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An empirical evaluation of fair value accounting numbers: Evidence from the investigation of goodwill accounting

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Abstract

This paper examines the usefulness of fair value accounting numbers by investigating whether they reflect existing information in the capital markets and convey new information to the markets. Specifically, we focus on fair value accounting for goodwill stipulated in SFAS No. 142. To effectively address the concerns raised by the critics of fair value accounting, we identify firms that are most likely to be required to report impairment losses (i.e., firms with market-to-book ratio below one) regardless of whether they actually report. We find that firms that delay write-offs have significantly higher buy-and-hold abnormal returns (BHAR) prior to the announcement than those that report impairment losses after controlling for other factors that are known to be associated with the decision regarding write-offs. We also find that deferral of write-offs has information content at the announcement after controlling for news in the simultaneous earnings announcement. Taken together, our results suggest that fair value accounting numbers reflect existing information in the capital markets and convey new information to the markets.

Keywords: fair value accounting; goodwill; impairments; SFAS No. 142; write-offs

JEL Classification: G14, M41, M48

1. Introduction

This paper examines the usefulness of fair value accounting numbers by investigating whether they reflect existing information in the capital markets and convey new information to the markets. The question addressed in this paper is important, considering that the Financial Accounting Standards Board (FASB), in concert with the International Accounting Standards Board, has moved strongly toward fully adopting fair value accounting for financial instruments and certain other items (FASB, 2007) and that the use of fair values for financial instruments is likely to be followed by an extension to other assets and liabilities. However, academics (e.g.,Holthausen and Watts, 2001; Watts, 2003; Benston, 2008) as well as the financial press (e.g., Rockness et al., 2001; Henry and Kopecki, 2004) have expressed concerns that unverifiable fairvalue accounting would make accounting numbers "soft" and less useful for investment decisions.[1] The alleged decline in usefulness is attributed to the fact that managers would exercise their discretion when they estimate fair values of an asset (i.e., the value to investors of reported fair values depends critically on how those numbers are measured and the extent to which they are trustworthy).

In terms of the effect of managerial discretion on financial reporting, existing research yields mixed results. Studies on earnings management (e.g.,Healy, 1985; Jones, 1991; Burgstahler and Dichev, 1997) find that managerial discretion is used to manipulate earnings for various reasons. However, recent analytical research (e.g.,Sankar and Subramanyam, 2002; Burgstahler and Dichev, 1997) supports the view that managerial discretion is an important means for managers to impart their knowledge to shareholders and outside investors, and

[1] To address these concerns, the FASB recently released SFAS No. 157, *Fair Value Measurements* (FASB, 2006), which defines fair value as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e., exit values). However, SFAS No. 157 does not fully resolve the issues related to the measurement of fair values of the asset or liability for which active market does not exist (e.g., goodwill). See Benston (2008) for a discussion of SFAS No. 157.

Kasznik (2001) finds supporting evidence in the software industry. Hence, how managers use discretion in the context of fairvalue accounting is ultimately an empirical question.

Specifically, we focus on fairvalue accounting for goodwill in Statements of Financial Accounting Standards (SFAS)No. 142, *Goodwill and Other Intangible Assets* (FASB, 2001) for a couple of reasons. First, goodwill is a prominent asset on the balance sheet of corporations,[2] making it essential for managers, auditors, and investors to properly evaluate goodwill. Second, although a goodwill impairment test employing fair values has existed sinceSFAS No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of* (FASB, 1995), there is important distinction between the impairment requirement stipulated in SFAS No. 142 and that contained in SFAS No. 121. SFASNo. 121 requires a reassessment of the carrying amount of a long-lived asset upon the occurrence ofcertain events or a change in circumstances that indicate that the carrying amount of an asset may not be recoverable. SFAS No. 142, in contrast, requires an annual assessment independent of any triggering events, thus imposing a more stringent reevaluation requirement.Third, we can identify firms that are most likely to be required to report impairment losses, which provides a powerful setting to conduct our tests. Following prior studies (e.g., Beatty and Weber, 2006; Ramanna and Watts, 2011), we identify firms whose market-to-book ratio before impairment is below one, with *prima facie* evidence that there is an overstatement in book value when one assumes that the market price is efficient. If the firm has goodwill on its books, it is reasonable to assume that at least some of the overstatement is in goodwill. Furthermore, the nature of goodwill suggests that proportionally more of the overstatement is in goodwill compared to other assets.

Figure 1 illustrates a sampling framework used in this paper. Each year, managers are

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[2] In 2006, more than 40 percent of the firms on Compustat reported a positive goodwill balance. The mean (median) value of goodwill to total assets was 17.1 percent (12.7 percent). These are slightly greater than the figures of 2001, as reported in Hayn and Hughes (2006).

required to assess their goodwill regardless of any triggering events. Based on their assessment (or the assessment by the external appraiser), they report impairment losses, if any, or disclose that their goodwill is not impaired.[3] Goodwill is also assessed by the market, whose assessment can be captured by the market-to-book-ratio. The natural choice of firms for our tests would be either firms in cell B of Figure 1 or those in D because the information content is likely to be higher due to the discrepancy between the managers' assessment and the market's. We choose firms in cell D over those in cell B because the former allows us to effectively address concerns raised by academics and the press (i.e., if firms manipulated financials to avoid the impairment losses, they would fit in cell D), and the latter is more likely to be the ones in compliance of SFAS No. 142 and that have poor performance relative to the firms in cell A. Henceforth, we term firms in cell D as "Delay". We also term those in cell C as "Nodelay", which serve as the control group.

Insert Figure 1 here

We hypothesize and find that the managers' decision to delay write-offs of goodwill is associated with existing news in the capital markets. Using a sample of 707 firm-years whose market-to-book ratio before goodwill impairment losses is below one at the fiscal year-end,[4]we find that the Delay sample has significantly higher buy-and-hold abnormal returns (BHAR) than

[3]A typical disclosure of no impairment is as follows: "The Company tested goodwill and other intangibles assets, related to its Energy and Facilities Solutions Segment and its Energy Services Segment, with indefinite useful lives for impairment, as required by Statement of Financial Accounting Standard ("SFAS") 142, Goodwill and Other Intangible Assets,issued by the Financial Accounting Standards Accounting Board ("FASB"), utilizing expected present value of estimated future cash flows. The analysis did not result in an impairment for fiscal 2006. As of April 30, 2006, the Company does not believe any of its goodwill or other intangible assets are impaired" (Excerpt from 10−K of Servidyne, Inc., one of the sampled firms used in this paper).

[4]We exclude transition-year observations from our sample because reporting requirements (and economic incentives) for goodwill impairment losses differ from those in subsequent years (Beatty and Weber, 2006). Negative book-value firms are also excluded.

the Nodelay sample for the 200 trading days before the earnings-announcement date. Mean (median) abnormal return of the Delay sample is −12.2 percent (−16.3 percent), while mean (median) for the Nodelay sample is −36.7 percent (−39.6 percent). In order to focus on the association between managers' decision to delay write-offs and the abnormal returns, we control for other factors that have been shown by previous research to be associated with the write-offs decision, such as market-to-book ratio, price-earnings ratio, write-offs of non-goodwill assets, number of segments, incidence of loss, market capitalization, and leverage. Results of binary logit regressions confirm the univariate analyses.Wealso perform the analysis using subsets of the sample for sensitivity tests (e.g., firms with single segment and firms with the incidence of loss) and find similar results.

We conduct two separate tests to investigate whether managers' decision to delay write-offs provides new information to the capital markets – a typical three-day window event study and a long-window event study, which examines the markets' reaction up to 200 trading days after the announcement. The latter is motivated by mounting evidence of stock market inefficiency (or less efficiency) documented in the accounting and finance literature.[5]If market efficiency does not hold, investors potentially do not fully incorporate information contained in managers' delay decision *at the announcement* (i.e., We would observe market reaction at the announcement only to the extent that investors think there is information content in the managers' decision).

According to univariate analyses, managers of the Delay sample enjoy 2% higher abnormal returns during the three trading days surrounding the announcement date than those of the Nodelay sample. To control for news in the simultaneous earnings announcement,we

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[5] Refer to Appendix A of Daniel et al. (1998) for a list of studies which document challenges to the view of traditional market efficiency.

includeunexpected earnings in the multivariate regression analysis and find strong evidence that the delay decision has information content at the announcement.

Using a subset of the sample whose returns for the subsequent 200 trading daysare available, wefind a reliable difference in the mean abnormal return subsequent to the announcement between the Delay and Nodelay samples in the univariate analysis. In the multivariate analysis, however, the coefficient estimate on the indicator variable that captures managers' delay decision becomes insignificant when we exclude outliers and/or include variables such as size and the market-to-book ratio, suggesting that the difference in mean abnormal return is driven by outliers and size effects (Banz, 1981)[6].

Considered together, our results suggest that fair value accounting numbers reflect existing information in the capital markets and convey new information to the markets. While there have been studies that examine the information content of good impairment losses (e.g., Bens et al., 2011; Li et al., 2011), they do not address the concerns raised by the critics of fair value accounting, because their research design restricts their sample to only firms that report impairment losses. By focusing on the firms that delay write-offs of goodwill in relation to the firms that report impairment losses, this paper makes a timely contribution to the debate of fair value accounting.

This paper also contributes to the stream of research that examines managers' behavior given additional discretion. Consistent with the predictions of Sankar and Subramanyam (2002) and Ewert and Wagenhofer (2005), we find that managerial discretion allows corporate managers to provide informative signals by which they impart their knowledge to shareholders and outside investors.

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[6]Banz (1981) finds that average returns on small firms are too high given their β estimates, and average returns on large firms are too low.

The rest of this paper proceeds as follows. Section 2 develops the hypotheses and places our paper in the context of related research. The empirical designs used to assess the hypotheses are presented in Section 3. Section 4 contains a description of the sample and data. Results of the empirical tests are provided in Section 5. Section 6 concludes the paper.

2. Prior research and hypothesis development

In their seminal publication, Ball and Brown (1968) document that market participants anticipate earnings news as early as 11 months before the announcement and that earnings announcements convey new information to market participants as reflected in changes in the security prices. The first finding is attributed to the fact that accounting is not a monopoly source of information to the capital markets. The second finding is based on the premise that capital markets are informationally efficient in the sense that security prices are quick to reflect the newly introduced information (Fama, 1965). Based on these findings, these papers conclude that accounting income numbers are useful to investors. By the same token, if fairvalue accounting numbers are useful, we expect to find that these numbers reflect existing information in the capital markets and convey new information to the markets.

Institutional factors favor the usefulness of fair value accounting for goodwill. First, managers (or external appraisers hired by managers) must justify the calculation of fair value estimates to auditors in each reporting period. Second, in addition to verifying the calculations of present value and conformity of the valuation procedures to those prescribed in SFAS No. 142, the auditors must ensure that they audit key assumptions for reasonableness and consistency and challenge the conclusions reached (U.S. Securities Exchange Commission, 2001). Third, the security market tends to act as a disciplinary force to keep firms and their managers honest. Articles in the financial press suggest that professional money managers, security analysts, and other investors impose costs on firms when their managers appear to delay disclosure of bad news.

Studies on earnings management, however, provide evidence that managers exercise discretion in window-dressing financial statements for various reasons.For example, a number of studies find that managers aim to meet (or exceed) three earnings thresholds: non-negative income, stable or growing earnings, and analysts' expectations (e.g., Burgstahler and Dichev, 1997; Degeorge et al., 1999). Several other studies indicate that managers use accounting judgment to increase earnings-based bonus awards. Healy (1985) and Holthausen et al. (1995) show that firms with caps on bonus awards are more likely to report accruals that defer income when the cap is reached than firms that have comparable performance but that have no bonus cap. Dechow and Sloan (1991) report that, in their final years in office, CEOs reduced R&D spending, presumably to increase reported earnings. The earnings management literature also offers the evidence that managers of firms vulnerable to anti-trust investigation or other adverse political consequences manage earnings to appear less profitable (e.g., Jones, 1991).Taken together, evidence from the earnings management literature suggests that the additional discretion from fair value accounting would make accounting numbers less useful for investors.

Nevertheless, value relevance studies suggest that disclosed and recognized fair values are informative to investors, where the so-called value relevance of a recognized or disclosed accounting amount is measured by its incremental association with share price or share returns after controlling for other accounting or market information.

For example, using a sample of U.S. banks with data from 1971-1990, Barth (1994) finds that investment securities' fair values are incrementally associated with bank share prices after controlling for investment securities' book values. Barth et al. (1996), Eccher et al. (1996), and Nelson (1996) use similar approaches to assess the incremental value relevance of fair values of principal categories of banks assets and liabilities disclosed under SFAS No. 107, *Disclosures about Fair Value of Financial Instruments* (FASB, 1991), and support the findings of Barth (1994).[7]

Several other studies examine the dimensions of value relevance of asset revaluations in non-U.S. countries.[8] For example, using a sample of Australian firms with data from 1981-1990, Easton et al. (1993) estimate annual return regressions and find that asset revaluations of tangible long-lived assets have incremental explanatory power relative to earnings and change in earnings. Also using a sample of Australian firms but from a later period, 1991-1995, Barth and Clinch (1998) estimate annual stock price regressions to determine if financial, tangible, and intangible asset revaluations have incremental explanatory power relative to operating earnings and equity book value less the book value of revalued assets. Consistent with U.S.-based research, they find that revalued investments are incrementally priced. Contrary to the view that intangible asset revaluations are likely to be noisy and uninformative, the study finds a positive association between such revaluations and share prices.

However, the results of Barth and Clinch (1998) and the other studies that employ price per share as the dependent variable should be interpreted with caution, because statistical associations between price, balance sheet data, and income statement data in their regression may be a spurious effect of scale (Easton, 1998). Furthermore, Holthausen and Watts (2001) assert that, without descriptive theories to interpret the empirical associations, the value relevance literature's reported associations between accounting numbers and common equity have limited implications or inferences for standard setting. They also argue that unverifiable fair

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[7] SFAS No. 107 requires disclosures of fair value estimates of all recognized assets and liabilities, and as such, it was the first standard that provided financial statement disclosures of estimates of the primary balance sheet accounts, including securities, loans, deposits, and long-term debts. Much of the research on SFAS No. 107 focuses on banks, since banks are largely comprised of financial assets and liabilities.

[8] See Black et al. (1998) for a brief discussion of accounting standards applicable to asset revaluations in Australia, New Zealand, and the UK.

value estimates make accounting unreliable and create opportunities for manipulation. Watts (2003) specifically identifies the unreliable nature of fair value goodwill accounting and predicts that it can even lead to fraud.

Hence, the criticism of fair value accounting, taken together with the evidence of the earnings management literature, warrants a better assessment of fair value accounting numbers. Specifically, we investigate whether the decision to delay of write-offs of goodwill (i.e., the announcement of no impairment) reflects existing information in the capital markets and conveys new information to the markets. The first and the second hypotheses, stated in alternative form, are thus:

H1: Managers' decision to delay write-offs is associated with the existing information in the capital markets after controlling for other factors that are known to be associated with managers' decision to delay write-offs.

H2: The capital market reacts positively to managers' decision to delay write-offs after controlling for news in the simultaneous earnings announcement.

There is an important distinction between the test of H1 and the approach used in the value relevance literature. Value relevance studies use the amounts from fair value accounting as an explanatory variable of share price (or share returns) and conclude that these amounts have value relevance if they have incremental association with share price or share returns after controlling for other accounting or market information. In contrast, we use fair value accounting numbers as a dependent variable and try to test whether they reflect the information currently available in the markets, which we capture in abnormal returns prior to the announcement, just as Basu (1997) uses abnormal returns as proxy for news in the capital markets. This approach builds on the findings that accounting earnings incorporate the information reflected in price changes with a lag (e.g., Ball and Brown, 1968; Beaver et al., 1980; Kothari and Sloan, 1992, among others).

In relation to H2, there are prior studies that examine the information content of goodwill write-offs in the pre-SFAS No. 142 regime as well as in the SFAS No. 142 regime. Using a sample of voluntary goodwill write-offs in the period of 1992-1996, Hirschey and Richardson (2002) document a pronounced decline in equity, with market values falling an average of 2 percent to 3 percent near the goodwill write-off announcement date. In contrast, Francis et al. (1996), using an earlier sample, find little reaction to such announcements. Focusing on transition impairment losses, Li et al. (2011) report negative market reaction after controlling for news in the simultaneous earnings announcement. Bens et al. (2011) confirm the findings by Li et al. (2011).Lee (2011) focuses on the effect of SFAS 142 on goodwill's ability to predict future cash flows and finds that the association between goodwill and future cash flows is improved across the pre- and post-SFAS 142 regime.

Aside from these mixed results, these studies do not address the concerns raised by the critics of SFAS No. 142, because their research design limits their sample to only firms that report impairment losses, with the exception of Lee (2011). To effectively address the concerns, we include firms that are most likely to report impairment losses independent of whether they actually report or not and focus on the market reaction to the announcement of no impairment. Unlike switching to LIFO from FIFO, the deferral of write-offs does not result in tax savings, because SFAS No. 142 does not affect the tax treatment of goodwill.[9] Hence, any market reaction from the delay of write-offs can be attributed to information content, not to cash savings.

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[9] For tax purposes, goodwill is amortized over a 15-year period, unless the acquisition qualifies as a tax-free reorganization. A deferred tax liability is recognized until the goodwill is writtenoff.

3. Research Design

To test H1, we estimate the following binary logit equation:

$$\begin{aligned} Prob(Delay_{it}=1) = \; & \beta_0 + \beta_1 BHAR^{pre}_{it} + \beta_2 M/B_{it} + \beta_3 HighP/E_{it} + \beta_4 WO^{nonGW}_{it} \\ & + \beta_5 SegCount_{it} + \beta_6 Loss_{it} + \beta_7 Size_{it} + \beta_8 Leverage_{it} \\ & + Yearly\ fixed\ effects + \varepsilon_{it} \end{aligned} \quad (1)$$

where:

$Delay_{it}$	=	an indicator variable equal to one if firm *i* does not report goodwill impairment losses in year *t*, zero otherwise;
$BHAR^{pre}_{it}$	=	buy-and-hold abnormal returns of firm *i* for the 200trading days ending one day before firm *i* announces its annual earnings of year *t*;
M/B_{it}	=	the ratio of market value of equity to book value of equity before the impairment losses of firm *i* at the end of year *t*;
$HighP/E_{it}$	=	an indicator variable equal to one if firm *i*'s price-earnings ratio before the impairment losses is higher than industry median price-earnings ratio in year *t*, where industry classification is based on the first two digits of North American Industry Classification System (NAICS) code, zero otherwise;
WO^{nonGW}_{it}	=	firm *i*'s write-offs of non-goodwill assets in year *t*, scaled by total assets at the beginning of year *t*;
$SegCount_{it}$	=	the number of business (or operating) segments of firm *i* in year *t*;
$Loss_{it}$	=	an indicator variable equal to one if firm *i* suffered a loss before the extraordinary items and the impairment losses in year *t*, zero otherwise;
$Size_{it}$	=	log of firm *i*'s market value of equity at the end of year *t*;
$Leverage_{it}$	=	the ratio of total liabilities to total assets of firm *i* before the impairment losses at the end of year *t*.

Following Basu (1997), where he uses annual buy-and-hold abnormal returns (BHAR) as a proxy for news in the capital markets, we use BHAR for the 200 trading days prior to the earnings-announcement date to capture the information currently available in the markets (hereafter, pre-event BHAR), where BHAR is the difference between the returns of a firm and the returns for NYSE/AMEX/NASDAQ firms of the same size decile, based on the January 1 market capitalization. We pick 200 trading days to ensure that the market response to the previous year's earnings is excluded.[10] If managers' decision to delay write-offs reflects the existing information in the markets, managers of firms with higher abnormal returns are more likely to delay write-offs. Therefore, we expect the coefficient on pre-event BHAR to be positive and significant.

We include *M/B* to control for the degree of goodwill impairment. As mentioned above, the market-to-book ratio is used to identify firms whose goodwill is most likely to be impaired. Inclusion of this variable is critical, because firms that experienced more negative abnormal returns are more likely to have lower market-to-book ratios. Since a higher market-to-book ratio indicates smaller impairment of goodwill, we expect the coefficient to be positive.

To capture the sensitivity of price to earnings, we add *HighP/E*. We do not use firm-specific price-earnings ratio, because price-earnings ratios across industries are not comparable. Rather, we calculate the industry-specific price-earnings ratio and use it as a benchmark. We expect the coefficient to be positive, because managers would be less willing to report impairment losses if the prices of their firms are more sensitive to the changes in earnings.

We include write-offs of non-goodwill assets to control for the impairment of tangible assets such as property, plant, and equipment.[11] When firms write off non-goodwill assets, their managers are more likely to delay write-offs of goodwill, attributing lower market-to-book ratio to the impairment of those assets. On the other hand, the managers are less likely to delay write-offs because the fair value of goodwill tends to deteriorate when the values of other assets deteriorate. Hence, we do not assign any expected sign for WO^{nonGW}.

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[10] As sensitivity tests, we perform the tests using BHAR for the 120 trading days prior to the announcement and for the 60 trading days. Inferences do not change.

[11] Compustat Annual item 380 provides write-offs of non-goodwill assets. Non-goodwill assets in this context are most likely property, plant, and equipment, but in some instances, they include other assets, which is evidenced by the fact that item 380 is larger than net property, plant, and equipment (item 8). As a sensitivity test, we scale write-offs of non-goodwill assets by net property, plant, and equipment. Results are very similar to those reported here.

We add *SegCount* to control for the number of segments. Watts (2003) suggests that managers of firms with multiple segments are better able to delay write-offs because allocation of goodwill to the segments is at the discretion of the managers. In this context, we expect that managers of firms with more segments are more likely to delay write-offs because they have more places to hide impairment. However, this does not necessarily hold for two reasons. First, Watts' argument only applies to the adoption year, because subsequent reallocation would be challenged by the auditor unless managers have reasonable justification for the reallocation. Second, firms with more segments tend to be large, and large firms are less likely to delay write-offs, since investors tend to have more information about larger firms and large firms get more scrutiny from market participants (i.e., they have less to gain but more to lose from delaying write-offs). Hence, we do not assign any expected sign for *SegCount*.

We add *Loss* to control for managers' "big-bath" incentive. Zucca and Campbell (1992) find that a "big-bath" is one of the determinants of write-offs. They characterize "big-baths" as periods in which pre-write-down earnings are already below expected earnings. In terms of expected earnings, prior research shows that managers tend to manage reported earnings to produce positive profits (Hayn, 1995), to avoid earnings decreases (Burgstahler and Dichev, 1997), or to meet or beat analysts' EPS forecasts (Degeorge et al., 1999). We choose positive profit as our benchmark, as this is generally smallest (therefore, managers' incentive to "dump" their impairment is the highest).[12] We expect the coefficient to be negative.

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[12] Indeed, Corporate America manifested its tendency to take a "big-bath" in the SFAS No. 142 transition year. According to Davis (2005), during the 2001-2002 time periods during which early or required adoption of SFAS No. 142 was in place, $499.5 billion of recorded goodwill – 55.6% of all goodwill reported at the end of 2000 – simply disappeared. Had the firms been allowed to simply amortize this goodwill over a 40-year life, the combined expense on these corporate balance sheets would have been only $13.1 billion! This is not surprising, since the transition rules specify that a goodwill impairment occurring within six months of the Statement's adoption is to be reported as a cumulative effect of a change in accounting principle. By making this a "below-the-line" item, firms were given a significant incentive to report to the fullest extent possible any goodwill impairment in the adoption year rather than deferring such write-offs and later reflecting them as reduction in operating income.

We include *size* to control for the information environment of the firm. We expect the coefficient to be negative for two reasons. First, more information is available for larger firms in general, and therefore, managers of larger firms have less incentive to delay write-offs. Second, professional money managers, security analysts, and other investors impose costs on firms when their managers appear to delay bad news disclosures, and these costs tend to be higher for larger firms.

To capture the financial distress of a firm, we add *Leverage*. Holding other factors fixed, it is reasonable to believe that managers of firms with low financial distress would delay write-offs. On the other hand, it is possible that managers of firms with high financial distress delay write-offs to camouflage their financial condition. Hence, we do not assign any expected sign. Finally, we include year indicators to control for yearly fixed effects, where year is the calendar year in which firms announce earnings.

We do not include the variables which capture managers' contracting incentives for three reasons. First, the purpose of this paper is not to determine factors that affect managers' write-offs decision. Second, these variables tend to suffer measurement error unless a researcher has access to inside information. For example, it is difficult to accurately determine how the corporation defines "earnings" for the purpose of bonus contracts and thus whether the bonus calculation would include or exclude the impairments.[13] Third, our research design is valid as long as omitted variables do not correlate with our variable of interest, pre-event BHAR.

To test H2, we estimate the following regression equations:[14]

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[13] Bens (2002) provides the following related anecdotal example: Whirlpool notes in both its 2002 and 2003 proxy statements that, to determine incentive compensation for its top for executives, "a corporate performance target based on return on equity was established." In 2002, Whirlpool's return on equity, including the effects of a $613 million transition impairment, was −36%, yet the executives earned their full bonus per the 2003 proxy statement, as this measure did "exceed the performance target." Presumably, the contract excluded the impairment charge, but this can only be inferred, as it is not explicitly stated.

[14] Market-to-book ratio used in equation (2) and (3), *M/B*, is the figure before the impairment losses, the same variable used in equation (1). As a sensitivity test, we use market-to-book ratio after the impairment losses.

$$BHAR^{event}_{it} = \delta_0 + \delta_1 Delay_{it} + \delta_2 UAE_{it} + \delta_3 UQE_{it} + \delta_4 Size_{it} + \delta_5 M/B_{it} + \varepsilon_{it} \quad (2)$$

$$BHAR^{post}_{it} = \gamma_0 + \gamma_1 Delay_{it} + \gamma_2 UAE_{it} + \gamma_3 UQE_{it} + \gamma_4 Size_{it} + \gamma_5 M/B_{it} + \varepsilon_{it} \quad (3)$$

where:

$BHAR^{event}_{it}$ = buy-and-hold abnormal returns of firm *i* for the three trading days surrounding the date firm *i* announces its annual earnings of year *t*;

$BHAR^{post}_{it}$ = buy-and-hold abnormal returns of firm *i* for the 200trading days after the date firm *i* announces its annual earnings of year *t*;

UAE_{it} = unexpected annual earnings for firm *i* in year *t*, which is calculated by annual earnings before extraordinary items and the impairment losses, if any, in year t minus annual earnings before extraordinary items in year *t-1*, scaled by total assets at the beginning of year *t*;

UQE_{it} = unexpected quarterly earnings for firm *i* in the fourth quarter of year *t*, which is calculated by quarterly earnings before extraordinary items and impairment losses, if any, in the fourth quarter of year t minus corresponding quarterly earnings before extraordinary items in year *t -1*, scaled by total assets at the beginning of year *t*.

In equation (2), we use BHAR for the three trading days surrounding the announcement date (hereafter, event BHAR) to capture information content at the announcement. We expect to find a positive coefficient on *Delay*if managers' decision to delay provides good news to investors. In equation (3), BHAR for the 200 trading days subsequent to the announcement (hereafter, post-event BHAR) is used to capture any delayed information content. We do not assign any sign for *Delay* in equation (3), because we do not expect to find any association between delay decision and future abnormal returns.

We include *UAE* and *UQE* to control for the news in the simultaneous earnings announcement, because the markets only respond to the unexpected portion of earnings. Although recent studies heavily use analysts' EPS forecasts available in the databases such as First Call, I/B/E/S, and Zacks as benchmark earnings, we depend on the time-series of earnings

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Inferences do not change.

for two reasons. First, requiring firms to be covered in the above databases significantly reduces the already-small sample size. Second and more importantly, it is not clear how each individual analyst would classify the impairment losses. This issue is important since we have to separate earnings news into news about earnings absent from write-off information and news regarding write-offs. Barron et al. (2002) suggest that analysts are more likely to treat the expenses related to intangibles as non-recurring, since it is difficult to predict the timing of the recognition of such expenses. However, analysts are expected to have (at least to some degree) idiosyncratic methods of treating the impairment losses, because there is no existing standard describing the treatment of non-recurring items among the analysts (Blair and Wallman, 2001).

4. Sample

The final sample consists of 707 firm-years, composed of 517 Delay observations and 190 Nodelay observations.[15] The sample selection procedure, summarized in Table 1, consists of the three stages outlined below.

Insert Table 1 here

First, we require that (1) firms have positive goodwill balances (Compustat Annual item 204) and/or the impairment losses (item 368); (2) market-to-book ratio before the impairment losses be below one, where market value is year-end share price (item 199) multiplied by the number of shares outstanding (item 25) and book value is book value of equity (item 60); and (3) the fiscal year end on or after December 2003. The first requirement enables us to include firms that entirely write off their goodwill. The second requirement is imposed to ensure that we only

[15]Imposing the same data requirements(except below-one market-to-book ratio) results in 8,427 observations in cell A of Figure A and 573 observations in cell B.

include firms that are most likely to report the impairment losses.[16] The third requirement excludes transition-year observations from our sample, because reporting requirements (and economic incentives) for goodwill impairment losses differ from those in subsequent years (Beatty and Weber, 2006). The above requirements result in 1,024 firm-years representing 667 firms. Out of 1,024 firm-years, 767 observations (74.9 percent) do not report impairment losses.

Second, sample firms are required to have (1) total assets (Compustat Annual item 6), income before extraordinary items (item 18), earnings per share before extraordinary items (item 58)[17], and total liabilities (data 181), from Compustat Annual file; (2) income before extraordinary items (Compustat Quarterly item 8) and report date of quarterly earnings from Compustat Quarterly file; and (3) number of business (or operating) segments from Compustat Segments file. Imposing Compustat data requirements results in 972 firm-years representing 637 firms. Out of 972 firms-years, 733 observations (75.4 percent) do not report impairment losses.

Third,we require that the daily stock returns for the 200 trading days before the earnings-announcement date and for the 3 trading days surrounding the announcement date be available and that the associated NYSE/AMEX/NASDAQ sizedecile daily returns be available from the Center for Research in Security Prices (CRSP) database.[18]This results in a final sample of 707

[16] This methodology has two causesfor sampling error. First, we cannot rule out the possibility that below-one market-to-book ratio is entirely due to the impairment of non-goodwill assets (i.e., we include firms in cell A of Figure 1 in our sample). The impact of this sampling error on the test of H1 is unclear, but it will bias the coefficient on *Delay* toward zero in the test of H2, since managers' decision to delay write-offs would not be surprising news to the markets. Second, fair value of goodwill under SFAS No. 142 is determined at the segment level, which is usually below the firm level, unless the firm has a single segment. Nonetheless, this methodology is the best alternative, given that there is not enough information about the segments to which goodwill belongs. It also requires the least amount of discretion. Indeed, the FASB specify that quoted market prices in active markets are the best evidence of fair value (FASB, 2001, para. 23).

[17]We exclude observations whose earnings per share before extraordinary items and the impairment losses is zero, since the price-earnings ratio cannot be defined.

[18] CRSP database provides a portfolio assignment for each firm based on its market value at the beginning of the calendar year as the variable CAPN in a dataset crsp.erdport1. Specifically, CAPN indicates the sizedecile for each firm in the NYSE/AMEX/NASDAQ exchange based on the market value of its common shares at the beginning of the calendar year. For each CAPN, a value-weighted average daily return is calculated and is available as the variable DECRET.

firm-years representing 476 firms. Out of 707 firm-years, 517 observations (73.1 percent) do not report impairment losses.

Throughout the sampling process, the proportion of the Delay sample is within a range of 73 to 75 percent. For a long-window information content test, we use a subset of sample, whose daily returns for the two hundred trading days after the announcement and the corresponding size decile daily returns are available.

Table 2 presents descriptive statistics. Panel A partitions a sample into the Delay sample (n = 517) and the Nodelay sample (n = 190). As a preliminary analysis, we perform two-sample *t*-tests for mean and two-sample Wilcoxon rank sum tests for median. The results show reliable differences in pre-event BHAR, event BHAR, and post-event BHAR between the two samples. Prior to the announcement, mean BHAR for the Delay sample (−12.2 percent) is significantly higher than that for the Nodelay sample (−36.7 percent). For the three days surrounding the announcement date, mean BHAR for the Delay sample (1.2 percent) is also significantly higher than that for the Nodelay sample (−0.9 percent). Interestingly, the former is positive and the latter is negative, but we cannot attribute the difference solely to the write-off decisions, because this univariate analysis does not control for other news released at the same time (i.e., annual earnings and quarterly earnings). Subsequent to the announcement, mean BHAR for the Delay sample (7.3 percent) is again significantly higher than that for the Nodelay sample (−4.4 percent), but the difference is partly driven by the outliers, as evidenced by the gap between the mean and the median of the Delay sample. As expected, the market-to-book ratio before the impairment losses is significantly larger for the Delay sample. Within the Delay sample, 23.4 percent of firms have a price-earnings ratio higher than that of industry median for the Delay sample, while less than 10 percent of firms in the Nodelay sample do. There is a higher incidence of loss for the Nodelay sample. Unexpected annual earnings and quarterly earnings are significantly higher for the Delay sample.

Insert Table 2 here

Descriptive statistics for pooled sample (n = 707) is provided in Panel B of Table 2. The average firm has −18.8 percent of pre-event BHAR, 0.6 percent of event BHAR, and 4.1 percent of post-event BHAR. On average, annual earnings and quarterly earnings decreased by 1 percent and 0.2 percent of beginning total assets, respectively, relative to the corresponding figures for the previous year.

Panel C of Table 2 provides sample composition by the yearin which firms announce earnings. In 2004, only 16.7 percent of the sample (37 out of 222, sum of 185 and 37) report impairment losses, but the proportion of firms that report impairment losses increases in later years. 28.3 percent (54 out of 191), 31.2 percent (59 out of 189), and 38.1 percent (40 out of 105) report impairment losses in 2005, 2006, and 2007, respectively.[19] Increases in the proportion of firms that report the impairment losses strongly suggest that we need to control for yearly fixed effect in the regression in which we use delay decision as a dependent variable.

Panel D of Table 2 presents sample composition by industry, where industry classification is based on the first two digits of NAICS code. Firms in the manufacturing industry are the largest group in both the Delay (43.7 percent) and the Nodelay (38.4 percent) samples. High concentration of manufacturing firms does not represent any sampling bias; rather, it reflects industry composition in the population of firms covered by the Compustat. Although there are differences in the sample composition between the two samples, the differences are minor and

[19]The number of sample firms in 2007 is smaller than those of other years, because the data of firms whose fiscal year ends on or after June 2007 are not yet available in the Compustat.

insignificant.[20]

Table 3 presents the related Pearson correlations for the pooled sample. Consistent with the preliminary analyses, column 2 shows that managers' decision to delay write-offs is positively correlated with pre-event BHAR, event BHAR, and post-event BHAR. It also confirms that firms in the Delay sample are more likely to have higher market-to-book ratios and higher price-earnings ratios relative to the industry medians, less likely to have write-offs of non-goodwill assets and negative profits, and more likely to have higher unexpected earnings.

Insert Table 3 here

Column 3 of Table 3 demonstrates momentum in BHAR. If a firm has large abnormal returns prior to the announcement, then the firm is more likely to have large abnormal returns at the announcement and large abnormal returns after the announcement. Consistent with prior studies, earnings news seems to capture existing news in the markets, which is shown by positive correlation between unexpected earnings and pre-event BHAR in column 3. According to column 4, event BHAR seems to associate only with the news released at the announcement date (i.e., *Loss*, *UAE*, *UQE*). Unlike *Delay*, *UAE* and *UQE* are not correlated with post-event BHAR as shown in column 5.

5. Results

Table 4 presents the estimation results of the binary logit equation examining the association between delay decisions and abnormal returns prior to the announcement. Following Cheng and Lo (2006), we report the change in the odds due to one standard deviation change in

[20] As a sensitivity test, we estimate equation (1) with industry-fixed effects. We also estimate equation (1) using exclusively firms in manufacturing industry. Inferences do not change.

the independent variable for ease of results interpretation, where the odds are the probability of the event are divided by the probability of the nonevent.[21]

Insert Table 4 here

Column 3 of Table 4 reports the results using the full sample. With respect to the main variable of interest, pre-event BHAR, we find a positive coefficient ($\widehat{\beta_1}$=1.146, p-value < 0.001, Δ in odds = 0.782), suggesting a positive association between delay decision and the existing information in the capital markets. As expected, firms with higher market-to-book ratiosand higher price-earnings ratios tend to delay write-offs, as evidenced by the positive coefficients ($\widehat{\beta_2}$=3.881, p-value < 0.001, Δ in odds = 1.015 and $\widehat{\beta_3}$ =0.606, p-value = 0.032, Δ in odds = 0.271). Firms that write off non-goodwill assets are less likely to delay write-offs of goodwill ($\widehat{\beta_4}$=–22.916, p-value < 0.001, Δ in odds = –0.348), suggesting that the fair value of goodwill tends to deteriorate when the values of other assets deteriorate. In contrast to Watts' (2003) claim, we find no significant association between delay decision and the number of segments.Consistent with Zucca and Campbell (1992), we find a negative association between delay decision and the incidence of loss ($\widehat{\beta_6}$=–0.357, p-value = 0.066, Δ in odds = –0.164). Consistent with the prediction, we find that large firms are less likely to delay write-offs ($\widehat{\beta_7}$=–0.281, p-value < 0.001, Δ in odds = –0.374). Finally, the results show that firms with higher financial distress are more likely to delay write-offs ($\widehat{\beta_8}$= 1.452, p-value = 0.002, Δ in odds = 0.389). As sensitivity tests, we estimate equation (1) using subsets of the sample. Columns 4 and 5 report estimation results using firms with a single segment and those with

[21] The odds are a positive function of the probability that the event occurs. We interpret the results based on the change in the odds, as this measure is a function of the coefficient in the logit regressions only. In contrast, calculating the change in the probability requires a reference point.

multiple segments, respectively, and columns 6 and 7 present estimation based on firms with negative profits and those with positive profits, respectively. The tenor of the results is unchanged. We also estimate equation (1) by year, and results (not reported) provide inferences similar to those reported.

Table 5 presents the estimation results investigating information content of delay decisions at the announcement. Consistent with the prediction, we find strong evidence that delay decision has information content to the markets. The coefficient estimate on *Delay* is significantly positive in column 3 of Table 5 ($\widehat{\delta}_1 = 0.021$, p-value = 0.013) and continues to be significantly positive after controlling for the news in the simultaneous earnings announcement in column 5. After controlling for size and the market-to-book ratio, the coefficient estimate becomes marginally significant in column 7. While we find information content of quarterly earnings, we do not find information content of annual earnings. Given that most information in the annual earnings is preempted by prior quarterly earnings as well as other timely information sources, we do not find our results surprising. Estimations after excluding outliers, defined as observations with studentized residuals greater than three in absolute value, are reported in columns 4, 6, and 8. The tenor of the results does not change.

Insert Table 5 here

Table 6 presents the estimation results investigating the information content of delay decisions subsequent to the announcement. The sample size is smaller than that in Table 5, because we use a subset of the sample, whose returns for the subsequent 200 trading days is available. Unlike the univariate analysis and the correlation analysis, where we find a reliable difference in mean post-event BHAR between the Delay and the Nodelay samples and a positive association between delay decision and post-event BHAR, the multivariate analysis does not support the stock market inefficiency with respect to delay decision. The coefficient estimate on *Delay* becomes insignificant once we control for size and the market-to-book ratio and/or exclude outliers, suggesting that the difference in mean post-event BHAR and the association are driven by outliers and size effects (Banz, 1981).

Insert Table 6 here

Finally, Figure 2 presentsthe mean BHAR of 452 Delay observations and 167 Nodelayobservations, the sample used in Table 6. In Figure 2a, the returns are cumulated from the 200 trading days before the announcement to the 200 trading days after the announcement – the period of interest in this paper. Interestingly, the slope for mean BHAR of the Delay sample becomes positive around 40 days before the announcement date and continues to be positive, which suggests that managers who delay write-offs had good news *in absolute terms* prior to the announcement, not just better news than managers who report impairment losses. In Figure 2b, where the returns are cumulated from 200 trading days before the fiscal year-end to 200 trading days after the fiscal year-end, the pattern for the Delay sample becomes more prominent. The slope for mean BHAR of the Delay sample reverses its direction around the fiscal year-end and continues to move upward until 80 trading days after the fiscal year-end. It is conjectured that managers use positive abnormal returns as the grounds of justification for delaying write-offs.

Insert Figure 2 here

6. Conclusions

Motivated by the concerns that unverifiable fairvalue accounting would make accounting numbers less useful for investment decisions, this paper examines the usefulness of fair value accounting numbers by investigating whether they reflect existing information in the capital markets and convey new information to the markets. The way we operationalize usefulness builds on the findings that accounting earnings incorporate the information reflected in price changes with a lag (e.g., Ball and Brown, 1968; Beaver et al., 1980; Kothari and Sloan, 1992, among others) and that the stock markets are efficient in processing information once information becomes publicly available (Fama, 1970).

Specifically, we focus on fairvalue accounting for goodwill stipulated in SFAS No. 142, because it provides a powerful setting to conduct our tests. To effectively address the concerns raised by the critics of fair value accounting, we identify firms that are most likely to be required to report impairment losses independent of whether they actually report or not. Following prior studies (e.g., Beatty and Weber, 2006; Ramanna and Watts, 2011), we use firms whose market-to-book ratio before impairment is below one.

Wehypothesize and find that firms that delay write-offs have significantly higher buy-and-hold abnormal returns than those that report impairment losses for the 200 trading days prior to the announcement, after controlling for other factors that have been shown by previous research to be associated with the write-offs decision, such as market-to-book ratio, price-earnings ratio, write-offs of non-goodwill assets, number of segments, incidence of loss, market capitalization, and leverage.

Weconduct two separate tests to investigate whether managers' decision to delay write-offs provides new information to the capital markets – a typical three-day window event study and a long-window event study, which examines the markets' reaction up to 200 trading days after the announcement. We find that the deferral of write-offs has information content at the announcement after controlling for news in the simultaneous earnings announcement. The results of the long-window event study suggest that the stock markets are not inefficient in processing information in delay decision and reveal that apparent drift is driven by outliers and size effects (Banz, 1981).

Taken together, our results suggest that fair value accounting numbers reflect existing information in the capital markets and convey new information to the markets. However, the results should be interpreted with caution, because goodwill accounting rules are constructed to be less vulnerable to managers' manipulation (i.e., once goodwill is written down, subsequent write-ups of goodwill are prohibited). How managers would use their discretion with respect to write-ups of an asset is beyond the scope of this paper.

References

Ball, R. and Brown, P. 1968. An empirical evaluation of accounting income numbers. *Journal of Accounting Research* 6 (Autumn): 159−178.

Bans, R.W. 1981. The relationship between return and market value of common stocks. *Journal of Financial Economics* 9 (March): 3−18.

Barron, O.E., Byard, D., Kile, C., and Riedl, E.J. 2002. High-technology intangibles and analysts' forecasts. *Journal of Accounting Research* 40 (May): 289−312.

Barth, M.E. 1994. Fair value accounting: Evidence from investment securities and the market valuation of banks. *The Accounting Review* 69 (January): 1−25.

Barth, M.E., Beaver, W.H., and Landsman, W.R. 1996. Value-relevance of banks' fair value disclosures under SFAS 107. *The Accounting Review* 71 (October): 513−537.

Barth, M.E. and Clinch, G. 1998. Revalued financial, tangible, and intangible assets: Associations with share prices and non market-based value estimates. *Journal of Accounting Research* 36 (Supplement): 199−233.

Basu, S. 1997. The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24 (December): 3−37.

Beatty, A. and Weber, J. 2006. Accounting discretion in fair value estimates: An examination of SFAS 142 goodwill impairments. *Journal of Accounting Research* 44 (May): 257−288.

Beaver, W., Lambert, R., and Morse, D. 1980. The information content of security prices. *Journal of Accounting and Economics* 2 (March): 3−28.

Bens, D.A. 2002. Discussion of "Accounting discretion in fair value estimates: An examination of SFAS 142 goodwill impairments." *Journal of Accounting Research* 44 (May): 289−296.

Bens, D.A., Heltzer, W. and Segal, B. 2011, The information content of goodwill impairments and SFAS 142, *Journal of Accounting, Auditing & Finance* 26 (July): 527−555.

Benston, G.J. 2008. The shortcomings of fair-value accounting described in SFAS 157. *Journal of Accounting and Public Policy* 27 (March/April): 101−114.

Black, E.L., Sellers, K.F., and Manly, T.S. 1998. Earnings management using asset sales: An international study of countries allowing non-current asset revaluation. *Journal of Business Finance & Accounting* 25 (November/December): 1287−1317.

Blair, M.M. and Wallman, S.M.H. 2001. *Unseen Wealth: Report of the Brookings Task Force on*

Intangibles. Washington, D.C.:Brookings Institution Press.

Burgstahler, D. and Dichev, I. 1997. Earnings management to avoid earnings decreases and losses. *Journal of Accounting and Economics* 24 (December): 99–126.

Cheng, Q. and Lo, K. 2006. Insider trading and voluntary disclosures. *Journal of Accounting Research* 44 (December): 815–848.

Daniel, K., Hirshleifer, D., and Subrahmanyam, A. 1998. Investor psychology and security market under- and overreactions. *The Journal of Finance* 53 (December): 1839–1885.

Davis, M. 2005. Goodwill impairment: Improvement or boondoggle? *The Journal of American Academy of Business* 2 (March): 230–236.

Dechow, P.M. and Sloan, R.G. 1991. Executive incentives and the horizon problem: An empirical investigation. *Journal of Accounting and Economics* 14 (March): 51–89.

Degeorge, F., Patel, J., and Zeckhauser, R. 1999. Earnings management to exceed thresholds. *The Journal of Business* 72 (January): 1–33.

Easton, P.D. 1998. Discussion of "Revalued financial, tangible, and intangible assets: Associations with share prices and non market-based value estimates". *Journal of Accounting Research* 36 (Supplement): 235–247.

Easton, P.D., Eddey, P.H., and Harris, T.S. 1993. An investigation of revaluations of tangible long-lived asset. *Journal of Accounting Research* 31 (Supplement): 1–38.

Eccher, E.A., Ramesh, K., and Thiagarajan, S.R. 1996. Fair value disclosures by bank holding companies. *Journal of Accounting and Economics* 22(August-December): 79–117.

Ewert, R. and Wagenhofer, A. 2005. Economic effects of tightening accounting standards to restrict earnings management. *The Accounting Review* 80 (October): 1101–1124.

Fama, E.F. 1965. The behavior of stock market prices. *The Journal of Business* 38 (January): 34–105.

Fama, E.F. 1970. Efficient capital markets: A review of theory and empirical work. *The Journal of Finance* 25 (May): 383–417.

Financial Accounting Standards Board (FASB). 1991. Statement of Financial Accounting Standards No. 107: *Disclosures about Fair Value of Financial Instruments*. Norwalk, CT: FASB.

Financial Accounting Standards Board (FASB). 1995. Statement of Financial Accounting Standards No. 121: *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of*. Norwalk, CT: FASB.

Financial Accounting Standards Board (FASB). 2001. Statement of Financial Accounting Standards No. 142: *Goodwill and Other Intangibles*. Norwalk, CT: FASB.

Financial Accounting Standards Board (FASB). 2006. Statement of Financial Accounting Standards No. 157: *Fair Value Measurements*. Norwalk, CT: FASB.

Financial Accounting Standards Board (FASB). 2007. Statement of Financial Accounting Standards No. 159: *The Fair Value Option for Financial Assets and Financial Liabilities*. Norwalk, CT: FASB.

Francis, J., Hanna, D.J., and Vincent, L. 1996. Causes and effects of discretionary asset write-offs. *Journal of Accounting Research* 34 (Supplement): 117−134.

Hayn, C. 1995. The information content of losses. *Journal of Accounting and Economics* 20 (September): 125−153.

Hayn, C. and Hughes, P. 2006. Leading indicators of goodwill impairment. *Journal of Accounting, Auditing & Finance* 21 (Summer): 223−265.

Healy, P.M. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting andEconomics* 7 (April): 85−107.

Henry, D. and Kopecki, D. 2004. The snag in accounting-made-simple; Companies may be exploiting new standards for more accurately valuing assets. *Business Week* (June 04): 82.

Hirschey, M. and Richardson, V.J. 2002. Information content of accounting goodwill numbers. *Journal of Accounting and Public Policy* 21 (Autumn): 173−191.

Holthausen, R.W., Larcker, D.F., and Sloan, R.G. 1995. Annual bonus schemes and the manipulation of earnings. *Journal of Accounting and Economics* 19 (February): 29−74.

Holthausen, R.W. and Watts, R.L. 2001. The relevance of the value-relevance literature for financial accounting standard setting. *Journal of Accounting and Economics* 31 (September): 3−75.

Jones, J.J. 1991. Earnings management during import relief investigations. *Journal of AccountingResearch* 29 (Autumn): 193−228.

Kasznik, R. 2001. The effects of limiting accounting discretion on the informativeness of financial statements: Evidence from software revenue recognition. Working Paper−Stanford University.

Kothari, S.P. and Sloan, R.G. 1992. Information in prices about future earnings: Implications for earnings response coefficients. *Journal of Accounting and Economics* 15 (June-September):

143–172.

Lee, C. (2011), "The effect of SFAS 142 on the ability of goodwill to predict future cash flows", *Journal of Accounting and Public Policy* 30 (May-June): 236–255.

Li, Z., Shroff, P.K., Venkataraman, R. and Zhang, I.X. 2011. Causes and consequences of goodwill impairment losses, *Review of Accounting Studies* 16 (December): 745–778.

Nelson, K.K. 1996. Fair value accounting for commercial banks: An empirical analysis of SFAS No. 107. *The Accounting Review* 71 (April): 161–182.

Ramanna, K., and Watts, R.L. 2011. Evidence on the effects of unverifiable fair-value accounting. Working Paper–Harvard University and Massachusetts Institute of Technology.

Rockness, J.W., Rockness, H.O., and Ivancevich, S.H. 2001. The M&A game changes. *Financial Executives* 17 (October): 22–25.

Sankar, M.R. and Subramanyam, K.R. 2001. Reporting discretion and private information communication through earnings. *Journal of Accounting Research* 39 (September): 365–386.

U.S. Securities and Exchange Commission (SEC). 2001. Speech by Lynn Turner, *The times, they are a-changing*. (May 18) Washington, D.C.: SEC.

Figure 1
Sampling framework

This figure illustrates a sampling framework used in this paper. Each year managers are required to assess their goodwill regardless of any triggering events. Based on their assessment (or the assessment by the external appraiser), they report impairment losses, if any, or disclose that their goodwill is not impaired. Goodwill is also assessed by the market, whose assessment can be captured by the market-to-book-ratio. Firms of interest are ones in cell D, which we term as "Delay". We also term those in cell C as "Nodelay", which serve as control group.

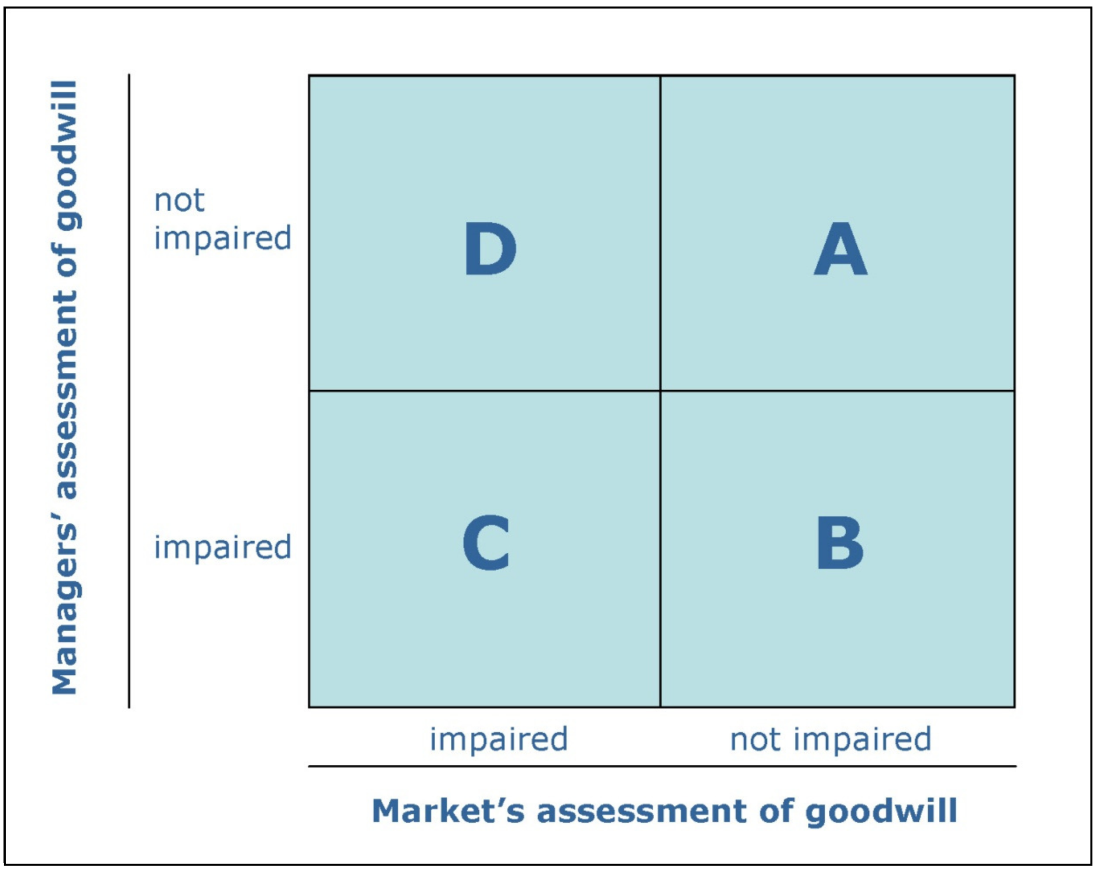

Figure 2

Mean buy-and-hold abnormal returns for the Delay sample and the Nodelaysample

This figure presents mean buy-and-hold abnormal return (BHAR) of 452 Delay observations and 167Nodelayobservations (the sample used in Table 6), where BHAR is the difference between the returns of a firm and the returns for NYSE/AMEX/NASDAQ firms of the same size decile, based on January 1 market capitalization. The returns are cumulated from the two hundred trading days before the earnings-announcement date (the fiscal year-end), until the two hundred trading days after the announcement (the fiscal year-end) in Figure 2a (2b).

Figure 2a

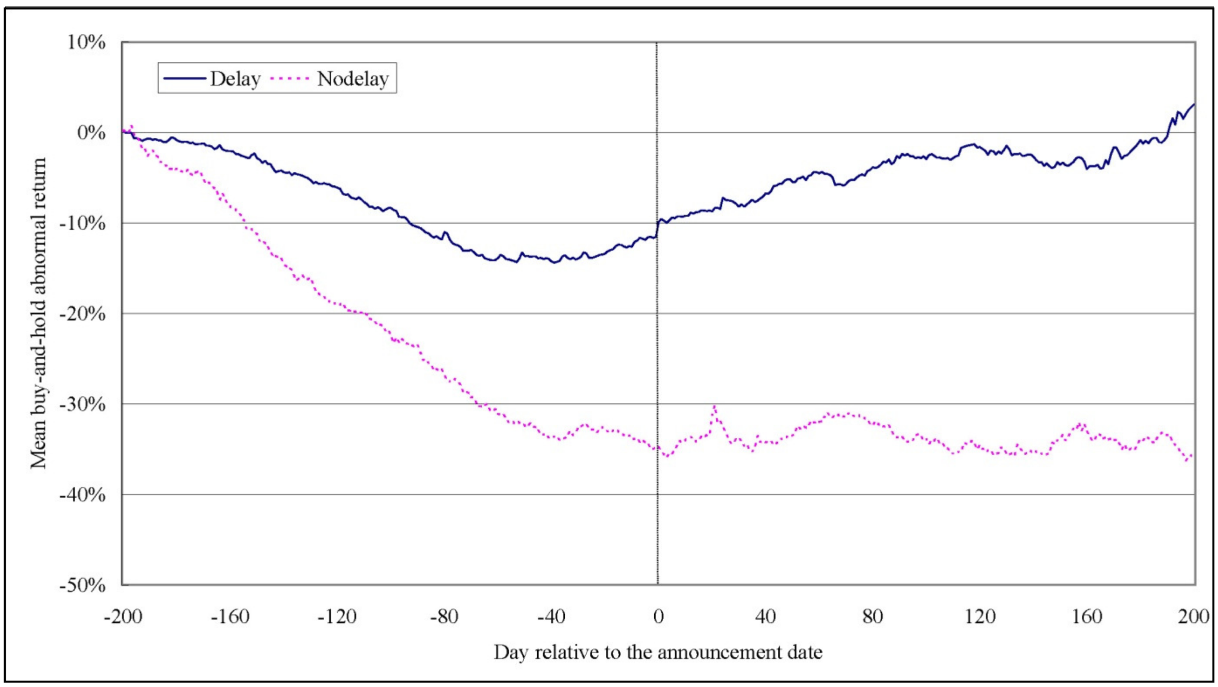

Figure 2 (continued)

Figure 2b

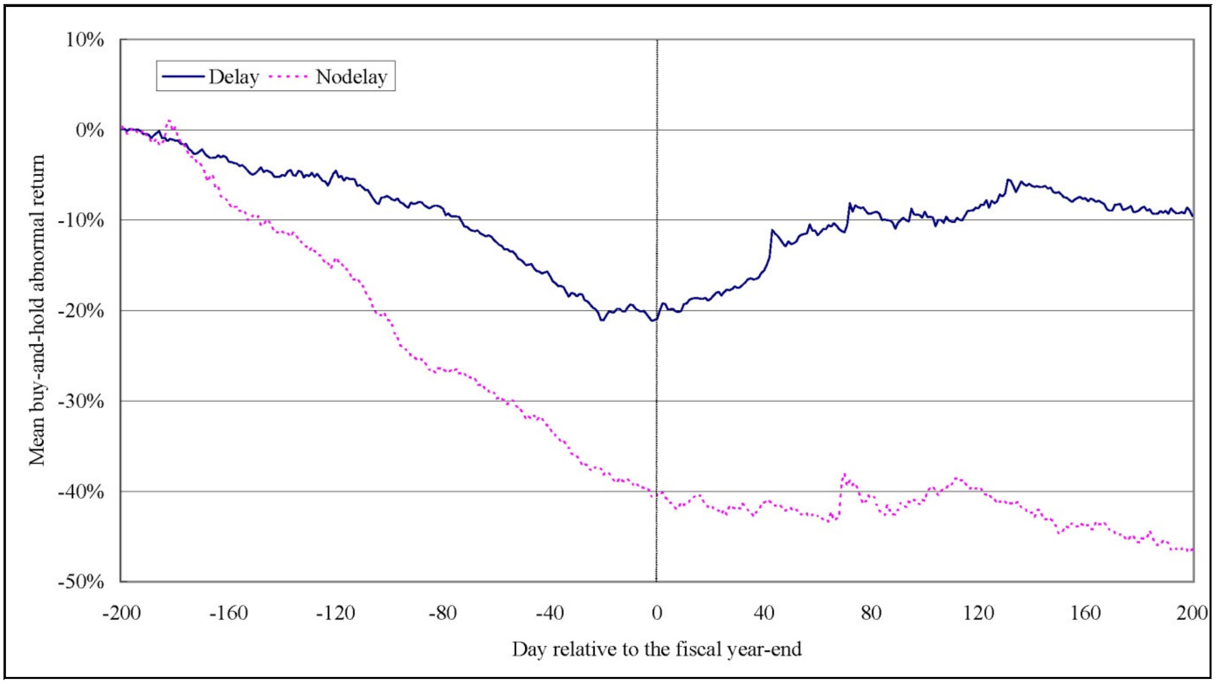

Table 1
Sample selection

Sample selection process	Firms	Firm-years
Observations with goodwill and/or the impairment losses and whose market-to-book ratio before the impairment losses is below one on Compustat[a]	667	1,024
[Delay/Nodelay][b,c]	[526/223]	[767/257]
Delete if required data from Compustat are missing	– 30	– 52
	637	972
[Delay/Nodelay]	[506/207]	[733/239]
Delete if required data from CRSP are missing	– 161	– 265
Final sample	476	707
[Delay/Nodelay]	[367/166]	[517/190]

[a]We exclude transition-year observations from our sample because reporting requirements for goodwill impairment losses differ from those in subsequent years. Negative book-value firms are also excluded.

[b] Delay denotes firms that do not report impairment losses and Nodelay denotes those that report.

[c] Number of firms is not additive (i.e., 526 Delay firms plus 223 Nodelay firms do not equal the total of 667 firms), as a given firm may be represented as both a Delay and Nodelay observation for different years.

Table 2

Descriptive statistics

Panel A: Delay sample (n^a = 517) vs. Nodelay sample (n^a = 190)

	Delay sample			Nodelay sample		
Variable[b]	Mean	Median	S.D.	Mean	Median	S.D.
$BHAR^{pre}$	–0.122***	–0.163***	0.531	–0.367	–0.396	0.368
$BHAR^{event}$	0.012*	0.001*	0.109	–0.009	–0.009	0.109
$BHAR^{post}$	0.073*	–0.030	0.588	–0.044	–0.081	0.489
M/B	0.802***	0.836***	0.164	0.694	0.716	0.199
HighP/E	0.234***	0.000***	0.424	0.089	0.000	0.286
WO^{nonGW}	0.002***	0.000***	0.011	0.012	0.000	0.030
SegCount	2.698	3.000	1.750	2.437	2.000	1.471
Loss	0.429***	0.000***	0.495	0.663	1.000	0.474
Size	18.470	18.388	1.668	18.585	18.427	1.663
Leverage	0.523**	0.531**	0.228	0.469	0.446	0.218
UAE	–0.001**	–0.001***	0.101	–0.034	–0.042	0.154
UQE	0.003**	0.000***	0.056	–0.016	–0.008	0.126

Panel B: Pooled sample (n^a = 707)

Variable	Mean	S.D.	Q1	Median	Q3
Delay	0.731	0.444	0.000	1.000	1.000
$BHAR^{pre}$	–0.188	0.504	–0.472	–0.233	–0.025
$BHAR^{event}$	0.006	0.109	–0.043	–0.001	0.047
$BHAR^{post}$	0.041	0.565	–0.293	–0.039	0.232
M/B	0.773	0.181	0.678	0.814	0.913
HighP/E	0.195	0.397	0.000	0.000	0.000
WO^{nonGW}	0.005	0.019	0.000	0.000	0.000
SegCount	2.628	1.683	1.000	3.000	4.000
Loss	0.492	0.500	0.000	0.000	1.000
Size	18.501	1.666	17.286	18.388	19.559
Leverage	0.508	0.227	0.325	0.515	0.691
UAE	–0.010	0.118	–0.042	–0.006	0.016
UQE	–0.002	0.081	–0.017	0.000	0.008

Panel C: sample composition by year

Year[c]	Delay sample		Nodelay sample	
2004	185	35.8%	37	19.5%
2005	137	26.5%	54	28.4%
2006	130	25.1%	59	31.1%
2007	65	12.6%	40	21.1%
	517	100%	190	100%

Panel D: sample composition by industry

Two-digit NAICS Code	NAICS Code Description	Delay sample		Nodelay sample	
11	Agriculture, Forestry, Fishing and Hunting	2	0.4%	1	0.5%
21	Mining	0	0.0%	1	0.5%
22	Utilities	4	0.8%	4	2.1%
23	Construction	10	1.9%	6	3.2%
31–33	Manufacturing	226	43.7%	73	38.4%
42	Wholesale Trade	24	4.6%	6	3.2%
44–45	Retail Trade	38	7.4%	12	6.3%
48–49	Transportation and Warehousing	16	3.1%	5	2.6%
51	Information	38	7.4%	24	12.6%
52	Finance and Insurance	78	15.1%	12	6.3%
53	Real Estate and Rental and Leasing	7	1.4%	4	2.1%
54	Professional, Scientific, and Technical Services	20	3.9%	18	9.5%
55	Management of Companies and Enterprises	0	0.0%	0	0.0%
56	Administrative and Support and Waste Management and Remediation Services	18	3.5%	8	4.2%
61	Education Services	2	0.4%	0	0.0%
62	Health Care and Social Assistance	10	1.9%	5	2.6%
71	Arts, Entertainment, and Recreation	3	0.6%	2	1.1%
72	Accommodation and Food services	13	2.5%	2	1.1%
81	Other Services (except Public Administration)	8	1.5%	6	3.2%
92	Public Administration	0	0.0%	0	0.0%
99	Miscellaneous	0	0.0%	1	0.5%
		517	100%	190	100%

Table 2 (continued)

[a] Number of observations for $BHAR^{post}$ is 452 (167) in the Delay (Nodelay) sample and 619 in the pooled sample.

[b] Variable definitions: Delay is an indicator variable equal to one if a firm does not report goodwill impairment losses, zero otherwise. $BHAR^{pre}$ represents buy-and-hold abnormal returns for the two hundred trading days ending one day before the earnings-announcement date, where buy-and-hold abnormal return is the difference between the returns of a firm and the returns for NYSE/AMEX/NASDAQ firms of the same size decile, based on January 1 market capitalization. $BHAR^{event}$ is buy-and-hold abnormal returns for the three trading days surrounding the earnings-announcement date. $BHAR^{post}$ is buy-and-hold abnormal returns for the two hundred trading days beginning one day after the earnings-announcement date. M/B is the ratio of market value of equity to book value of equity, where market value of equity is year-end share price multiplied by shares outstanding.HighP/E is an indicator variable equal to one if a firm's price-earnings ratio is higher than the industry median price-earnings ratio, where industry classification is based on the first twodigits of NAICS code, zero otherwise. WO^{nonGW} is write-offs of non-goodwill assets, scaled by total assets at the beginning of the year. SegCount is the number of business (or operating) segments. Loss is an indicator variable equal to one if a firm suffered a loss before the extraordinary items, zero otherwise. Size is log of market value of equity. Leverage is the ratio of total liabilities to total assets. UAE is the unexpected annual earnings, which is calculated by annual earnings before extraordinary items minus previous annual earnings before extraordinary items, scaled by total assets at the beginning of the year. UQE is the unexpected quarterly earnings, which is calculated by quarterly earnings before extraordinary items minus corresponding quarterly earnings before extraordinary items in previous year, scaled by total assets at the beginning of the year. Variables are measured before the impairment losses, when applicable.

[c] Year is the calendar year in which firms announce earnings.

[*], [**], [***] denote two-tail significance levels for between sample differences, at the 5%, 1%, and 0.1% level, respectively, using two-sample *t*-tests (for mean) and two-sample Wilcoxon rank sums tests (for median).

Table 3
Pearson Correlations

This table reports Pearson correlation coefficients and the accompanied *p*-value (in parentheses). Correlations are for the pooled sample of 707 firm-years (except $BHAR^{post}$, where n = 619). Variables are defined in Table 2.

	Delay	$BHAR^{pre}$	$BHAR^{event}$	$BHAR^{post}$	M/B	HighP/E	WO^{nonGW}	SegCount	Loss	Size	Leverage	UAE	UQE
Delay	1.000												
$BHAR^{pre}$	0.215	1.000											
	(<0.001)												
$BHAR^{event}$	0.084	0.149	1.000										
	(0.026)	(<0.001)											
$BHAR^{post}$	0.091	0.097	0.082	1.000									
	(0.023)	(0.016)	(0.041)										
M/B	0.264	0.101	0.058	0.038	1.000								
	(<0.001)	(0.007)	(0.126)	(0.347)									
HighP/E	0.162	0.082	0.028	0.063	0.118	1.000							
	(<0.001)	(0.030)	(0.457)	(0.116)	(0.002)								
WO^{nonGW}	−0.242	−0.079	0.009	−0.025	−0.101	−0.117	1.000						
	(<0.001)	(0.037)	(0.821)	(0.539)	(0.007)	(0.002)							
SegCount	0.069	0.135	0.001	0.016	0.063	0.052	−0.076	1.000					
	(0.067)	(<0.001)	(0.977)	(0.683)	(0.092)	(0.170)	(0.043)						
Loss	−0.207	−0.141	−0.106	−0.019	−0.240	−0.485	0.220	−0.208	1.000				
	(<0.001)	(<0.001)	(0.005)	(0.632)	(<0.001)	(<0.001)	(<0.001)	(<0.001)					
Size	−0.031	0.086	−0.010	−0.130	0.250	0.066	−0.047	0.262	−0.244	1.000			
	(0.418)	(0.022)	(0.796)	(0.001)	(<0.001)	(0.078)	(0.214)	(<0.001)	(<0.001)				
Leverage	0.107	0.130	0.036	0.029	−0.106	0.032	−0.100	0.264	−0.143	0.218	1.000		
	(0.005)	(0.001)	(0.344)	(0.471)	(0.005)	(0.399)	(0.008)	(<0.001)	(<0.001)	(<0.001)			
UAE	0.122	0.156	0.097	−0.018	0.031	0.066	−0.180	0.052	−0.164	−0.001	0.009	1.000	
	(0.001)	(<0.001)	(0.010)	(0.663)	(0.410)	(0.080)	(<0.001)	(0.169)	(<0.001)	(0.985)	(0.821)		
UQE	0.101	0.156	0.107	−0.042	−0.003	0.047	−0.094	0.015	−0.034	−0.037	−0.005	0.584	1.000
	(0.007)	(<0.001)	(0.005)	(0.301)	(0.946)	(0.216)	(0.012)	(0.681)	(0.360)	(0.328)	(0.897)	(<0.001)	

Table 4

Association between delay decisions and abnormal returns prior to the announcement

This table presents the results from estimating the following binary logit equation:

$$Prob(Delay_{it} = 1) = \beta_0 + \beta_1 BHAR^{pre}_{it} + \beta_2 M/B_{it} + \beta_3 HighP/E_{it} + \beta_4 WO^{nonGW}_{it} + \beta_5 SegCount_{it} + \beta_6 Loss_{it} + \beta_7 Size_{it} + \beta_8 Leverage_{it} + Yearly\ fixed\ effects + \varepsilon_{it} \quad (1)$$

The regressions are estimated using 707 firm-years, comprised of 517 Delay observations and 190Nodelayobservations.Column 3 reports the results using full sample. Estimations using subsets of the sample are reported in columns 4 to 7. The table reports coefficients, the change in the odds ratio due to one standard deviation change in the independent variable [in brackets], and the accompanied *p*-value (in parentheses). Variables are defined in Table 2.

Table 4 (continued)

	Pred. sign	Full sample	Single-segment	Multiple-segment	Loss sample	Profit sample
Intercept	?	3.941	2.971	4.492	2.257	5.957
		(0.001)	(0.164)	(0.003)	(0.122)	(0.003)
$BHAR^{pre}$	+	1.146	1.143	1.197	0.727	2.239
		[0.782]	[0.655]	[0.907]	[0.534]	[1.416]
		(<0.001)	(0.012)	(0.001)	(0.014)	(<0.001)
M/B	+	3.881	4.769	3.403	3.392	4.659
		[1.015]	[1.415]	[0.830]	[0.951]	[1.026]
		(<0.001)	(<0.001)	(<0.001)	(<0.001)	(<0.001)
HighP/E	+	0.606	0.471	0.754		0.591
		[0.271]	[0.196]	[0.360]		[0.334]
		(0.032)	(0.216)	(0.030)		(0.044)
WO^{nonGW}	+/–	–22.916	–30.168	–16.977	–21.636	–127.100
		[–0.348]	[–0.434]	[–0.270]	[–0.425]	[–0.429]
		(<0.001)	(0.003)	(0.039)	(0.001)	(0.033)
SegCount	+/–	–0.009		0.197	0.009	–0.019
		[–0.015]		[0.294]	[0.014]	[–0.032]
		(0.889)		(0.098)	(0.916)	(0.853)
Loss	–	–0.357	–0.252	–0.483		
		[–0.164]	[–0.117]	[–0.213]		
		(0.066)	(0.273)	(0.052)		
Size	–	–0.281	–0.224	–0.352	–0.186	–0.419
		[–0.374]	[–0.296]	[–0.449]	[–0.256]	[–0.498]
		(<0.001)	(0.023)	(<0.001)	(0.014)	(<0.001)
Leverage	+/–	1.452	0.486	1.941	0.608	3.008
		[0.389]	[0.115]	[0.548]	[0.153]	[0.908]
		(0.002)	(0.512)	(0.002)	(0.292)	(0.001)
Year Indicators		Yes	Yes	Yes	Yes	Yes
Pseudo R^2		30.69%	37.16%	30.92%	23.93%	35.53%
No. of obs.		707	287	420	348	359

Table 5
Information content of delay decisions at the announcement

This table presents the results from estimating the following regression equations:

$$BHAR^{event}_{it} = \delta_0 + \delta_1 Delay_{it} + \delta_2 UAE_{it} + \delta_3 UQE_{it} + \delta_4 Size_{it} + \delta_5 M/B_{it} + \varepsilon_{it} \quad (2)$$

The regressions are estimated using 707 firm-years, comprised of 517 Delay observations and 190Nodelayobservations. Estimations using 707 observations are reported in columns 3, 5, and 7, while estimations after excluding outliers, defined as observations with studentized residuals greater than three in absolute value, are reported in columns 4, 6, and 8. The table reports estimated coefficients and the accompanied*p*-value (in parentheses). Variables are defined in Table 2.

	Pred. sign	Model 1		Model 2		Model 3	
Intercept	?	−0.009	−0.012	−0.006	−0.010	−0.005	−0.072
		(0.254)	(0.056)	(0.449)	(0.104)	(0.917)	(0.044)
Delay	+	0.021	0.016	0.017	0.015	0.014	0.012
		(0.013)	(0.011)	(0.031)	(0.021)	(0.070)	(0.052)
UAE	+			0.043	0.002	0.042	0.001
				(0.157)	(0.481)	(0.160)	(0.490)
UQE	+			0.097	0.103	0.098	0.106
				(0.059)	(0.016)	(0.056)	(0.012)
Size	+/−					−0.001	0.003
						(0.670)	(0.190)
M/B	+/−					0.027	0.021
						(0.262)	(0.270)
R^2		0.70%	0.76%	1.81%	1.79%	1.99%	2.32%
No. of obs.		707	697	707	697	707	696

Table 6
Information content of delay decisions subsequent to the announcement

This table presents the results from estimating the following regression equations:

$$BHAR^{post}_{it} = \gamma_0 + \gamma_1 Delay_{it} + \gamma_2 UAE_{it} + \gamma_3 UQE_{it} + \gamma_4 Size_{it} + \gamma_5 M/B_{it} + \varepsilon_{it} \quad (3)$$

The regressions are estimated using 619 firm-years, comprised of 452 Delay observations and 167Nodelayobservations. The sample size is smaller than that in Table 5 because we use a subset of the sample whose return for subsequent two hundred trading days is available. Estimations using 619 observations are reported in columns 3, 5, and 7, while estimations after excluding outliers, defined as observations with studentized residuals greater than three in absolute value, are reported in columns 4, 6, and 8. The table reports estimated coefficients and the accompanied*p*-value (in parentheses). Variables are defined in Table 2.

	Pred. sign	Model 1		Model 2		Model 3	
Intercept	?	–0.044	–0.044	–0.047	–0.056	0.758	0.371
		(0.318)	(0.225)	(0.287)	(0.117)	(0.004)	(0.093)
Delay	+/–	0.116	0.068	0.121	0.082	0.094	0.049
		(0.023)	(0.109)	(0.019)	(0.053)	(0.081)	(0.270)
UAE	+/–			0.032	0.100	0.063	0.099
				(0.905)	(0.641)	(0.811)	(0.651)
UQE	+/–			–0.369	–0.465	–0.440	–0.416
				(0.323)	(0.128)	(0.236)	(0.179)
Size	+/–					–0.049	–0.029
						(0.001)	(0.015)
M/B	+/–					0.165	0.183
						(0.230)	(0.114)
R^2		0.83%	0.42%	1.08%	1.04%	2.98%	1.88%
No. of obs.		619	611	619	610	619	612