robust to inclusion of the variables which capture firms' transition period behavior.

6.2. Alternative Explanations

A firm with poor performance over the past several periods is more likely to take a goodwill write-off because of underlying economics. Managers of such firms are also likely to receive low bonuses, and so a negative relation between bonuses and write-offs can result not necessarily because of reporting incentives but because of poor performance over a sustained period. I attempt to disentangle these competing explanations by re-estimating equation (1) and equation (2) incorporating two measures of accounting and stock price performance as additional economic factors: (1) $\Delta ROA5_t$, measured as the mean change in firm's return on assets ratio over firm's fiscal years t-5 to t-1, and (2) $Return5_t$, measured as the mean of firm's stock return over firm's fiscal years from t-5 to t-1. I follow Francis et al. (1996) and Riedl (2004) in choosing my proxies for past accounting and stock price performance. Assuming that these metrics capture long-term economic performance, the predicted sign for each variable is negative.

The results reported in tables 13 and 14 indicate that past economic performance variables have negative associations with the likelihood and amount of SFAS 142 write-offs, however, only $Return5_t$ is significant at conventional levels. *In the Money Options_{t-1}* continues to have negative associations with the likelihood and amount of SFAS 142

write-offs (p-value of 0.05 or better) in all specifications incorporating past performance variables. $Bonus_{t-1}$ has negative associations with the likelihood and amount of SFAS 142 write-offs in specifications incorporating $\Delta ROA5_t$. However, $Bonus_{t-1}$ has no significant associations with the likelihood and amount of SFAS 142 write-offs at conventional significance levels in specifications incorporating $Return5_t$. Alternative specifications incorporating these variables [e.g. replacing ΔROA_t and $\Delta ROA5_t$ with $Return_t$ (the mean of firm's stock return over firm's fiscal year t) and $Return5_t$] result in similar inferences (not reported). Additionally, using return of the 12-month period ending three months following the firm's fiscal year end does not alter the inferences.

In his discussion of Beatty and Weber (2006), Bens (2006) notes the possibility of a self-selection issue involving the bonus variable and the likelihood of SFAS 142 write-off recognition. According to this argument, firms with earnings-based bonus plans may be less likely to take an impairment charge because such firms may have lesser amount of goodwill to begin with. In order to address this possibility, I examine the relation between bonus values and goodwill balances in the year prior to the write-off. The results indicate that firms with above the median $bonus_{t-1}$, on average, have significantly higher $goodwill_{t-1}$ balances than firms with below the median $bonus_{t-1}$, which runs counter to above argument. Thus, the results on the compensation variables are unlikely to be driven a relation between any of the compensation variables and goodwill balances.¹⁷

¹⁷ Since the same argument can be considered for *In the Money Options*_{t-1} variable as well, I perform the same analysis for this variable. Similarly, the results indicate that firms with above the median *In the*

6.3. Additional Control Variables and Specification Checks

Although current regulations prohibit auditors from conducting SFAS 142 impairment testing for their clients, auditors may constrain some of managerial discretion by requiring their clients hire independent consultants to estimate related fair values. I add auditors' role in SFAS 142 write-off decisions by incorporating two variables: (1) $\Delta Auditor_t$: An indicator variable which is equal to 1 if the firm experienced auditor change in the year prior to the write-off, 0 otherwise and (2) $Big4_t$: An indicator variable coded as 1 if the firm employs a Big-4 auditor and zero otherwise.

The results of multivariate analyses, as reported in table 15, indicate an insignificant negative relation between auditor change and the likelihood of SFAS 142 write-off and an insignificant positive relation between $Big4_t$ and the likelihood of SFAS 142 write-off.

Across alternative specifications (with and without auditor-related variables) the parameters and significance levels on the other variables remain similar to those reported earlier. Hence, the results do not appear to be driven by auditors' role in SFAS 142 write-off decisions.

Based on a sample of acquisitions made during the APB Opinion No. 17 era (1988-1998), Hayn and Hughes (2006) find that the characteristics of the original acquisitions relative to the subsequent financial performance of acquired businesses are more powerful predictors of eventual goodwill write-offs. Because overpayments due to

*Money Options*_{t-1}, on average, have significantly higher *goodwill*_{t-1} balances than firms with below the median *In the Money Options*_{t-1}.

the driving the price up in the process of bidding or poor negotiation skills may be additional factors in recognizing goodwill impairment losses, I control for the acquisitions in the year of write-off. I define *Acquisition_t* which is an indicator variable equal to 1 if the firm has acquisitions during the sample year, and 0 otherwise.

The results of estimating equation (1) with *Acquisition_t*, as shown in table 16, indicate that firms that acquire other companies during the year are more likely to recognize SFAS 142 impairment losses (p value of 0.08). However, *Acquisition_t* is not significantly related to the amount of SFAS 142 write-off. Additionally, inclusion of the acquisition control does not alter the main inferences.

As an additional control variable, I include a continuous measure for the number of segments (*Segments_t*). The number of segments is likely to be negatively associated with the likelihood of recognizing SFAS 142 impairment losses if managers use the discretion afforded by SFAS 142 to offset the existing impairment losses of various reporting units. However, this variable may also capture the complexity of the entity. The more complex the entity (greater number of segments), the harder it is to coordinate synergies arising from acquisitions, leading to more impairment charges. Therefore, I do not predict a sign on *Segments_t*.

The results of re-estimating equation (1) and equation (2) after including *Segments_t* are presented in table 17. They show that *Segments_t* variable is not significantly related to the likelihood of SFAS 142 write-offs. However, *Segments_t* variable is positively and significantly related to the amount of SFAS 142 write-offs.

This suggests that $Segments_t$ is more likely capturing the underlying economics of the firm as opposed to the managerial reporting incentives.

I control for option holding of directors by including variable $Director\ Options_{t-1}$, which is measured as the directors' stock option holdings in the firm in the year prior to the write-off divided by their total compensation from the firm in the year prior to the write-off. The option holdings may provide directors with incentives to become more effective monitors. On the other hand, option holdings may cause directors' interests to be aligned with managers' interests to report more favorable results in order to protect the value of the options. Consequently, I do not predict a sign on $Director\ Options_{t-1}$.

The results of the descriptive analyses show that directors of *write-off* firms have significantly less option holdings as a proportion of their compensation than the directors of *no write-off* firms (5% and 11%, respectively). Additionally, as table 18 shows, $Director\ Options_{t-1}$ is negatively related to the likelihood of recognizing the existing impairment losses. However, there is no significant association between $Director\ Options_{t-1}$ and the amount of impairment losses. Thus, there is a weak evidence of the notion that option holdings cause directors' interests to be aligned with managers' interests to report more favorable results.

6.4. Robustness Tests

In order to see robustness of the results to the issues arising from multi-period nature of write-offs, I examine a sub-sample which excludes 7 firms that accelerated SFAS 142 write-offs in the adoption year (along with the matching sample firms). I re-estimate equation (1) and equation (2) after omitting 7 firms (and their matching pairs)

that have accelerated goodwill write-offs in the adoption period. As shown in table 19, I find that results are qualitatively similar to those reported earlier.

47 firms out of 260 firms in my sample have experienced recent CEO changes. When firms experience CEO changes, there is usually a change in compensation of their CEO, which potentially introduces a measurement error in the compensation data. In order to address the concern regarding measurement error in the compensation data for those firms with CEO changes, I exclude firms with CEO changes (along with the matching sample firms) and re-run the analyses. I re-estimate Equation (1) and Equation (2) after omitting 47 firms (and their matching pairs) that have recent CEO changes. As shown in table 20, for the logistic analyses, I find that results are essentially similar to those reported earlier. However, the coefficients on bonus and in the money options are only marginally significant in the tobit specification.

In summary, the evidence I present in this section provides further support for the result that likelihood of recognizing the existing impairment losses is positively related to the firms' strength of governance and negatively related to managers' holdings of in-the-money stock options and bonuses.

7. CONCLUSION

This study examines factors that influence managers' choice to recognize goodwill impairment in the years subsequent to the adoption of SFAS 142, which is considered in some scholars as a step in the move towards principles-based standards (Schipper, 2003). The debate surrounding SFAS 142's effectiveness centered on whether the managerial discretion allowed by the standard could lead to biased decisions in managers' determination of goodwill impairment.

I find that executives' reporting incentives affect their decision to take SFAS 142 write-offs, consistent with criticisms of the standard. Specifically, write-offs reported under SFAS 142 have strong negative associations with bonus grants and in-the-money option holdings of firms' executives. I also find a strong association between firms' decision to take SFAS 142 write-offs and the strength of their corporate governance, as measured by percentage of outside directors, percentage of outside directors' ownership, and separation of CEO and Chair titles. These inferences hold after controlling for firm-specific variables, industry variables and other determinants of asset write-offs. Overall, the results imply that managerial incentives do affect the implementation of principles-based standards and highlight the importance of corporate boards in the monitoring of discretion allowed by such standards.

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APPENDIX A
VARIABLE DEFINITIONS

Impair_t: A dichotomous variable equal to one if the firm recorded an annual (non-adoption period) goodwill impairment loss under SFAS 142 at the end of t.

WO %_t: The dollar value of annual (non-adoption period) goodwill impairment loss under SFAS 142 at the end of t divided by the amount of goodwill at the end of t-1.

ΔROA_t: The percent change in return on assets for firm from period t-1 to t.

ΔSales_t: The percent change in sales (COMPUSTAT data item 12) for firm from period t-1 to t.

B/M_t: Book value of equity (COMPUSTAT data item 60) divided by market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

One Segment_t: A dichotomous variable equal to one if the firm has one business segment at the end of t, and zero otherwise (COMPUSTAT segment file).

Size_t: Log of market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

ΔIndROA_t: The median change in firm's industry return on assets from period t-1 to t, where industry is defined at the two-digit SIC level.

Bath_t: The proxy for "big bath" reporting, equal to the change in firm's pre-write-off earnings from period t-1 to t, divided by total assets at the end of t-1, if value of this variable negative, and zero otherwise.

Smooth_t: The proxy for "earnings smoothing" reporting, equal to the change in firm's pre-write-off earnings from period t-1 to t, divided by total assets at the end of t-1, if value of this variable positive, and zero otherwise.

Debt Ratio_{t-1}: Total liabilities (COMPUSTAT data item 181) at the end of t-1 divided by total assets (COMPUSTAT data item 6) at the end of t-1.

CEO Change_t: An indicator variable equal to one if firm experiences a change in CEO from year t-2 to t, and zero otherwise.

Bonus_{t-1}: Value of bonus compensation for the CEO at the end of t-1 divided by CEO's salary at the end of t-1.

In-the-Money Options_{t-1}: Value of in-the-money exercisable options for the CEO at the end of t-1 divided by CEO's salary at the end of t-1.

Inside Director %_t: Percentage of directors who are currently employed or have been employed by the firm for the past three years, are related to current management, and/or are related to the firm-founder.

Separate Chair_t: An indicator variable equal to one if the CEO is not chairman of the board, and zero otherwise.

Directors over 4 Boards_t: Sum of all directors with more than 4 corporate directorships on a firm's board of directors.

Directors Active CEOs_t: Sum of all directors on a board who are active CEOs of public or private companies.

Outside Director Ownership %_t: The common shares held by outside directors divided by total common shares outstanding.

Inside Director Ownership %_t: The common shares held by inside directors divided by total common shares outstanding.

Institutional Holdings %_t: The common shares held by institutional investors divided by total common shares outstanding.

Transition write-off_{t-1}: An indicator variable 1 if the firm recognized a SFAS 142 transition period write-off, 0 otherwise.

Transition write-off %_{t-1}: The amount of SFAS 142 transition period write-off as a proportion of beginning of the period goodwill

Acceleration no write-off: An indicator variable 1 if the firm is of acceleration no write-off firm, 0 otherwise.

Delayed write-off: An indicator variable 1 if the firm is of delayed write-off firm and 0 otherwise.

ΔROA₅: Mean change in firm's return on assets ratio over firm's fiscal years t-5 to t-1.

Return₅: Mean of firm's stock return over firm's fiscal years from t-5 to t-1.

Δ Auditor_t: An indicator variable which is equal to 1 if the firm experienced auditor change in the year prior to the write-off, 0 otherwise.

Big4_t: An indicator variable coded as 1 if the firm employs a Big-4 auditor and zero otherwise.

Acquisition_t: An indicator variable equal to 1 if the firm has acquisitions during the sample year, and 0 otherwise.

Segments_t: Number of segments at the end of t.

Director Options_{t-1}: Directors' stock option holdings in the firm in the year prior to the write-off divided by their total compensation from the firm in the year prior to the write-off.

Δ *Impair_t*: A dichotomous variable equal to one if the firm recorded a goodwill impairment loss under SFAS 142 at the end of t and did not record a goodwill impairment loss under SFAS 142 at the end of t-1, zero otherwise.

Δ *WO %_t*: Annual change in the dollar value goodwill impairment loss under SFAS 142 at the end of t divided by the amount of goodwill at the end of t-1.

Δ *B/M_t*: Annual change in book value of equity (COMPUSTAT data item 60) to market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

Δ *Size_t*: Annual change in log of market value of equity (COMPUSTAT data item 199 * COMPUSTAT data item 25) at the end of t.

Δ *Debt Ratio_{t-1}*: Annual change in total liabilities (COMPUSTAT data item 181) divided by total assets (COMPUSTAT data item 6) at the end of t-1.

CEO Change_t: An indicator variable equal to one if firm experiences a change in CEO from year t-2 to t, and zero otherwise.

Δ *Bonus_{t-1}*: Change in the ratio of CEO's bonus compensation to CEO's salary from the end of t-2 to the end of t-1.

Δ *In-the-Money Options_{t-1}*: Change in the ratio of in-the-money exercisable options for the CEO to CEO's salary from the end of t-2 to the end of t-1.

Δ *Inside Director %*_t: Annual change in the percentage of directors who are currently employed or have been employed by the firm for the past three years, are related to current management, and/or are related to the firm-founder.

Δ *Separate Chair*: Annual change in the indicator variable *Separate Chair* which is equal to one if the CEO is not chairman of the board, and zero otherwise.

Δ *Directors over 4 Boards*_t: Annual change in sum of all directors with more than 4 corporate directorships on a firm's board of directors.

Δ *Directors Active CEOs*_t: Annual change in sum of all directors on a board who are active CEOs of public or private companies.

Δ *Outside Director Ownership%*_t: Annual change in the ratio of the common shares held by outside directors to total common shares outstanding.

Δ *Inside Director Ownership%*_t: Annual change in the ratio of the common shares held by inside directors to total common shares outstanding.

Δ *Institutional Holdings %*_t: Annual change in the ratio of the common shares held by institutional investors to total common shares outstanding.

APPENDIX B**TABLES**

TABLE 1
Sample

Panel A: Sample Selection and Data Sources

		Number of Firms
<i>Initial sample</i>		
Firms on the COMPUSTAT database that have goodwill balances in 2003 or in 2004 and are relatively more likely to take goodwill write-offs		1,226
Less:		
ADR's (CRSP share codes of 30 or 31)	61	
Firms that do not have necessary data available on COMPUSTAT	<u>113</u>	
Domestic firms that have goodwill balances, are relatively more likely to take goodwill write-offs, and have available COMPUSTAT data		1,052
<i>Partition</i>		
Firms that are expected to take a SFAS 142 write-off and <i>did</i> take a SFAS 142 write-off; " <i>initial write-off sample</i> "	133	
Firms that are expected to take SFAS 142 write-off and <i>did not</i> take a SFAS 142 write-off ; " <i>all potential no write-off firms</i> "	<u>919</u>	
		1,052
<i>Matching Procedure</i>		
Firms that are expected to take a SFAS 142 write-off and <i>did</i> take a SFAS 142 write-off; " <i>write-off firms</i> "	130	
Firms that are expected to take SFAS 142 write-off and <i>did not</i> take a SFAS 142 write-off; " <i>no write-off firms</i> "	<u>130</u>	
Total number of firms in the study		260
<i>Other Data Sources</i>		
Executive Compensation		
Available from ExecuComp database	129	
Hand collected from proxy statements	<u>131</u>	
Corporate Governance		
Available from the Corporate Library database	111	
Hand collected from proxy statements	<u>149</u>	
Total number of firms in the study		260

TABLE 1 (Continued)

Panel B: Industry and Year Composition

SIC Code and Industry Description	Number of Firms	% of Sample
10 Oil and Gas Extraction	6	2.3%
17 Special trade contractors	6	2.3%
20 Food and kindred products	2	0.8%
22 Textile mill products	2	0.8%
23 Apparel and other textile products	2	0.8%
27 Printing, publishing and allied industries	2	0.8%
28 Chemicals and allied products	10	3.8%
30 Rubber and miscellaneous plastics products	2	0.8%
32 Stone, clay, glass, and concrete products	2	0.8%
33 Primary metal industries	8	3.1%
34 Fabricated metal products	2	0.8%
35 Industrial machinery and equipment	14	5.4%
36 Electrical and electronic equipment; except computer eq.	24	9.2%
37 Transportation equipment	2	0.8%
38 Measuring, analyzing, controlling and instruments	6	2.3%
39 Miscellaneous manufacturing industries	4	1.5%
48 Communications	16	6.2%
49 Electric, gas, and sanitary services	2	0.8%
50 Wholesale trade-durable goods	14	5.4%
51 Wholesale trade-nondurable goods	8	3.1%
53 General merchandise stores	2	0.8%
55 Automotive dealers and gasoline service stations	4	1.5%
58 Eating and drinking places	8	3.1%
59 Miscellaneous retail	6	2.3%
61 Nondepository credit institutions	2	0.8%
62 Security, commodity brokers, and services	6	2.3%
63 Insurance carriers	8	3.1%
67 Holding and other investment offices	2	0.8%
72 Personal services	2	0.8%
73 Business services	52	20.0%
75 Automotive repair, services, and parking	4	1.5%
78 Motion pictures	8	3.1%
79 Amusement and recreational services	4	1.5%
80 Health, educational, social, and engineering services	6	7.0%

TABLE 2
Descriptive Statistics

	<u>Mean</u>	<u>Std. Dev.</u>	<u>Min</u>	<u>25 Percentile</u>	<u>Median</u>	<u>75 Percentile</u>	<u>Max</u>	<u>t-test (p-value)</u>	<u>Wilcoxon (p-value)</u>
<i>WO%</i> _t									
Write-off firms	0.293	0.248	0.719	0.504	0.242	0.057	0	13.61	14.670
No write-off firms	0	0	0	0	0	0	0	(0.001)	(0.001)
<i>Goodwill_t / Assets_t</i>									
Write-off firms	0.234	0.168	0.001	0.102	0.200	0.345	0.745	-0.820	1.074
No write-off firms	0.216	0.175	0.001	0.069	0.191	0.311	0.745	(0.415)	(0.283)
<i>Assets_t (in millions)</i>									
Write-off firms	4,750	15,202	10	98	394	2,055	103,878	-0.190	0.214
No write-off firms	4,408	13,460	12	99	391	1,802	103,878	(0.848)	(0.831)
<i>Δ ROA_t</i>									
Write-off firms	-0.096	0.139	-0.349	-0.202	-0.064	-0.011	0.164	4.430	-6.600
No write-off firms	-0.004	0.082	-0.350	-0.028	0.001	0.025	0.164	(0.001)	(0.001)
<i>Δ Sales_t</i>									
Write-off firms	-0.015	0.177	-0.328	-0.136	0.002	0.074	0.366	1.970	-1.807
No write-off firms	0.024	0.161	-0.328	-0.068	0.027	0.110	0.366	(0.060)	(0.071)
<i>B/M_t</i>									
Write-off firms	1.192	1.115	0.168	0.731	0.925	1.250	7.250	-0.920	-0.568
No write-off firms	1.091	0.589	0.355	0.790	0.937	1.210	4.834	(0.361)	(0.569)
<i>One Segment_t</i>									
Write-off firms	0.100	0.301	0	0	0	0	1	0.650	0.652
No write-off firms	0.076	0.267	0	0	0	0	1	(0.250)	(0.257)
<i>Change in Industry ROA_t</i>									
Write-off firms	0.005	0.018	-0.014	-0.002	0.002	0.006	0.172	-0.370	-0.376
No write-off firms	0.004	0.010	-0.015	-0.002	0.002	0.009	0.024	(0.713)	(0.707)

TABLE 2 (Continued)

	<u>Mean</u>	<u>Std. Dev.</u>	<u>Min</u>	<u>25 Percentile</u>	<u>Median</u>	<u>75 Percentile</u>	<u>Max</u>	<u>t-test (p-value)</u>	<u>Wilcoxon (p-value)</u>
<i>Bath_t</i>									
Write-off firms	-0.046	0.087	-0.597	-0.056	-0.003	0	0	2.480	-2.268
No write-off firms	-0.024	0.056	-0.406	-0.021	0	0	0	(0.013)	(0.016)
<i>Smooth_t</i>									
Write-off firms	0.084	0.237	0	0	0	0.069	1.777	-1.080	-0.378
No write-off firms	0.057	0.154	0	0	0.005	0.034	1.359	(0.140)	(0.352)
<i>Debt Ratio_t</i>									
Write-off firms	0.518	0.226	0.056	0.332	0.536	0.681	1.012	-0.330	0.318
No write-off firms	0.509	0.215	0.056	0.346	0.519	0.679	1.012	(0.742)	(0.751)
<i>CEO Change_t</i>									
Write-off firms	0.307	0.463	0	0	0	1	1	-5.140	4.905
No write-off firms	0.070	0.254	0	0	0	1	1	(0.001)	(0.001)
<i>Bonus_{t-1}</i>									
Write-off firms	0.621	1.138	0	0	0.108	0.663	5.333	2.710	-5.367
No write-off firms	1.051	1.405	0	0.251	0.583	1.094	6.450	(0.007)	(0.001)
<i>In the Money Options_{t-1}</i>									
Write-off firms	0.716	2.134	0	0	0	0.153	10.342	5.120	-7.789
No write-off firms	4.294	10.039	0	0.130	0.809	3.572	60.128	(0.001)	(0.001)

TABLE 2 (Continued)

	<u>Mean</u>	<u>Std. Dev.</u>	<u>Min</u>	<u>25 Percentile</u>	<u>Median</u>	<u>75 Percentile</u>	<u>Max</u>	<u>t-test (p-value)</u>	<u>Wilcoxon (p-value)</u>
<i>Board Size_t</i>									
Write-off firms	7.985	2.196	4	6	8	9	15	-0.060	-0.126
No write-off firms	7.969	1.917	5	7	8	9	15	(0.951)	(0.900)
<i>Inside Director %_t</i>									
Write-off firms	0.224	0.127	0	0.142	0.222	0.333	0.600	5.810	-5.359
No write-off firms	0.314	0.132	0.100	0.167	0.233	0.340	0.667	(0.001)	(0.001)
<i>Separate Chair_t</i>									
Write-off firms	0.561	0.498	0	0	0	1	1	-3.560	3.480
No write-off firms	0.346	0.478	0	0	0	1	1	(0.001)	(0.001)
<i>Directors Over 4 Boards_t</i>									
Write-off firms	0.662	1.016	0	0	0	1	5	3.890	-4.138
No write-off firms	0.961	1.164	0	0	1	1	5	(0.001)	(0.001)
<i>Directors Active CEOs_t</i>									
Write-off firms	1.430	1.452	0	0	1	2	6	-0.230	-0.513
No write-off firms	1.392	1.185	0	1	1	2	6	(0.815)	(0.304)
<i>Outside Director Ownership %_t</i>									
Write-off firms	0.067	0.121	0	0.001	0.015	0.076	0.589	-2.450	3.683
No write-off firms	0.035	0.090	0	0	0.003	0.020	0.589	(0.015)	(0.001)
<i>Inside Director Ownership %_t</i>									
Write-off firms	0.074	0.115	0	0.001	0.031	0.087	0.588	3.020	-3.751
No write-off firms	0.122	0.139	0	0.021	0.057	0.193	0.588	(0.003)	(0.001)
<i>Institutional Holdings %_t</i>									
Write-off firms	0.358	0.341	0	0	0.282	0.691	0.970	0.580	-0.769
No write-off firms	0.382	0.334	0	0	0.332	0.679	0.970	(0.564)	(0.442)

TABLE 3
Correlation Analysis

	1	2	3	4	5	6	7	8	9	10	11
<i>1 Impair_t</i>	1										
<i>2 WO %_t</i>	0.65 (0.01)	1									
<i>3 Bath_t</i>	-0.15 (0.01)	-0.23 (0.01)	1								
<i>4 Smooth_t</i>	0.07 (0.28)	0.04 (0.52)	0.17 (0.01)	1							
<i>5 Bonus_{t-1}</i>	-0.17 (0.01)	-0.17 (0.01)	0.16 (0.01)	-0.01 (0.97)	1						
<i>6 Options_{t-1}</i>	-0.21 (0.01)	-0.16 (0.01)	0.1 (0.09)	-0.01 (0.98)	0.14 -0.02	1					
<i>7 Inside Director %_t</i>	-0.34 (0.01)	-0.26 (0.01)	0.17 (0.01)	-0.06 (0.36)	0.12 (0.06)	0.13 (0.04)	1				
<i>8 Separate Chair_t</i>	0.22 (0.01)	0.14 (0.02)	-0.04 (0.50)	0.05 (0.42)	-0.20 (0.01)	-0.09 (0.14)	-0.03 (0.66)	1			
<i>9 Directors Over 4 Boards_t</i>	-0.24 (0.01)	-0.19 (0.01)	0.07 (0.24)	-0.01 (0.87)	0.07 (0.24)	0.02 (0.63)	-0.04 (0.52)	-0.13 (0.03)	1		
<i>10 Directors Active CEOs_t</i>	0.01 (0.82)	0.01 (0.97)	0.02 (0.79)	0.01 (0.89)	0.19 (0.01)	0.02 (0.70)	-0.09 (0.13)	-0.01 (0.88)	0.38 (0.01)	1	
<i>11 Outside Director Ownership %_t</i>	0.15 (0.02)	0.07 (0.28)	-0.12 (0.06)	-0.06 (0.33)	-0.1 (0.1)	-0.08 (0.21)	-0.12 (0.05)	0.05 (0.45)	0.12 (0.05)	-0.1 (0.12)	1

TABLE 4
Factors Influencing the Likelihood of SFAS 142 Goodwill Impairment Recognition
(Dichotomous Logistic Regression Model)

Coefficients and test statistics from the estimation of the SFAS 142 write-off decision (logistic) for a matched sample of 260 firms, which were all expected to take a write-off. The dependent variable, $impair_t$, is write-off firm (1) versus matched no write-off firm (0). Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses. Coefficient estimates are standardized on the respective independent variables. Percent change is the change in odds and equal to $(odds\ ratio - 1) * 100$.

<u>Variable</u>	<u>Pred.</u>	<u>Std. Coef. Estimate</u>	<u>Percent Change</u>	<u>Chi-sqr. Value</u>	<u>p-value</u>
Intercept	?			4.436	0.035
Economic Factors					
ΔROA_t	-	-0.808	-55.4%	18.175	0.001
$\Delta Sales_t$	-	-0.143	-13.3%	1.828	0.088
B/M_t	+	0.205	22.7%	2.710	0.050
$One\ Segment_t$?	0.110	11.6%	1.201	0.137
$Size_t$?	0.528	69.6%	10.588	0.001
Reporting Incentives					
$Bath_t$	-	-0.078	-7.5%	0.303	0.291
$Smooth_t$	+	0.452	57.2%	9.710	0.001
$Debt\ Ratio_{t-1}$?	-0.132	-12.3%	1.679	0.195
$CEO\ Change_t$	+	0.317	37.3%	7.477	0.003
$Bonus_{t-1}$	-	-0.156	-14.4%	1.782	0.090
$In\ the\ Money\ Options_{t-1}$	-	-0.395	-32.6%	4.914	0.013
Corporate Governance					
$Inside\ Director\ \%_t$	-	-0.292	-25.3%	7.233	0.004
$Separate\ Chair_t$	+	0.185	20.3%	3.405	0.033
$Directors\ Over\ 4\ Boards_t$	-	-0.515	-40.2%	18.838	0.001
$Directors\ Active\ CEOs_t$	-	0.049	5.1%	0.179	0.336
$Outside\ Director\ Ownership\ \%_t$	+	0.306	35.8%	7.021	0.004
$Inside\ Director\ Ownership\ \%_t$?	-0.168	-15.4%	2.096	0.148
$Institutional\ Holdings\ \%_t$?	-0.152	-14.1%	1.501	0.220

TABLE 5
Factors Influencing the Percentage of Goodwill Written off
(Tobit Model)

Coefficients and test statistics from the estimation of the percentage of goodwill written off (tobit regression) for a matched sample of 260 firms. The dependent variable, $WO\%_t$, is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year. Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses.

<u>Variable</u>	<u>Pred.</u>	<u>Coef.</u> <u>Estimate</u>	<u>t value</u>	<u>p-value</u>
Intercept	?	0.124	1.14	0.256
Economic Factors				
ΔROA_t	-	-1.378	-8.790	0.001
$\Delta Sales_t$	-	-0.062	-0.510	0.305
B/M_t	+	0.038	1.630	0.052
<i>One Segment_t</i>	?	0.014	0.200	0.840
<i>Size_t</i>	?	0.039	2.740	0.006
Reporting Incentives				
<i>Bath_t</i>	-	-0.663	-2.110	0.017
<i>Smooth_t</i>	+	0.733	6.020	0.001
<i>Debt Ratio_{t-1}</i>	?	-0.023	-0.240	0.810
<i>CEO Change_t</i>	+	0.082	1.610	0.053
<i>Bonus_{t-1}</i>	-	-0.026	-1.340	0.091
<i>In the Money Options_{t-1}</i>	-	-0.013	-2.530	0.006
Corporate Governance				
<i>Inside Director %_t</i>	-	-0.510	-2.990	0.002
<i>Separate Chair_t</i>	+	0.032	0.760	0.183
<i>Directors Over 4 Boards_t</i>	-	-0.079	-3.900	0.001
<i>Directors Active CEOs_t</i>	-	0.017	0.990	0.160
<i>Outside Director Ownership %_t</i>	+	0.421	2.300	0.011
<i>Inside Director Ownership %_t</i>	?	-0.113	-0.600	0.549
<i>Institutional Holdings %_t</i>	?	-0.029	-0.400	0.690

TABLE 6
Multi-Period Analyses

Panel A: Flow Chart of SFAS 142 Transition and Subsequent Period Choices

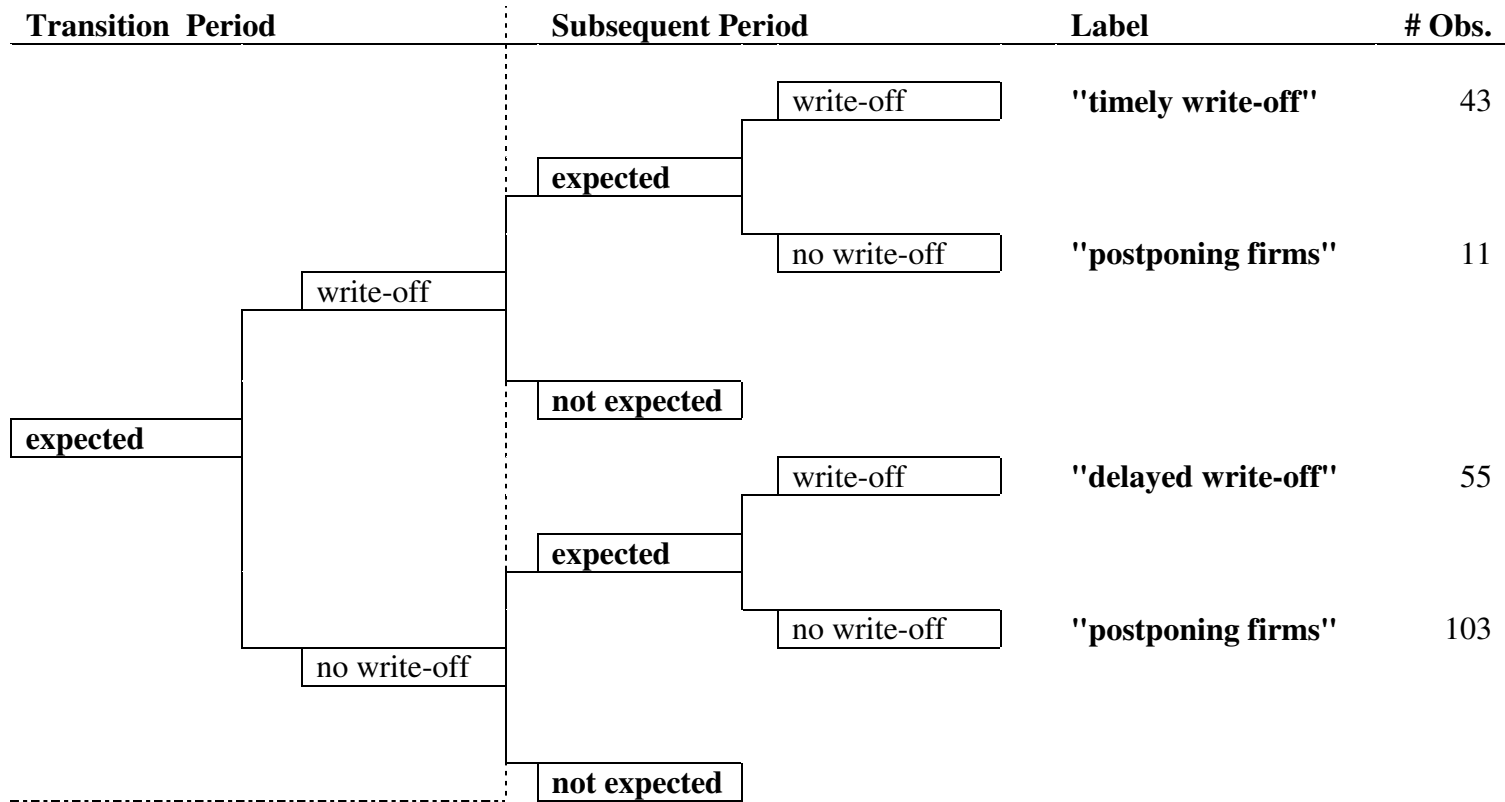


TABLE 6 (Continued)

Panel B: Flow Chart of SFAS 142 Transition and Subsequent Period Choices

Transition Period	Subsequent Period	Label	# Obs.
	write-off	"acceleration"	0
	expected		
	no write-off	"acceleration"	7
write-off			
not expected	not expected		
	write-off	"timely write-off"	32
	expected		
	no write-off	"postponing firms"	9
no write-off			
	not expected	total	260

TABLE 6 (Continued)

Panel C: Frequency analysis

	Number of firms	Number of firms
"Timely write-off"	75	
"Delayed write-off"	55	
Total write-off firms		130
"Postponing (no write-off)"	123	
"Acceleration (no write-off)"	7	
Total no write-off firms		130
Total firms		260

(1) *Timely write-off* firms are the firms that (a) were *expected*¹⁸ to take a write-off both in the transition and the subsequent period and *did take* write-offs both in the transition and subsequent periods, and (b) were *not expected* to take a write-off in the transition period and *did not take* a write-off in the transition period; and were *expected* to take a write-off in the subsequent period and *did take* a write-off in the subsequent period (categories a and b represent 75 out of 130 write-off firms).

(2) *Delayed write-off* firms are the firms that were *expected* to take a write-off in the transition period; *did not take* a write-off in the transition period but took a write-off in the subsequent period (55 out of 130 write-off firms).

(3) *Postponing* (no write-off) firms are the firms that (a) were *expected* to take a write-off in the transition period, and *did not take* a write-off in the transition and subsequent periods; (b) were *expected* to take a write-off in the subsequent period, and *did not take* a write-off in the subsequent periods (categories a and b represent 123 out of 130 no write-off firms).

(4) *Acceleration* (no write-off) firms are firms that were not expected to take a write-off in the transition period; did take a substantial write-off in the transition period; and did not take a write-off in the subsequent period (7 out of 130 no write-off firms).

¹⁸ A firm is expected to take a write-off, if the difference between its market value and book value is less than its recorded goodwill.

TABLE 7
Descriptive Statistics of Change Variables

	<u>Mean</u>	<u>Std. Dev.</u>	<u>Min</u>	<u>25 Percentile</u>	<u>Median</u>	<u>75 Percentile</u>	<u>Max</u>	<u>t-test* (p-value)</u>
<i>Bath_t</i>								
Timely write-off firms	-0.036	0.069	-0.345	-0.050	0	0	0	2.480
Delayed write-off firms	-0.044	0.070	-0.305	-0.067	-0.010	0	0	(0.013)
Postponing firms	-0.026	0.057	-0.406	-0.027	0	0	0	
Acceleration firms	-0.115	0.226	-0.590	-0.213	0	0	0	
<i>Smooth_t</i>								
Timely write-off firms	0.119	0.288	0	0	0.012	0.094	1.777	-1.080
Delayed write-off firms	0.050	0.143	0	0	0.005	0.049	0.993	(0.140)
Postponing firms	0.045	0.147	0	0	0	0.026	1.359	
Acceleration firms	0.153	0.181	0	0	0.082	0.199	0.521	
<i>ΔBonus_{t-1}</i>								
Timely write-off firms	0.061	0.527	-0.870	-0.063	0	0.216	0.980	2.370
Delayed write-off firms	-0.125	0.564	-0.870	-0.718	-0.037	0.055	0.980	(0.005)
Postponing firms	0.119	0.460	-0.870	-0.047	0.007	0.411	0.980	
Acceleration firms	0.170	0.830	-0.870	-0.850	0	0.960	0.980	
<i>ΔIn the Money Options_{t-1}</i>								
Timely write-off firms	-0.090	0.212	-1.000	-0.900	-0.119	0	1.060	5.020
Delayed write-off firms	-0.282	0.337	-1.000	-0.890	-0.347	0	1.060	(0.001)
Postponing firms	0.150	0.171	-1.000	0	0.120	0.654	1.060	
Acceleration firms	0.230	0.560	-1.000	-0.900	0.548	1.020	1.060	

* Tests for differences in means of write-off (timely and delayed) and no write-off (postponing and acceleration) firms.

TABLE 7 (Continued)

	<u>Mean</u>	<u>Std. Dev.</u>	<u>Min</u>	<u>25 Percentile</u>	<u>Median</u>	<u>75 Percentile</u>	<u>Max</u>	<u>t-test (p-value)</u>
<i>ΔInside Director %_t</i>								
Timely write-off firms	-0.083	0.154	-0.633	-0.125	-0.056	0	0.500	5.900
Delayed write-off firms	-0.110	0.131	-0.527	-0.154	-0.092	0	0.260	(0.001)
Postponing firms	-0.018	0.065	-0.303	0	0	0	0.223	
Acceleration firms	0.033	0.076	-0.047	0	0	0.130	0.151	
<i>ΔSeparate Chair_t</i>								
Timely write-off firms	0.081	0.567	-1	0	0	0	1	-4.610
Delayed write-off firms	0.210	0.562	-1	0	0	1	1	(0.001)
Postponing firms	-0.097	0.392	-1	0	0	0	1	
Acceleration firms	0	0.577	-1	0	0	0	1	
<i>ΔDirectors Over 4 Boards_t</i>								
Timely write-off firms	0.081	0.975	-2	0	0	0	5	2.850
Delayed write-off firms	-0.232	1.008	-3	-1	0	0	3	(0.003)
Postponing firms	0.203	0.799	-2	0	0	0	4	
Acceleration firms	0.428	0.786	0	0	0	1	2	
<i>ΔDirectors Active CEOs_t</i>								
Timely write-off firms	-0.189	0.805	-3	0	0	0	3	1.400
Delayed write-off firms	-0.161	0.803	-3	0	0	0	2	(0.080)
Postponing firms	-0.089	0.652	-3	0	0	0	4	
Acceleration firms	0.428	0.534	0	0	0	1	1	
<i>ΔOutside Director Ownership%_t</i>								
Timely write-off firms	0.014	0.067	-0.160	0	0	0.012	0.303	-4.450
Delayed write-off firms	0.024	0.065	-0.090	0	0	0.025	0.391	(0.001)
Postponing firms	-0.005	0.026	-0.241	0	0	0	0.020	
Acceleration firms	0.009	0.088	-0.097	-0.057	0	0.050	0.180	

TABLE 8
Changes Analyses to Examine the Factors Influencing the Likelihood of
SFAS 142 Goodwill Impairment Recognition

Coefficient estimates and test statistics from the estimation of the *change* in SFAS 142 write-off decision (logistic) for a sample of 260 firms, which were all expected to take a write-off. The dependent variable, Δimpair_t , is a dichotomous variable equal to one if the firm recorded a goodwill impairment loss under SFAS 142 at the end of t and did not record a goodwill impairment loss under SFAS 142 at the end of $t-1$, zero otherwise. Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses. Coefficient estimates are standardized on the respective independent variables. Percent change is the change in odds and equal to $(\text{odds ratio} - 1) * 100$.

<u>Variable</u>	<u>Pred.</u>	<u>Std. Coef.</u> <u>Estimate</u>	<u>Percent</u> <u>Change</u>	<u>Chi-sqr.</u> <u>Value</u>	<u>p-value</u>
Intercept	?			38.746	0.001
Economic Factors					
ΔROA_t	-	-0.306	-26.4%	5.634	0.009
$\Delta Sales_t$	-	-0.106	-10.0%	1.794	0.090
$\Delta B/M_t$	+	0.059	6.1%	0.345	0.278
$\Delta Size_t$?	0.029	3.0%	0.073	0.787
Reporting Incentives					
$Bath_t$	-	-0.027	-2.6%	0.068	0.397
$Smooth_t$	+	0.127	11.9%	1.373	0.121
$\Delta Debt Ratio_{t-1}$?	-0.173	-15.9%	3.630	0.057
$CEO Change_t$	+	0.214	23.9%	5.282	0.010
$\Delta Bonus_{t-1}$	-	-0.121	-11.4%	1.774	0.091
$\Delta In the Money Options_{t-1}$	-	-0.172	-15.8%	3.745	0.027
Corporate Governance					
$\Delta Inside Director \%_t$	-	-0.493	-38.9%	19.931	0.001
$\Delta Separate Chair_t$	+	0.220	24.6%	5.411	0.010
$\Delta Directors Over 4 Boards_t$	-	-0.342	-29.0%	13.074	0.001
$\Delta Directors Active CEOs_t$	-	-0.095	-9.1%	1.085	0.149
$\Delta Outside Director Ownership \%_t$	+	0.315	37.1%	7.011	0.004
$\Delta Inside Director Ownership \%_t$?	-0.172	-15.8%	2.516	0.113
$\Delta Institutional Holdings \%_t$?	-0.071	-6.8%	0.684	0.408

TABLE 9
Changes Analyses to Examine the Factors Influencing
the Percentage of Goodwill Written off

Coefficients and test statistics from the estimation of the *change* in percentage of goodwill written off (OLS regression) for a matched sample of 260 firms. The dependent variable, $\Delta \text{WO}\%$, is the annual change in dollar value of SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year. Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses.

<u>Variable</u>	<u>Pred.</u>	<u>Coef.</u>		<u>p-value</u>
		<u>Estimate</u>	<u>t value</u>	
Intercept	?	0.033	1.970	0.050
Economic Factors				
ΔROA_t	-	-0.921	-8.520	0.001
ΔSales_t	-	-0.013	-1.090	0.137
$\Delta \text{B/M}_t$	+	0.145	1.810	0.036
ΔSize_t	?	-0.047	-1.840	0.067
Reporting Incentives				
Bath_t	-	-0.578	-2.890	0.002
Smooth_t	+	0.156	1.860	0.032
$\Delta \text{Debt Ratio}_{t-1}$?	0.002	0.300	0.766
CEO Change_t	+	0.011	0.330	0.370
$\Delta \text{Bonus}_{t-1}$	-	-0.014	-1.320	0.094
$\Delta \text{In the Money Options}_{t-1}$	-	-0.004	-2.510	0.006
Corporate Governance				
$\Delta \text{Inside Director } \%$	-	-0.255	-2.230	0.013
$\Delta \text{Separate Chair}_t$	+	0.035	1.270	0.100
$\Delta \text{Directors Over 4 Boards}_t$	-	-0.036	-2.430	0.008
$\Delta \text{Directors Active CEOs}_t$	-	-0.004	-0.210	0.420
$\Delta \text{Outside Director Ownership } \%$	+	0.050	0.210	0.417
$\Delta \text{Inside Director Ownership } \%$?	0.045	0.240	0.406
$\Delta \text{Institutional Holdings } \%$?	-0.050	-0.670	0.251

TABLE 10
Descriptive Statistics of Additional Control Variables

	<u>Mean</u>	<u>Std Dev</u>	<u>Min</u>	<u>25 Percentile</u>	<u>Median</u>	<u>75 Percentile</u>	<u>Max</u>	<u>t-test (p-value)</u>	<u>Wilcoxon (p-value)</u>
<i>Transition write-off_{t-1}</i>									
Write-off firms	0.252	0.436	0	0	0	1	1	-1.700	-1.690
No write-off firms	0.164	0.372	0	0	0	0	1	(0.100)	(0.110)
<i>Transition write-off %_{t-1}</i>									
Write-off firms	0.153	0.514	0	0	0	0.002	3.680	-1.700	-1.701
No write-off firms	0.127	0.527	0	0	0	0	3.957	(0.100)	(0.100)
<i>Δ ROA_{5t}</i>									
Write-off firms	-0.015	0.213	-0.360	-0.026	-0.009	0.003	2.236	1.020	0.283
No write-off firms	-0.025	0.055	-0.360	-0.026	-0.008	0.004	0.274	(0.309)	(0.389)
<i>Return_{5t}</i>									
Write-off firms	-0.017	0.404	-0.820	-0.197	-0.010	0.153	0.990	-0.460	-0.434
No write-off firms	-0.006	0.422	-0.820	-0.195	-0.044	0.169	0.990	(0.322)	(0.332)

* Tests for differences in means of write-off and no write-off firms.

TABLE 10 (Continued)

	<u>Mean</u>	<u>Std Dev</u>	<u>Min</u>	<u>25 Percentile</u>	<u>Median</u>	<u>75 Percentile</u>	<u>Max</u>	<u>t-test (p-value)</u>	<u>Wilcoxon (p-value)</u>
<i>Δ Auditor_t</i>									
Write-off firms	0.083	0.225	0	0	0	0	1	-0.23	-0.225
No write-off firms	0.077	0.212	0	0	0	0	1	(0.821)	(0.822)
<i>Big4_t</i>									
Write-off firms	0.711	0.393	0	0	1	1	1	-0.12	-0.119
No write-off firms	0.704	0.398	0	0	1	1	1	(0.454)	(0.452)
<i>Acquisition_t</i>									
Write-off firms	0.265	0.443	0	0	0	1	1	-0.57	-0.571
No write-off firms	0.234	0.425	0	0	0	0	1	(0.562)	(0.568)
<i>Segments_t</i>									
Write-off firms	7.177	3.997	1	4	6	10	20	-0.49	-0.575
No write-off firms	6.926	4.170	1	4	6	8	22	(0.626)	(0.566)
<i>Director Options_t</i>									
Write-off firms	0.058	0.140	0	0	0.011	0.042	1	2.87	5.983
No write-off firms	0.116	0.181	0	0.001	0.053	0.136	1	(0.004)	(0.001)

* Tests for differences in means of write-off and no write-off firms.

TABLE 11
Transition Period Variables

Coefficients and test statistics from the estimation of the SFAS 142 write-off decision (logistic) for a matched sample of 260 firms, which were all expected to take a write-off. The dependent variable, $impair_t$, is write-off firm (1) versus matched no write-off firm (0). Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses. Coefficient estimates are standardized on the respective independent variables.

	<u>Pred.</u>	<u>Std. Coef.</u> <u>Estimate</u>	<u>p-value</u>	<u>Std. Coef.</u> <u>Estimate</u>	<u>p-value</u>
Economic Factors					
ΔROA_t	-	-0.635	0.001	-0.626	0.001
$\Delta Sales_t$	-	-0.204	0.026	-0.265	0.025
<i>One Segment_t</i>	?	0.059	0.540	0.056	0.617
<i>B/M_t</i>	+	0.187	0.079	0.242	0.030
<i>Size_t</i>	?	0.474	0.003	0.609	0.002
Reporting Incentives					
<i>Bath_t</i>	-	-0.122	0.178	-0.159	0.129
<i>Smooth_t</i>	+	0.395	0.003	0.467	0.002
<i>Debt Ratio_{t-1}</i>	?	-0.131	0.199	-0.124	0.295
<i>CEO Change_t</i>	+	0.297	0.005	0.310	0.007
<i>Bonus_{t-1}</i>	-	-0.137	0.107	-0.046	0.114
<i>In the Money Options_{t-1}</i>	-	-0.358	0.017	-0.247	0.088
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.362	0.001	-0.426	0.001
<i>Separate Chair_t</i>	+	0.187	0.032	0.220	0.032
<i>Directors Over 4 Boards_t</i>	-	-0.488	0.001	-0.433	0.001
<i>Directors Active CEOs_t</i>	-	0.085	0.233	-0.012	0.466
<i>Outside Director Ownership %_t</i>	+	0.264	0.010	0.263	0.033
<i>Inside Director Ownership %_t</i>	?	-0.154	0.173	-0.100	0.439
<i>Institutional Holdings %_t</i>	?	-0.176	0.155	-0.213	0.179
Transition period variables					
<i>Transition write-off_{t-1}</i>	?	0.155	0.129	-	-
<i>Delayed write-off_{t-1}</i>	?	-	-	1.006	0.001
<i>Acceleration no write-off_{t-1}</i>	-	-	-	-0.371	0.063

TABLE 12
Transition Period Variables

Coefficients and test statistics from the estimation of the percentage of goodwill written off (tobit regression) for a matched sample of 260 firms. The dependent variable, $WO\%_t$, is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year. Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses.

	<u>Pred.</u>	<u>Coef.</u> <u>estimate</u>	<u>p-value</u>	<u>Coef.</u> <u>estimate</u>	<u>p-value</u>
Economic Factors					
<i>Δ ROA_t</i>	-	-1.289	0.001	-1.217	0.001
<i>Δ Sales_t</i>	-	-0.090	0.223	-0.107	0.178
<i>One Segment_t</i>	?	0.002	0.975	-0.010	0.885
<i>B/M_t</i>	+	0.035	0.061	0.040	0.033
<i>Size_t</i>	?	0.031	0.027	0.035	0.011
Reporting Incentives					
<i>Bath_t</i>	-	-0.437	0.120	-0.312	0.269
<i>Smooth_t</i>	+	0.648	0.001	0.655	0.001
<i>Debt Ratio_{t-1}</i>	?	0.004	0.551	0.007	0.276
<i>CEO Change_t</i>	+	0.051	0.153	0.061	0.104
<i>Bonus_{t-1}</i>	-	-0.019	0.109	-0.008	0.155
<i>In the Money Options_{t-1}</i>	-	-0.011	0.011	-0.010	0.017
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.567	0.001	-0.534	0.001
<i>Separate Chair_t</i>	+	0.085	0.020	0.067	0.052
<i>Directors Over 4 Boards_t</i>	-	-0.066	0.001	-0.052	0.007
<i>Directors Active CEOs_t</i>	-	0.017	0.148	0.005	0.385
<i>Outside Director Ownership %_t</i>	+	0.356	0.021	0.217	0.107
<i>Inside Director Ownership %_t</i>	?	-0.096	0.599	-0.028	0.876
<i>Institutional Holdings %_t</i>	?	-0.023	0.746	-0.024	0.728
Transition Period Variables					
<i>Transition write-off %_{t-1}</i>	?	0.060	0.084		
<i>Delayed write-off_{t-1}</i>	?			0.196	0.001
<i>Acceleration no write-off_{t-1}</i>	-			-0.081	0.240

TABLE 13
Past Performance Variables (Logistic Regression)

Coefficients and test statistics from the estimation of the SFAS 142 write-off decision (logistic) for a matched sample of 260 firms, which were all expected to take a write-off. The dependent variable, *impairt*, is write-off firm (1) versus matched no write-off firm (0). Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses. Coefficient estimates are standardized on the respective independent variables.

	<u>Pred.</u>	Std. Coef. <u>Estimate</u>	<u>p-</u> value	Std. Coef. <u>Estimate</u>	<u>p-value</u>
Economic Factors					
<i>Δ ROA_t</i>	-	-0.662	0.001	-0.621	0.001
<i>Δ Sales_t</i>	-	-0.169	0.059	-0.205	0.026
<i>One Segment_t</i>	?	0.063	0.537	0.083	0.406
<i>B/M_t</i>	+	0.214	0.047	0.193	0.065
<i>Size_t</i>	?	0.481	0.003	0.524	0.001
Reporting Incentives					
<i>Bath_t</i>	-	-0.081	0.273	-0.109	0.207
<i>Smooth_t</i>	+	0.424	0.002	0.436	0.001
<i>Debt Ratio_{t-1}</i>	?	-0.077	0.455	-0.145	0.159
<i>CEO Change_t</i>	+	0.258	0.014	0.300	0.005
<i>Bonus_{t-1}</i>	-	-0.085	0.101	-0.104	0.176
<i>In the Money Options_{t-1}</i>	-	-0.369	0.024	-0.394	0.015
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.358	0.001	-0.381	0.001
<i>Separate Chair_t</i>	+	0.246	0.017	0.238	0.019
<i>Directors Over 4 Boards_t</i>	-	-0.471	0.001	-0.443	0.001
<i>Directors Active CEOs_t</i>	-	0.077	0.257	0.064	0.289
<i>Outside Director Ownership %_t</i>	+	0.272	0.024	0.278	0.019
<i>Inside Director Ownership %_t</i>	?	-0.148	0.193	-0.168	0.140
<i>Institutional Holdings %_t</i>	?	-0.144	0.257	-0.216	0.092
Past Performance Variables					
<i>Δ ROA5_t</i>	-	-0.355	0.120		
<i>Return5_t</i>	-			-0.170	0.046

TABLE 14
Past Performance Variables (Tobit Regression)

Coefficients and test statistics from the estimation of the percentage of goodwill written off (tobit regression) for a matched sample of 260 firms. The dependent variable, $WO\%_t$, is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year. Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses.

	Pred.	Coef. estimate	p-value	Coef. estimate	p-value
Economic Factors					
ΔROA_t	-	-1.254	0.001	-1.261	0.001
$\Delta Sales_t$	-	-0.075	0.272	-0.113	0.169
<i>One Segment_t</i>	?	0.009	0.896	0.006	0.927
B/M_t	+	0.034	0.072	0.035	0.059
$Size_t$?	0.035	0.014	0.037	0.009
Reporting Incentives					
$Bath_t$	-	-0.386	0.178	-0.395	0.162
$Smooth_t$	+	0.678	0.001	0.679	0.001
$Debt Ratio_{t-1}$?	0.003	0.650	0.003	0.675
$CEO Change_t$	+	0.048	0.173	0.059	0.118
$Bonus_{t-1}$	-	-0.013	0.113	-0.014	0.171
$In the Money Options_{t-1}$	-	-0.012	0.014	-0.012	0.017
Corporate Governance					
$Inside Director \%_t$	-	-0.576	0.001	-0.616	0.000
$Separate Chair_t$	+	0.096	0.025	0.101	0.016
$Directors Over 4 Boards_t$	-	-0.067	0.001	-0.062	0.002
$Directors Active CEOs_t$	-	0.014	0.404	0.014	0.390
$Outside Director Ownership \%_t$	+	0.363	0.043	0.338	0.056
$Inside Director Ownership \%_t$?	-0.112	0.549	-0.081	0.655
$Institutional Holdings \%_t$?	-0.038	0.594	-0.056	0.438
Past Performance Variables					
$\Delta ROA5_t$		-0.029	0.398		
$Return5_t$				-0.081	0.047

TABLE 15
Audit-Related Variables

Coefficients and test statistics from the estimation of the SFAS 142 write-off decision (logistic) for a matched sample of 260 firms, which were all expected to take a write-off. The dependent variable, *impairt*, is write-off firm (1) versus matched no write-off firm (0). Other variables are defined in the appendix. One-tailed test is employed for directional hypotheses. Coefficient estimates are standardized on the respective independent variables.

	<u>Pred.</u>	<u>Std.</u> <u>Coef.</u> <u>Estimate</u>	<u>p-value</u>	<u>Std.</u> <u>Coef.</u> <u>Estimate</u>	<u>p-value</u>
Economic Factors					
<i>Δ ROA_t</i>	-	-0.640	0.001	-0.652	0.001
<i>Δ Sales_t</i>	-	-0.206	0.054	-0.211	0.047
<i>One Segment_t</i>	?	0.073	0.459	0.074	0.453
<i>B/M_t</i>	+	0.207	0.098	0.204	0.104
<i>Size_t</i>	?	0.507	0.001	0.577	0.001
Reporting Incentives					
<i>Bath_t</i>	-	-0.109	0.408	-0.120	0.370
<i>Smooth_t</i>	+	0.418	0.003	0.433	0.002
<i>Debt Ratio_{t-1}</i>	?	-0.117	0.244	-0.118	0.248
<i>CEO Change_t</i>	+	0.300	0.010	0.303	0.009
<i>Bonus_{t-1}</i>	-	-0.126	0.134	-0.145	0.101
<i>In the Money Options_{t-1}</i>	-	-0.381	0.012	-0.369	0.016
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.361	0.001	-0.398	0.001
<i>Separate Chair_t</i>	+	0.208	0.036	0.207	0.038
<i>Directors Over 4 Boards_t</i>	-	-0.455	0.001	-0.470	0.001
<i>Directors Active CEOs_t</i>	-	0.063	0.294	0.072	0.268
<i>Outside Director Ownership %_t</i>	+	0.266	0.020	0.283	0.015
<i>Inside Director Ownership %_t</i>	?	-0.149	0.184	-0.156	0.166
<i>Institutional Holdings %_t</i>	?	-0.176	0.158	-0.161	0.195
Audit-Related Variables					
<i>Δ Auditor_t</i>	?	-0.036	0.711	-	-
<i>Big4_t</i>	?	-	-	0.172	0.229

TABLE 16
Control for Acquisitions

Coefficients and p-values from the estimation of the SFAS 142 write-off decision for a matched sample of 260 firms. The dependent variable for logistic regression is $impair_t$, coded 1 if write-off firm and coded 0 if matched no write-off firm. The dependent variable for tobit regression is $WO\%_t$, which is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year.

	<u>Pred.</u>	<u>Logistic Regression</u>		<u>Tobit Regression</u>	
		<u>Std. Estimate</u>	<u>p-value</u>	<u>Coef. Estimate</u>	<u>p-value</u>
Economic Factors					
ΔROA_t	-	-0.647	0.001	1.274	0.001
$\Delta Sales_t$	-	-0.237	0.029	0.138	0.252
$One\ Segment_t$?	0.089	0.366	0.009	0.893
B/M_t	+	0.235	0.067	0.037	0.095
$Size_t$?	0.509	0.001	0.033	0.017
Reporting Incentives					
$Bath_t$	-	-0.097	0.228	-0.415	0.142
$Smooth_t$	+	0.419	0.003	0.666	0.001
$Debt\ Ratio_{t-1}$?	-0.150	0.150	0.002	0.724
$CEO\ Change_t$	+	0.296	0.010	0.059	0.119
$Bonus_{t-1}$	-	-0.126	0.104	0.017	0.121
$In\ the\ Money\ Options_{t-1}$	-	-0.395	0.028	0.011	0.018
Corporate Governance					
$Inside\ Director\ \%_t$	-	-0.371	0.001	0.584	0.001
$Separate\ Chair_t$	+	0.211	0.034	0.093	0.025
$Directors\ Over\ 4\ Boards_t$	-	-0.458	0.001	0.065	0.001
$Directors\ Active\ CEOs_t$	-	0.056	0.317	0.014	0.198
$Outside\ Director\ Ownership\ \%_t$	+	0.268	0.020	0.348	0.049
$Inside\ Director\ Ownership\ \%_t$?	-0.158	0.161	0.082	0.651
$Institutional\ Holdings\ \%_t$?	-0.182	0.149	0.033	0.637
Additional Control Variable					
$Acquisition_t$?	0.168	0.078	0.066	0.138

TABLE 17
Control for Number of Segments

Coefficients and p-values from the estimation of the SFAS 142 write-off decision for a matched sample of 260 firms. The dependent variable for logistic regression is *impairt*, coded 1 if write-off firm and coded 0 if matched no write-off firm. The dependent variable for tobit regression is *WO%_t*, which is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year.

	Pred.	Logistic Regression		Tobit Regression	
		Std. Coef. Estimate	p-value	Coef. Estimate	p-value
Economic Factors					
<i>Δ ROA_t</i>	-	-0.636	0.000	1.228	0.001
<i>Δ Sales_t</i>	-	-0.194	0.076	0.118	0.324
<i>One Segment_t</i>	?	0.069	0.512	0.039	0.594
<i>B/M_t</i>	+	0.179	0.160	0.031	0.165
<i>Size_t</i>	?	0.448	0.006	0.027	0.062
Reporting Incentives					
<i>Bath_t</i>	-	-0.167	0.240	0.367	0.199
<i>Smooth_t</i>	+	0.436	0.003	0.657	0.001
<i>Debt Ratio_{t-1}</i>	?	-0.110	0.283	0.006	0.409
<i>CEO Change_t</i>	+	0.294	0.012	0.054	0.138
<i>Bonus_{t-1}</i>	-	-0.115	0.148	0.020	0.147
<i>In the Money Options_{t-1}</i>	-	-0.291	0.049	0.010	0.022
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.359	0.001	0.579	0.001
<i>Separate Chair_t</i>	+	0.224	0.029	0.094	0.026
<i>Directors Over 4 Boards_t</i>	-	-0.399	0.001	0.057	0.004
<i>Directors Active CEOs_t</i>	-	0.061	0.304	0.019	0.102
<i>Outside Director Ownership %_t</i>	+	0.282	0.015	0.354	0.044
<i>Inside Director Ownership %_t</i>	?	-0.123	0.286	0.089	0.637
<i>Institutional Holdings %_t</i>	?	-0.188	0.126	0.039	0.582
Additional Control Variable					
<i>Segments_t</i>	?	0.102	0.340	0.011	0.045

TABLE 18
Control for Option Holdings of Directors

Coefficients and p-values from the estimation of the SFAS 142 write-off decision for a matched sample of 260 firms. The dependent variable for logistic regression is *impaired*, coded 1 if write-off firm and coded 0 if matched no write-off firm. The dependent variable for tobit regression is *WO%_t*, which is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year.

	<u>Pred.</u>	Logistic Regression		Tobit Regression	
		<u>Estimate</u>	<u>p-value</u>	<u>Estimate</u>	<u>p-value</u>
Economic Factors					
<i>Δ ROA_t</i>	-	-0.664	0.001	-1.275	0.001
<i>Δ Sales_t</i>	-	-0.209	0.025	-0.095	0.212
<i>One Segment_t</i>	?	0.068	0.244	0.005	0.473
<i>B/M_t</i>	+	0.215	0.046	0.035	0.059
<i>Size_t</i>	?	0.498	0.002	0.033	0.018
Reporting Incentives					
<i>Bath_t</i>	-	-0.117	0.374	-0.424	0.135
<i>Smooth_t</i>	+	0.436	0.002	0.672	0.001
<i>Debt Ratio_{t-1}</i>	?	-0.080	0.432	0.005	0.455
<i>CEO Change_t</i>	+	0.317	0.008	0.056	0.256
<i>Bonus_{t-1}</i>	-	-0.088	0.103	-0.015	0.219
<i>In the Money Options_{t-1}</i>	-	-0.369	0.026	-0.011	0.019
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.380	0.001	-0.585	0.001
<i>Separate Chair_t</i>	+	0.185	0.066	0.083	0.047
<i>Directors Over 4 Boards_t</i>	-	-0.453	0.001	-0.065	0.001
<i>Directors Active CEOs_t</i>	-	0.036	0.757	0.015	0.358
<i>Outside Director Ownership %_t</i>	+	0.252	0.027	0.326	0.065
<i>Inside Director Ownership %_t</i>	?	-0.163	0.149	0.080	0.662
<i>Institutional Holdings %_t</i>	?	-0.150	0.237	0.020	0.777
Additional Control Variable					
<i>Director Options_t</i>	?	-0.197	0.080	0.128	0.355

TABLE 19
Sub-sample Excluding Acceleration Firms

Coefficients and p-values from the estimation of the SFAS 142 write-off decision for a matched sample of 246 firms. The dependent variable for logistic regression is *impaired*, coded 1 if write-off firm and coded 0 if matched no write-off firm. The dependent variable for tobit regression is *WO%_t*, which is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year.

	<u>Pred.</u>	Logistic Regression		Tobit Regression	
		<u>Estimate</u>	<u>p-value</u>	<u>Coef. estimate</u>	<u>p-value</u>
Economic Factors					
<i>Δ ROA_t</i>	-	-0.681	0.001	-1.362	0.001
<i>Δ Sales_t</i>	-	-0.205	0.030	-0.075	0.264
<i>One Segment_t</i>	?	0.064	0.522	0.005	0.942
<i>B/M_t</i>	+	0.214	0.037	0.053	0.019
<i>Size_t</i>	?	0.495	0.003	0.033	0.025
Reporting Incentives					
<i>Bath_t</i>	-	-0.049	0.347	-0.540	0.094
<i>Smooth_t</i>	+	0.416	0.004	0.648	0.001
<i>Debt Ratio_{t-1}</i>	?	-0.101	0.316	0.006	0.410
<i>CEO Change_t</i>	+	0.270	0.020	0.031	0.270
<i>Bonus_{t-1}</i>	-	-0.161	0.087	-0.024	0.105
<i>In the Money Options_{t-1}</i>	-	-0.303	0.043	-0.010	0.024
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.368	0.002	-0.587	0.001
<i>Separate Chair_t</i>	+	0.191	0.063	0.090	0.033
<i>Directors Over 4 Boards_t</i>	-	-0.482	0.001	-0.066	0.001
<i>Directors Active CEOs_t</i>	-	0.049	0.678	0.016	0.339
<i>Outside Director Ownership %_t</i>	+	0.282	0.016	0.354	0.045
<i>Inside Director Ownership %_t</i>	?	-0.170	0.142	-0.074	0.691
<i>Institutional Holdings %_t</i>	?	-0.173	0.178	-0.008	0.907

TABLE 20
Sub-sample Excluding Firms that Have CEO Changes

Coefficients and p-values from the estimation of the SFAS 142 write-off decision for a matched sample of 166 firms. The dependent variable for logistic regression is *impaired*, coded 1 if write-off firm and coded 0 if matched no write-off firm. The dependent variable for tobit regression is *WO%_t*, which is the dollar value of annual (non-adoption period) SFAS 142 goodwill write-off divided by the amount of goodwill at the beginning of the year.

	Logistic Regression			Tobit Regression	
	<u>Pred.</u>	<u>Std. Coef. Estimate</u>	<u>p-value</u>	<u>Coef. estimate</u>	<u>p-value</u>
Economic Factors					
<i>Δ ROA_t</i>	-	-0.746	0.001	-1.476	0.001
<i>Δ Sales_t</i>	-	-0.234	0.037	-0.164	0.247
<i>One Segment_t</i>	?	0.041	0.729	0.024	0.751
<i>B/M_t</i>	+	0.250	0.136	0.016	0.541
<i>Size_t</i>	?	0.465	0.018	0.016	0.348
Reporting Incentives					
<i>Bath_t</i>	-	-0.091	0.514	-0.545	0.148
<i>Smooth_t</i>	+	0.473	0.006	0.804	0.001
<i>Debt Ratio_{t-1}</i>	?	-0.212	0.116	-0.002	0.853
<i>Bonus_{t-1}</i>	-	-0.250	0.050	-0.029	0.118
<i>In the Money Options_{t-1}</i>	-	-0.207	0.089	-0.006	0.104
Corporate Governance					
<i>Inside Director %_t</i>	-	-0.201	0.060	0.467	0.022
<i>Separate Chair_t</i>	+	0.173	0.072	0.088	0.064
<i>Directors Over 4 Boards_t</i>	-	-0.505	0.001	0.065	0.006
<i>Directors Active CEOs_t</i>	-	0.103	0.240	0.024	0.234
<i>Outside Director Ownership %_t</i>	+	0.301	0.029	0.368	0.041
<i>Inside Director Ownership %_t</i>	?	-0.250	0.069	0.103	0.600
<i>Institutional Holdings %_t</i>	?	-0.179	0.225	0.046	0.577

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Academic Experience

Research	
2002- 2007	Research Assistant Texas A&M University, USA
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Conference Presentations

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 American Accounting Association, FARS Midyear Meeting, San Antonio, 2007
 French Finance Association, Finance International Meeting, Paris, 2006
 Empirical Accounting Research Summer Camp, Humboldt University, Berlin, 2006
 Third Accounting Workshop, Stuttgart Institute of Management and Technology,
 Stuttgart, 2003

Awards/Honors

2006	Mays Business School, Dean's Award for Outstanding Teaching
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