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Discretionary Disclosures of Goodwill Slack: Determinants and Consequences

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Current Draft: July 2015

Abstract: Recently, the SEC has added a principle-based requirement to the disclosures for goodwill. The rule requires firms to report the percentage by which the fair value of reporting units exceed their book values—slack—when the fair value is not *substantially in excess* of book value. The SEC does not place a bright-line on what is meant by *substantially in excess.* We examine the determinants and consequences of this disclosure requirement and find evidence consistent with the SEC's perceived goal—improve goodwill balances are more likely to disclose slack. Firms that provide the disclosure are 64% more likely to experience an impairment next period. Moreover, information asymmetry declines following a slack disclosure. These results suggest that slack disclosure has led to an increase in the quality of information available to investors regarding future impairment of goodwill.

Discretionary Disclosures of Goodwill Impairment Risk: Determinants and Consequences

Abstract: Recently, the SEC has added a principle-based requirement to the disclosures for goodwill. The rule requires firms to report the percentage by which the fair value of reporting units exceed their book values—slack—when the fair value is not *substantially in excess* of book value. The SEC does not place a bright-line on what is meant by *substantially in excess.* We examine the determinants and consequences of this disclosure requirement and find evidence consistent with the SEC's perceived goal—improve goodwill balances are more likely to disclose slack. Firms that provide the disclosure are 64% more likely to experience an impairment next period. Moreover, information asymmetry declines following a slack disclosure. These results suggest that slack disclosure has led to an increase in the quality of information available to investors regarding future impairment of goodwill.

1. Introduction

Following the financial crisis of 2007, fair value accounting came under attack on many fronts. Congress and many in corporate America blamed fair value accounting—specifically mark-to-market accounting—for the collapse of the financial sector, calling for its suspension (Congressional Letter 09/30/2008 and Forbes 2009). One consequence of the financial crisis was a significant increase in the frequency and dollar amount of goodwill impairments (Duff & Phelps 2012). As evidenced by the increase in related comment letters, the SEC became progressively concerned about companies that carried large amounts of goodwill on their books without recognized any goodwill impairments in spite of declining stock prices and impairments at peer firms. The SEC noted the lack of conformity in practice in the nature and extent of disclosures related to goodwill impairments and responded by updating the SEC's Financial Reporting Manual (FRM) and detailing the types of disclosures they expect at the December 8, 2009 *National Conference on Current SEC & PCAOB Developments*.

In this paper we do three things. First, we detail the changes to the required goodwill disclosures. Second, we investigate the informativeness of these additional disclosures and the role they play in determining firm characteristics including value, information asymmetry and future impairments. Third, we explicate how the goodwill impairment test along with the expanded disclosure is a blending of rule-based and principles-based regulation that leads to an improvement in financial reporting quality.

The goodwill assessment that firms perform annually or when there is a trigger event is familiar to the professional and academic accounting audiences as it has been in place since 2001. This rules based approach begins with Step 1 which requires the firm to compare the fair value of the reporting unit in which goodwill resides to its carrying value. If that fair value is in excess

of the carrying value of the reporting unit there is no impairment.[1] It is the headroom—"slack"—captured by the difference in fair value and carrying values that the SEC would like to be disclosed. The idea is that if more descriptive disclosures regarding slack were provided, the informational timeliness of goodwill impairments would improve. In other words, if investors knew the relative size of the headroom in periods prior to a firm failing Step 1, the assessment of impairment probably would be of higher quality.

Since 2009, the SEC has required firms to assess if the fair value of each reporting unit, as of the date of the last goodwill impairment test, is "substantially in excess" of the reporting unit's carrying value. Public companies have been directed to disclose if the slack in their reporting units substantially exceeds its carrying value and the actual percentage of the slack. This requirement is a principle-based regulation. The SEC has chosen <u>not</u> to provide a bright line for the percentage of slack that translates into "substantially in excess"; however, they did clarify that "the lower the percentage gets, the higher the risk of recording a future goodwill impairment and the more counterintuitive it would become to conclude that additional disclosure would not be necessary (KPMG 2009)."

In the event that the goodwill slack is not substantial, the company is to treat the risk of impairment as a "known uncertainty" which requires compliance with Item 303 of Regulation S-K.[2] However, the determination of substantial is "a *judgment based on the facts and circumstances* including, but not limited to, the level of uncertainty associated with the methods and assumptions used for impairment testing" (Section 9510.3, FRM emphasis added). Because

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[1] However, if the carrying value exceeds the fair value, then the analysis moves to Step 2 where the implied goodwill is calculated to determine the measurable impairment.

[2] Item 303 of Regulation S-K of the MD&A states that "the discussion and analysis shall focus specifically on material events and uncertainties known to management that would cause reported financial information not to be necessarily indicative of future operating results or of future financial condition. This would include descriptions and amounts of (A) matters that would have an impact on future operations and have not had an impact in the past, and (B) matters that have had an impact on reported operations and are not expected to have an impact upon future operations." (17 CFR 229.303 – (Item 303))

the decision to disclose the more informative percentage of slack is based on managerial judgment, one must consider the incentives of managers to participate in this principles-based regulation—to disclose or withhold the potentially bad news.

The disclosure literature identifies several incentives for disclosing or withholding information. The risk of litigation can drive managers to disclose bad news quickly (Kasznik and Lev 1995, Skinner 1994, 1997, Baginski, Hassell, and Kimbrough 2002). At the same time, the disclosure of information reduces information asymmetry and may result in a reduction in cost of capital.[3] The downside of prompt disclosure is the cost of revealing proprietary information to both investors and competitors (Verrecchia 2001). Therefore, managers must reconcile the value of providing more information to the market with the cost of choosing not to. Our study brings an interesting addendum to the disclosure debate in that we are dealing with disclosures that are technically mandatory, but the decision to quantify the amount of goodwill slack depends on managerial judgment. Goodwill disclosures do not fit into the present dichotomous disclosure classification present in the literature, namely that of "mandatory" versus "voluntary" disclosures. Thus, we seek to answer the broad question of what determines the level of precision in these disclosures, and whether the lack of goodwill slack disclosures is associated with managerial opportunism or with unbiased managerial judgments. In particular, we investigate the determinants of a firm's choice to quantify their slack disclosure or not and how this choice relates to the likelihood of a future impairment. Moreover, we study how the existence of goodwill slack disclosures affects perceived market uncertainty around earnings announcements, as reflected in firms' bid-ask spreads. Our study provides evidence on the ability of increased disclosure to address the lack of information timeliness in goodwill impairment disclosures.

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[3] Glosten and Milgrom 1985; Diamond 1985; Diamond and Verrecchia 1991; Verrecchia 2001; Healy and Palepu 2001; Lambert, Leuz and Verrecchia 2007.

We find that while the overall level of disclosure of information about goodwill slack has progressively increased between 2009 and 2012, there is quite a bit of heterogeneity as to the quality and quantity of goodwill slack disclosures. Given the lack of precise guidance as to what the SEC intended by "substantially in excess", this is not surprising. Therefore, when we examine whether the quality of goodwill slack disclosure has predictive power for future impairments, we find that contemporaneous firm performance is a strong determinant of the decision to provide these disclosures. The presence of these disclosures is positively associated with future impairment announcements. With respect to the usefulness of these disclosures to investors, we find that the presence of more detailed slack disclosures reduces the level of information uncertainty present during future earnings announcements. Thus, our findings are broadly in line with the SEC's rationale for required goodwill slack disclosures for firms that face higher goodwill impairment risk.

Our paper has important implications both for academic research and practice. First, we extend our understanding of the determinants and consequences of voluntary disclosures in general and the usefulness of expanded goodwill disclosures in particular. For investors and creditors, we provide empirical evidence of the ability of slack disclosures to foreshadow goodwill impairments. This paper also describes and documents the effects of an accounting rule that has elements of both rules and principles in its application. Lastly, there is growing concern about the bloat of information in 10-Ks and how the ever expanding quantity of information is leading to information overload. Our analysis provides evidence on the usefulness of this additional disclosure and determines if its inclusion if of value to investors.

2. Background Discussion

2.1.   Rules based versus Principles based standards

Before the body of regulations known as US GAAP was developed, FASB established the Conceptual Framework (Shipper 2003). The Conceptual Framework is the foundation for the principles from which US GAAP was derived (Schipper 2003). However, in the process of operationalizing the principles of financial reporting, regulations which appear to be substantially rules-based arose and now comprise much of what is known as US GAAP (Nelson 2003). Both US GAAP and IFRS are derived from principles; however, US GAAP consists of more rules than does IFRS.[4]

There is an implicit belief that principle-based accounting standards such as IFRS are superior to rules-based standards like U.S. GAAP. This belief was solidified in the wake of the Enron scandal in which executives were deemed to have "gamed" the accounting rules. In addition, researchers have produced empirical evidence that supports this notion. In recent work, Agoglia et al. (2011) provide evidence in an experimental setting using lease classification that CFO's report less aggressively (more capital leases) under a more principles-based standard versus a rules-based standard. Using archival data, Collins et al. (2012) reconsider the experimental findings of Agoglia et al. (2011) and find consistent results. Together these papers demonstrate that a less rigid set of accounting standards—principles-based—lead to financial reporting that better reflects the economic substance oppose to the form of the transactions.

The expanded goodwill disclosure that we examine in this paper is an addendum to the existing rule-based goodwill impairment regulation. In fact, it presents an opportunity to investigate a *bright-line* rule that has been augmented with a principle-based disclosure requirement. In their report on principles versus rules-based standards, the SEC voiced its

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[4] http://www.ifrs.com/overview/general/differences.html

concerned that principles-based standards lack specificity which would lead to a lack of consistency and comparability while rules-based standards lead to a focus on form over substance (SEC 2003). Perhaps the answer lies somewhere in the middle where there is a rule-based standard accompanied by a principle-based disclosure. In considering the expanded goodwill disclosure we explore the confluence of a rule and a principle in an effort to determine the consistency, comparability and economic substance of its application.

2.2. Goodwill impairment literature

Recorded goodwill represents the acquisition premium paid to acquire a company in excess of the fair value of the target's identifiable net assets. Empirically, mergers do not appear to increase the value of the consolidated entity.[5] The unraveling of overpayment for targets leads to goodwill impairments (Gu and Lev, 2011; Hayn and Hughes 2006; Olante 2013). However, goodwill impairments do not only represent poor performance of the merged entity—specifically the reporting unit where goodwill resides—it may also reflect inadequate management of the acquired target (Beatty and Webber 2006; Riedl 2004).

The value relevance of goodwill and subsequent impairments is controversial. For example, Frankel et al. (2007) find that net worth debt covenants frequently exclude goodwill, implying that creditors do not view goodwill as an asset that has value in a potential liquidation. On the other hand, prior work finds that goodwill is value relevant in the equity market (Jennings et al. 1996, Barth and Clinch 1996, Godfrey and Koh 2001). Research shows that the economic characteristics of the original acquisition can be used to predict future impairments, and yet the actual impairment announcements lag economic indicators of impairments by two to three years,

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[5] Agrawal, Jaffe, & Mandelker, 1992; Jensen & Ruback, 1983; Loughran & Vijh, 1997; Lys & Vincent, 1995; Moeller, Schlingemann, & Stulz, 2005.

implying that one could use other sources of public information to predict impairments (Hayn and Hughes, 2006, Jarwa, 2009). Bens et al. (2011) developed a model of unexpected goodwill write-offs and found that the stock market reacts negatively to un-anticipated goodwill write-offs. Related to this, Li and Sloan (2014) find that goodwill impairment announcements are not timely, and that the stock market does not completely anticipate goodwill impairments. Similar to Beatty and Weber (2006) who find that managers' debt contracting as well as delisting considerations are negatively associated with likelihood of goodwill impairments, Ramanna and Watts (2012) find that the lack of goodwill impairments among firms with price-to-book ratio below one is associated with managers' contracting motives. Moreover, Li et al. (2011) find that goodwill impairment announcements are associated with negative stock market reactions and downward revisions in analyst forecasts. Goodwill impairment events tend to be associated with declines in future firm performance (Li et al 2011, Jarwa, 2009). Thus, the overall conclusions from the literature are that: 1) goodwill impairments are not completely anticipated by the market; 2) managers may opportunistically delay goodwill impairment announcements; 3) goodwill impairments convey managers' private information about future firm performance; and 4) goodwill impairment announcements have information content. Hence, investors are likely to benefit from information that improves their assessment of the likelihood of future goodwill impairments.

2.3 U.S. GAAP Goodwill Impairment Testing Rules

At the beginning of our sample period, the goodwill impairment test was solely a two-step process covered by Accounting Standards Codification (ASC) Topic 350, *Intangibles—Goodwill and Other*. Testing is required to be performed annually or when a triggering event

occurs. By rule, the impairment of goodwill is assessed after the impairment of other assets—tangible assets and other intangibles—has been performed. Step 1 of the goodwill impairment test requires the estimated fair value of the reporting unit be compared to the carrying value of the reporting units' net assets.[6] If the estimated fair value of the reporting unit exceeds the book value of the reporting unit's net assets, the company is deemed to have passed Step 1 and no additional work is required. If the estimated fair value of the reporting unit is less than the carrying value of its net assets, then the company must move onto Step 2 and measure the impairment. The implied value of goodwill is estimated as the difference between the fair value of the reporting unit and the fair value of the identifiable net assets. If the implied value of goodwill is below the book value of goodwill, the company records an impairment loss for the difference.

In September of 2011, FASB amended ASC 350 after preparers of small public and private company financial statements voiced their concerns regarding the complexity and cost of the two-step impairment test. This resulted in the adoption of a Step 0 in the impairment testing process.[7] Step 0 is a qualitative assessment of the recoverability of goodwill using a standard of more-likely-than-not that the fair value of a reporting unit is less than its carrying value. The more-likely-than-not threshold is defined as a likelihood in excess of 50%. It has been conjectured that the use of Step 0 testing would result in fewer goodwill impairments being

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[6] Per Paragraph 30 of SFAS 142, a reporting unit is an operating segment or one level below an operating segment—a component. This set of activities is considered a reporting unit if it constitutes a business for which a discrete set of financial information is available and for which management regularly reviews the operating results. If two or more components have similar economic characteristics, they should be deemed to be a single reporting unit.

[7] While theoretically straightforward, periodic annual goodwill impairment testing requires significant managerial judgments and is costly to perform. Estimating the fair value of a reporting unit is challenging as there are few observable inputs from which to draw. Management will need to develop estimates of future cash flows, discount rates, growth rates, etc. from a market participant's perspective. Frequently companies engage valuation specialists to perform this analysis on their behalf. The cost of audit engagements increases when there are complex valuation estimates used as the auditor much assess the internal controls in place around the valuation as well as the reasonableness of the model used and the inputs included.

identified, which may result in a deterioration of the value relevance of the goodwill account. Large amount of previously identified goodwill slack, by itself, is an indicator that a firm may meet the qualitative assessment and avoid the two-step goodwill impairment test.[8]

2.4 Goodwill Disclosure Requirements

In 2008, the SEC began to publicly discuss its expectation that the frequency of goodwill impairments would rise due to recent declines in stock prices (Fox 2008). Moreover, the 2008 comment letter season included an increase in the SEC staff asking firms to explain their lack of goodwill impairments. Law360 noted that the SEC asked Regions Financial Corp to explain:

"How you determined that your goodwill balance is not impaired. Please specifically address how you took into consideration the fact that you have been trading at a market value that is below your book value (Regions Financial Corp., Form CORRESP, filed July 1, 2008)."

Appendix B provides a particularly instructive example of a comment letter response from Wellpoint, an SEC registrant, to the SEC. The SEC originally requested more detailed information on Wellpoint's goodwill slack because they perceived a higher likelihood of future impairment for the company's goodwill. Page 3 of the SEC comment letter to Wellpoint states:

SEC's original request (emphasis added):

"Your [Wellpoint's] disclosure appears to suggest that *due to lower operating margins experienced in some of your lines of business*, *some of your reporting units could have fair values not substantially in excess of carrying value as of the date of the impairment test performed*…For any reporting unit at risk of failing step one in the goodwill impairment test, please provide us proposed disclosure to be included herein in future periodic reports that discloses the following information….*the percentage by which the fair value exceeded book value as of the date of the most recent [impairment test]…"*

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[8] See for example the following analysis for an illustration: http://www.srr.com/article/step-0-goodwill-impairment-testing-implementing-best-practices. Moreover, based on our private discussions with senior valuation professionals, valuators "quietly" following qualitative assessment in the presence of large amount of slack even before FASB formally allowed it. This is supported by the following article:
http://www.valuationresearch.com/assets/kb/Goodwill%20impairment%20testing%20press%20release%2010-3-11.pdf

In response to the SEC, Wellpoint provided detail disclosure of their goodwill slack percentages. Interestingly though, Wellpoint concluded their response by saying that since their slack percentages are substantial, they do not believe that the additional disclosure of slack is warranted in their actual 10-K. The exchange between Wellpoint and the SEC indicates that 1) the SEC is seeking additional slack disclosure when a firm's performance appears to be worsening; and 2) a firm is less likely to provide slack information in their 10-K if slack is substantial.

Anecdotal evidence suggests that over time, the incidence of such comment letters has increased (EY 2012). The SEC formalized its disclosure requirement in the Division of Corporation Finance Accounting and Reporting Manual's Section 9510.3 as follows:

Registrants should consider providing the following disclosures for each reporting unit that is at risk of failing step one of the impairment test (defined in ASC Topic 350)
   a. *The percentage by which fair value exceeded carrying value as of the date of the most recent test;*
   b. *The amount of goodwill allocated to the reporting unit;*
   c. *A description of the methods and key assumptions used and how the key assumptions were determined;*
   d. *A discussion of the degree of uncertainty associated with the key assumptions. The discussion regarding uncertainty should provide specifics to the extent possible (e.g. the valuation model assumes recovery from a business downturn within a defined period of time); and*
   e. *A description of potential events and /or changes in circumstances that could reasonably be expected to negatively affect the key assumptions.*

Several of the Big 4 annual updates on financial reporting refer to these additional disclosures as being expected when the fair value of the reporting units, as of the latest impairment testing date, is not substantially in excess of its carrying value (PWC 2013, EY 2011, KPMG 2009). In the same section of the manual, the SEC further clarified that:

A reporting unit may be at risk of failing step one of the impairment test if it had a fair value that is not substantially in excess of carrying value as of the date of the last impairment test. Whether

or not the fair value was "substantially" in excess of carrying value is a judgment based on the facts and circumstances including, but not limited to, the level of uncertainty associated with the methods and assumptions used for impairment testing.

In other words, there is no clear threshold for what it means by *substantially in excess* of book value. Management is given a significant degree of discretion in determining what is meant by *substantially in excess*.[9] During a discussion session, SEC staffers reviewed several scenarios where the fair value of a reporting unit exceeded its carrying value by 1 to 20 percent. A question was asked during the Q&A regarding how a registrant would determine whether the fair value of a reporting unit is "substantially in excess" of its carrying value. SEC staffer Mark Kronforst responded that the SEC did not have a *bright line* test and that judgment should be applied (KPMG, 2009, page 31).

2.5 Determinants and Outcomes of Slack Disclosure

Li and Sloan (2014) and Li, Shroff, Venkataraman, and Zhang (2011) document that goodwill impairment lag deteriorating operating performance and share returns by at least two years. Moreover, agency issues seem to play a role in this delay (Muller, Neamtiu and Riedl 2012; Christiansen 2013). The SEC believes that the expanded disclosures should be made when "indicators of impairment appear to exist (e.g. book value greater than market capitalization). In other words, if it is unclear why an impairment is not recorded, additional disclosures are

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[9] Our private discussions with a member of the SEC's Division of Corporate Finance indicated that the SEC staff does not have an unofficial bright line for definition of substantial excess. Rather, the SEC uses the "facts-and-circumstances" approach to identify cases when goodwill impairment risk is high indicating that slack disclosure is warranted. Our correspondent indicates that a "classic case would be where the market price times number of shares (fair value) is equal to or less than the book value of the company which would bring into question the goodwill, especially if the market price is volatile and has been lower recently." A conversation with a senior partner in a valuation consulting firm suggested that a10% threshold in his mind satisfies the definition of substantial excess. Some 10-K filings we examined seem to suggest that firms view a 20% threshold as being the lower bound of substantial excess.

warranted." (2010 AICPA National Conference on Current SEC and PCAOB Developments[10])

Presumably, this is because the SEC wants investors to be able to better anticipate future impairment losses, provided they are expected to be material. Therefore, as a first objective we investigate if the likelihood of goodwill slack disclosure is higher for firms with deteriorating performance and substantial amounts of goodwill on the balance sheet.

Prior research on voluntary disclosure suggests that firms' litigation risk, expected cost of capital, and proprietary disclosure costs considerations drive their disclosure decisions (Core, 2001). For example, higher expected litigation risk costs could lead firms to disclose bad news information earlier (Skinner, 1997, Field et al 2005); however, firms subject to class actions securities litigation reduce the level of their voluntary disclosures following a lawsuit (Rogers and Van Buskirk, 2009). Moreover, firms that provide management earnings guidance are more likely to be sued (Rogers et al 2011). In general, the literature seems to suggest that more optimistic voluntary disclosure of a firm's future prospects is associated with increased probability of litigation, while more timely disclosure of bad news is associated with lower probability of future lawsuits. In addition, the relationship between disclosure decision and litigation risk is likely impacted by the fundamental uncertainty of the accounting estimate being disclosed, in our case goodwill slack. Because slack disclosure is fundamentally subjective and is derived using many different managerial assumptions (e.g. assumed earnings growth rates, discount rates, etc.), erroneous slack disclosure may expose management to higher litigation risk. Hence, litigation risk considerations could affect firms' propensity to disclose goodwill slack levels. Many papers in the disclosure literature emphasize that better disclosure helps resolve uncertainty over a firm's future prospects, and therefore leads to higher valuations as a result of

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[10] http://www.mfa-cpa.com/alerts-and-insights/alerts/2011/the-2010-aicpa-sec-and-pcaob-conference; Accessed on March 16, 2015

improved cost of capital and stock liquidity (Botosan, 1996, Sengupta, 1998, Lambert et al 2007, Healy and Palepu, 2001, Core, 2001). Therefore, we also expect firms with higher levels of ex-ante information asymmetry to be more likely to disclose slack.

Finally, the disclosure literature also suggests that proprietary costs of disclosure and agency costs of disclosure reduce firms' incentives to provide voluntary disclosure information. Verrecchia (1983) was the first to note that firms will only disclose information above a certain disclosure cost signal, which is frequently interpreted as the proprietary cost threshold. First, firms may want to withhold information if the disclosure is likely to invite competitors to engage in similar more profitable projects. Consistent with this argument, prior studies show that firms are more likely to refrain from disclosing information in more profitable industries (Harris, 1998, Botosan and Stanford, 2005, Berger and Hann, 2007). Ellis et al. (2012) show that firms facing higher proprietary costs are less likely to disclose information about customers. Overall, these results suggest that perceived proprietary costs may influences firms' decision to disclose goodwill slack information.

The SEC's perceived primary motivation behind goodwill slack disclosure requirements is to make investors aware of the increasing likelihood of impairment. Li (2011) shows that after adoption of SFAS 142, the ability of goodwill to predict future cash flows has improved, i.e. periodic testing for impairment of goodwill resulted in more informative goodwill balances than did goodwill amortization mandated prior to adoption of SFAS 142. However, prior research on goodwill impairments also suggests that investors do not completely anticipate impairment announcements, and that goodwill impairments predict future declines in accounting performance (Li et al. 2011). Li and Sloan (2014) show that the adoption of SFAS 142 is associated with investors' *reduced* ability to anticipate future goodwill impairments. Hence, it is

important to examine whether providing slack disclosures is actually associated with future impairments, and whether these disclosures affect investors' trading behavior. We test these ideas formally below.

3. Research Design

3.1 Determinants Model

Ramanna and Watts (2012) develop a model of the likelihood of goodwill impairment as a function of various firm characteristics. Because goodwill slack is purported to capture the likelihood of future impairment, the Ramanna and Watts' model provides a useful foundation for developing a model for the determinants of slack disclosure. Thus, following, Ramanna and Watts (2012), we analyze the determinants of goodwill slack disclosure by running the following logistic regression model:

$$Prob\ (SLACK\ DISCLOSURE_t=1)\ _t = \gamma_0 + \gamma_1*ROA_t + \gamma_2*BHAR_t + \gamma_3*R\&D\ Intensity_t + \gamma_4*Firm\ Age_t + \gamma_5*GOODWILL_t + \gamma_6*MTB_t + \gamma_7*FIRM\ SIZE_t + \gamma_8*FIXED\ ASSETS_t + \gamma_9*LEVERAGE_t + \gamma_{10}*EXPECTED\ IMPAIRMENT_t + \gamma_{11}*BIG\ 4_t + \gamma_{12}*LITIGATE_t + \gamma_{13}*EXCHANGE_t + \gamma_{14}*ASSET\ VERIFIABILITY + \gamma_{15}*NET\ REPURCHASES_t + \gamma_{16}*EARN\ VALUE\ RELEVANCE_t + \gamma_{17}*COMMENT_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t \qquad (1)$$

where, *SLACK DISCLOSURE* is an indicator variable set equal to one if the firm provides any indication of goodwill disclosure, and zero otherwise; i.e. we set this variable to one if a firm provides qualitative, minimum or a point estimate of goodwill slack, and zero whenever a firm does not mention a slack measure at all in the 10-K.[11] We follow Ramanna and Watts (2012) model and utilize determinants of goodwill slack similar to their determinates for goodwill impairment. We include *ROA* which is a firm's return on assets and *BHAR* the year t buy-and-

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[11] In particular, we set goodwill slack disclosure to one if 1) a firm provides any sort of percentage range (open or point) slack disclosure; 2) says that fair value of the reporting unit either exceeds or significantly exceeds its book value, and 3) reports that it has taken an impairment charge in a particular reporting unit in year t; with respect to the latter reporting of the impairment charge implies that the reported slack for year t is zero. For multiple reporting units, we code this variable to one, as long as slack disclosure is provided at least for one reporting unit. Our results remain similar if we exclude any firms that report impairments in year t.

hold size adjusted stock return. We include these variables since prior research demonstrates that performance affects both the likelihood of future impairment and disclosure choices. *R&D INTENSITY* is the ratio of year t Research and Development expense to year t sales; *MTB* is year t market-to-book ratio. *R&D Intensity* and *MTB* control for firm's proprietary costs of disclosure considerations; higher *MTB* is also associated with a lower likelihood of future impairments. *LEVERAGE* is the year t ratio of total long-term debt to market value of equity; *FIRM AGE* is the natural log the firm's age; *FIXED ASSETS* is the ratio of firm fixed assets to total assets; *GOODWILL* is the ratio of balance sheet goodwill to total assets; *EXPECTED IMPAIRMENT* is an indicator variable equal to 1 if a firm's year t book value exceeds its market value, and zero otherwise. When this variable is equal to one, the likelihood of future impairment is greater. *LITIGATE* is an indicator variable equal to one if a firm falls into a high litigation risk industry as defined by Philbrick and Schipper (1993) and zero otherwise. We include this variable as litigation risk affects firm disclosure choices. *EXCHANGE* is an indicator variable set equal to one if a firm is listed on NASDAQ or AMEX stock exchanges and zero otherwise. *ASSET VERIFIABILITY* measures the verifiability of assets, as defined in Ramanna and Watts (2012); when assets are more verifiable, managers have less discretion in manipulating their values and it is more difficult to delay goodwill impairments. *FIRM SIZE* is the natural log of a firm's market value of equity. *NET REPURCHASES* equals one if a firm reports positive net repurchases and zero otherwise. *EARN VALUE RELEVANCE* is measured using R^2 from a time series regression of quarterly price per share on earnings from continued operations, computed over the period of 20 quarters prior to the end of year t; we include this variable since it captures firm stock price sensitivity to earnings news information, as captured in future impairments.[12] *COMMENT* is an

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[12] Ramanna and Watts (2012) use the coefficient on earnings in the regression price on earnings to construct this variable. However, we note that for some firms this coefficient turns negative. Hence, we use R^2 instead to capture

indicator variable that equals 1 if the firm received a comment letter in the prior year and zero otherwise. This variable is included to control for the SEC mandating that a firm disclose slack in a given year. We provide a detailed description of these variables in Appendix A. We winsorize all of the continuous variables at their 1st and 99th percentiles to mitigate the influence of potential outliers. We also cluster-adjust all test statistics by firm and year (Gow et al. 2010) and include industry and year fixed effects.

3.2 Multinomial Logit

Because slack percentage disclosure is a discrete variable which typically takes the form of either a minimum or point estimate and cannot be strictly ordered (e.g. we cannot tell exactly if slack in excess of 15% is more informative than slack in excess of 10% vs. no disclosure of slack), we run a multinomial logit model, whereby we allow *SLACK DISCLOSURE* to vary by the level of disclosed slack. The advantage of the multinomial logit is that it allows for joint estimation of all observed outcomes. We estimate the following multinomial logit model:

Prob (SLACK DISCLOSURE_LEVEL_X_t=1)$_t$ =γ_0+ γ_1*ROA$_t$ + γ_2*BHAR$_t$ + γ_3*R&D INTENSITY + γ_4*FIRM AGE + γ_5*GOODWILL$_t$ + γ_6*MTB$_t$ + γ_7*FIRM SIZE$_t$ +γ_8* FIXED ASSETS$_t$ + γ_9*LEVERAGE$_t$ + γ_{10}* EXPECTED IMPAIRMENT$_t$ + γ_{11}*BIG 4$_t$ +γ_{12}* LITIGATE$_t$ + γ_{13}* EXCHANGE$_t$ + γ_{14}* ASSET VERIFIABILITY + γ_{15}*NET REPURCHASES$_t$ + γ_{16}*EARN VALUE RELEVANCE$_t$ + γ_{14}*COMMENT$_t$ + Industry Fixed Effects+Year Fixed Effects+e$_t$ (2)

Where *SLACK DISCLOSURE_LEVEL_X* is defined in one of two ways. First *SLACK DISCLOSURE_LEVEL_X* is defined as follows:

SLACK DISCLOSURE_LEVEL0:   No slack disclosure
SLACK DISCLOSURE_LEVEL1:   Disclosure Slack >/= 20%, including "substantial"
SLACK DISCLOSURE_LEVEL2:   Disclosure Slack > 10% and < 20%
SLACK DISCLOSURE_LEVEL3:   Disclosure Slack </= 10%, including "took impairment", "pass qualitative", and "exceed"

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value relevance of earnings.

Where firms that do not disclose slack are expected to be those firms where the fair value of its

reporting units exceeds their book value by a large margin. This is followed by LEVEL1 and so

on. The firms in LEVEL3 are expected to have the highest likelihood of having a future

impairment. All other variables are as previously defined. We provide detailed description of

these variables in the Appendix A. We winsorize all of the continuous variables at their 1st and

99th percentiles to mitigate the influence of potential outliers. We also cluster-adjust all test

statistics at the firm and year level - and include industry and year fixed effects.

3.3 Predicting Future Impairments

We model the likelihood of year t+1 impairment announcement as a function of slack

disclosure to provide evidence of the decision usefulness of the disclosure. Specifically, we test

whether firms reporting quantitative slack disclosures are actually more likely to experience

future goodwill impairment announcements. To test this conjecture, we run the following

censored regression model following Beatty and Weber (2006):

$IMPAMT_{t+1} = \gamma_0 + \gamma_1 * SLACK\ DISCLOSURE_t + \gamma_2 * ROA_t + \gamma_3 * BHAR_t + \gamma_4 * R\&D\ INTENSITY + \gamma_5 * FIRM\ AGE_t + \gamma_6 * GOODWILL_t + \gamma_7 * MTB_t + \gamma_8 * FIRM\ SIZE_t + \gamma_9 * FIXED\ ASSETS_t + \gamma_{10} * LEVERAGE_t + \gamma_{11} * EXPECTED\ IMPAIRMENT_t + \gamma_{12} * BIG\ 4_t + \gamma_{13} * EXCHANGE_t + \gamma_{14} * LITIGATE + \gamma_{15} * EXCHANGE_t + \gamma_{16} * ASSET\ VERIFIABILITY_t + \gamma_{17} * NET\ REPURCHASES_t + \gamma_{18} * EARN\ VALUE\ RELEVANCE_t + \gamma_{19} * COMMENT_t + Industry\ Fixed\ Effects + Year\ Fixed\ Effects + e_t$ \hfill (3a)

Where the dependent variable (IMPAMT) measures the actual amount of impairment in t+1

deflated by total assets and the independent variables are identical to those in Equation (1). In

addition we consider the following model where the dependent variable is an indicator variable

equal to one if there is an impairment in year t+1 and zero otherwise (Prob (IMPAIR+1=1)):

$Prob(IMPAIR_{t+1}=1)=\gamma_0+ \gamma_1*SLACK\ DISCLOSURE_t + \gamma_2*ROA_t + \gamma_3*BHAR_t + \gamma_4*R\&D$
$INTENSITY + \gamma_5* FIRM\ AGE_t + \gamma_6*GOODWILL_t +\gamma_7* MTB_t + \gamma_8* FIRM\ SIZE_t+ \gamma_9* FIXED$
$ASSETS_t + \gamma_{10}*LEVERAGE_t + \gamma_{11}* EXPECTED\ IMPAIRMENT_t + \gamma_{12}* BIG\ 4_t +$
$\gamma_{13}*LITIGATE_t + \gamma_{14}*EXCHANGE_t + \gamma_{15}*ASSET\ VERIFIABILITY_t +\gamma_{16}*NET\ REPURCHASES_t$
$+\gamma_{17}*EARN\ VALUE\ RELEVANCE_t + \gamma_{18}*COMMENT_t +Industry\ Fixed\ Effects+Year\ Fixed$
$Effects+e_t$ (3b)

A detailed description of these variables is included in Appendix A. We winsorize all of the

continuous variables at their 1st and 99th percentiles to mitigate the influence of potential

outliers. We also cluster-adjust all test statistics at the firm and year levels and include industry

and year fixed effects.

4. Sample Selection and Empirical Results

4.1 Sample Selection

Panel A of Table 1 shows the construction of our sample. To select our sample, we begin

with a sub-sample of firms with at least $1 billion in assets and non-missing goodwill/total asset

from Compustat during 2009-2012 period (10,315 observations). Because we also examine

future goodwill impairment announcements, our data sample period extends into 2013. We

restrict our analysis to firms with at least $1 billion in assets in order to ensure that our data

collection covers firms more likely to be on the SEC's radar screen and therefore be aware of the

SEC's desire for them to comply with the expanded goodwill slack disclosure requirements. To

ensure that we focus our analysis on companies with material goodwill, we further restrict our

sample to firms in the top quintile of the distribution of goodwill/total assets, which results in a

loss of 8,688 observations. We then remove all foreign issuers from our sample since these firms

are less likely to be subject to SEC oversight and are more likely to report on a basis other than

US GAAP; this results in a loss of 344 observations. Requiring availability of a form 10-K and

the ability to estimate our control variables results in a final sample of 1,120 observations.

Panel B of Table 1 summarizes the annual distribution of firms in our sample. Representation is fairly consistent across the sample years and there is no significant annual clustering. Panel C summarizes the industry composition of our sample; durable goods, computers and services industries are over-represented in our sample, probably due to the higher likelihood of the existence of acquired goodwill in these types of firms. To control for industry clustering we included industry fixed effects in our model.

Panel A of Table 2 summarizes the descriptive statistics in our sample. Approximately 0.67, i.e. 67% of firms report some sort of slack disclosure (*SLACK DISCLOSURE*). About 15% of firm years in our sample are associated with impairments (*IMPAIR*); and average impairment size is about 1% of total assets (*IMPAMT*). Mean ROA is 5.5% and mean BHAR is 0.02, suggesting that our sample contains firms that on average are performing well. Mean firm size (*LMVE*) is 8.27, which is consistent with our sample being skewed toward large firms with assets exceeding one billion. Mean market-to-book ratio (*MTB*) is 2.77 which is reasonable considering that firms reporting large goodwill tending to be growth rather than value firms.

Panels B of Table 2 details the number and proportion of firms that fall within our detail slack disclosures categories (Levels 0-3). Approximately 32.8% of our sample does not report detail slack information. The majority of our slack disclosing firms (33%) disclose that they have slack of less than 10% slack followed by firms that report slack in excess of 25% (24.7%). Firms that report between 10 and 25% slack represent 9.2% of our total sample. Panel C details the number of slack disclosing and non-disclosing firms by year. The proportion of firms disclosing slack has risen monotonically over our sample period from 59% in 2009 to 79% in 2012. Panel D of Table 2 reports that 172 of our 1,120 firm year observations experience a goodwill impairment in the next year. As expected, the vast majority of next year impairments, 55% occur in Level 3

firms that reported having less than or equal to 10% slack. The remaining impairments are about the same for Level 0 and 1 firms (17% vs. 16%) which are both judged to have substantial slack. The remaining 12% occur in Level 2 firms. Panel E sorts the comment letters received in advance of the slack disclosure by Level. The majority of the 99 comment letters sent were received by Level 1 and 3 (32% versus 34%) firms. This helps to explain why Level 1 firms are engaging in slack reporting when it appears that they have slack that is substantially in excess of the reporting unit's carrying value. In addition, it is not surprising that firms with the least amount of slack are targeted by the SEC when their slack is less than 10%. Level 2 firms receive only 8% of the comment letters while Level 0 firms received 25%.

Table 3 reports the Pearson and Spearman correlations for several of our determinate variables. Focusing on the Spearman ranked correlations which are in the upper half of the matrix, our slack measure does not appear to be correlated with any other variable above 0.30 which is the level at with a significant correlation becomes meaningful. However, *ROA* is positively and significantly related to *MTB*, *FIRM SIZE*, and *ASSET VERIFIABILITY*. *ROA* is negatively correlated with LEVERAGE. R*&D INTENSITY* is positively correlated with litigation risk and *ASSET VERIFIABILITY* and negatively correlated with *LEVERAGE. EXPECTED IMPAIRMENT* is negatively correlated with *MTB* which is reasonable considering growth firms are more likely to have reporting units with large and growing fair values. The relations documented in the correlation table do not provide any insight into slack disclosure which is our main variable of interest.

4.2 Determinants of Slack Disclosure

Table 4 provides an estimation of equation (1) which models the determinants of *SLACK DISCLOSURE*. We note that higher performing firms are less likely to disclose goodwill slack (coefficient on *ROA*=-6.59; p-value < 0.001). Older firms (p-value = 0.08), firms reporting larger goodwill balances (p-value < 0.001), highly levered firms (p-value < 0.001) and firms with more verifiable asset balances (p-value < 0.001) are more likely to report *SLACK DISCLOSURE*. This is consistent with firms reporting *SLACK* disclosure when they are more likely to attract the SEC's attention. We also find that firms audited by Big 4 auditors are more likely to report *SLACK DISCLOSURE* which is consistent with Big 4 auditors being more aware of the intricacies of SEC disclosure requirements as a result of having much broader exposure to the public companies (p-value=0.05). We find that *SLACK DISCLOSURE* is negatively associated with litigation risk (p-value=0.03) which is consistent with the idea that higher litigation risk firms are more likely to abstain from disclosing more subjective items so as to not provide an additional basis for future litigation.

Panel A of Table 5 reports our multinomial logit slack prediction model. The first set of results (*Level 1*) are those that compare firms with disclosure slack in excess of 20% to firms with no slack disclosure (*Level 0*). Clearly, these firms have substantial headroom and have chosen to explicitly report that in spite of indications that this reporting action is not necessary. Relative to the non-disclosing firms, these slack heavy firms are older, have larger goodwill balances, are more likely to be audited by a Big 4 firm, and are more likely to have received a comment letter. In fact, these firms are nearly 69% more likely to have received a comment letter than their non-disclosing counterparts. Moreover, they tend to be smaller, have less R&D intensity, and are more likely to experience an impairment during our sample period.

The second set of results compares firms that have slack disclosures of at least 10% but no more than 20% (*Level 2*) to non-disclosure firms (*Level 0*). These firms tend to have more goodwill than the non-disclosure firms. The *Level 2* firms also have weakly lower ROA and litigation risk. Lastly, we examine those firms that report less than 10% of slack relative to non-reporters (*Level 3*). This is the set of firms that are most likely to be close to experiencing a future goodwill impairment. These firms have larger amounts of goodwill, are more highly levered, and more likely to be traded on the NYSE. However, they tend to have lower *ROA* and less litigation risk. Overall our results suggest that accounting performance, level of goodwill as a percentage of total assets influence firms' decision to disclose goodwill slack. For *Level 1* firms, the strength of auditor oversight and receipt of a comment letter matter significantly. These results are generally in line with the implied SEC objective in requiring this disclosure, namely that firms at higher risk of impairment are to disclosure goodwill slack.

4.3 Future Goodwill Impairment Announcements and SLACK

We report results of estimation of equations (3a) and (3b) in Panel A of Table 6. In both cases, coefficient on *SLACK DISCLOSURE* is positive and significant. For Equation (3a), coefficient on *SLACK*=0.024; p-value=0.02. For equation (3b), coefficient on *SLACK*=0.64; p-value = 0.02. In addition, firms with poorer performance in terms of *ROA* and *BHAR* are more likely to experience a next period impairment. Overall, our results suggest that goodwill *SLACK DISCLOSURE* is potentially useful to investors as it allows them to anticipate future impairment announcements. This is also consistent with the SEC's purported objective in requiring these disclosures.

Similar to the multinomial regression estimated in Table 5, we estimate the likelihood of next period goodwill impairments on Level of slack disclosure 1-3 relative to *Level 0*. These results are reported in Panel B of Table 6. The disclosure choice between *Level 0* and *1* firms is insignificant; however, smaller ROAs are associated with a greater likelihood of a next period impairment for these firms with substantial slack. Relative to *Level 0*, we find that firms with *Level 2* and *3* disclosures are weakly and significantly more likely (p-value = 0.10 and < 0.001) to experience a next period impairment, respectively. Specifically, relative to *Level 0*, firms which have substantial slack, the group most likely to have an impairment next period are firms with less than 10% slack. Across each model specification poorer performing firms as measured by buy and hold returns are more likely to have a next period impairment. In an effort to clarify the interpretation of these results, we estimate a pooled regression where we consider the relative difference of disclosure level against each type allowing the control variables to remain constant across the full sample. In Panel C, we report confirming results that both *Level 2* and *Level 3* disclosures are more likely to have an impairment next period. Performance, measured with buy and hold returns is the other significant determinate of next period impairments across the full sample. These findings are consistent with our univariate statistics where 64% of all impairments coming from *Level 2* and *3*.

4.4 Impact of Goodwill Slack disclosure on information asymmetry around future earnings announcements

In addition to exploring the incentives to disclose goodwill slack and how slack disclosure impacts our ability to predict future goodwill impairments, we now turn to examining how goodwill slack disclosures impact the market's subsequent interpretation of future goodwill impairment at the earnings announcements. Prior work suggests that higher disclosure quality is

associated with lower information asymmetry (Welker, 1995, Heflin et al 2005, Pevzner, 2007), and that information asymmetry increases in anticipation of earnings releases.[13] Moreover, the increase in information asymmetry is positively associated with the level of unanticipated news (Brooks, Patel and Su, 2003). This is because "earnings announcements provide information that allows certain traders to make judgments about a firm's performance that are superior to the judgements of other traders" (Kim and Verrecchia, 1994). This suggests that when investors are faced with unanticipated goodwill impairment at the earnings announcements date, information uncertainty should increase; especially when the impact of unanticipated goodwill impairment is stronger. Conversely, if the level of unanticipated news is lower, then information asymmetry around earnings announcement should be relatively lower. Thus, if goodwill slack disclosure provides investors with information that better enables them to anticipate future goodwill impairments, then information asymmetry around future goodwill impairment announcements for firms that previously disclose slack should be lower than for firms that did not previously disclose.

In order to test this conjecture, we run a difference-in-difference analysis in which we compare bid-ask spreads measured around firms' earnings announcements (made in the fourth fiscal quarter) before and after adoption of the SEC slack disclosure rule for firms that disclose and do not disclose slack. We augment our original sample by adding firm-year data for our original firms form 2004-2007—pre period to our original sample collected for 2009-2012—post period. We do not include 2008 into this analysis since it is a transitional year for the SEC disclosure rule. This expands our bid-ask spread analyses sample to 1,550 firm-year observations including only firms that disclose goodwill slack consistently throughout the entire disclosure period (2009-2012) and 2,208 firm-year observations if we consider any firms that report slack

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[13] Kim and Verrecchia 1994, Krinsky and Lee, 1996, Lee, Mucklow and Ready, 1993, Coller and Yohn, 1997

disclosure at least once during the disclosure period. Panel A of Table 7 summarizes sample

selection procedures for these two samples, hereafter referred to as "consistent disclosers" and

"occasional disclosers", respectively.

Panel B of Table 7 provides univariate statistics for selected variables in our model of

bid-ask spread for the sample of consistent disclosers. They are in line with expectations. Similar

statistics are obtained for the sample of occasional disclosers. They are not tabulated for brevity.

Panel C provides correlations for these variables. For our difference-in-difference test, we run

the following difference-in-difference regression model using two different measures of

unexpected goodwill:

$$SPREAD_{t+1} = \gamma_0 + \gamma_1 UGW_{t+1} + \gamma_2 POST_{t+1} + _t \gamma_3 POST*UGW_{t+1} + \gamma_4 SLACK\ DISCLOSURE_{t+1} + \gamma_5 SLACK\ DISCLOSURE_{t+1}*UGW_{t+1} + \gamma_5 SLACK\ DISCLOSURE_{t+1}*POST_{t+1} + \gamma_6 SLACK\ DISCLOSURE_{t+1}*POST_{t+1}* UGW_{t+1} + \sum \gamma_i\ Controls + e \qquad (4a)$$

$$SPREAD_{t+1} = \gamma_0 + \gamma_1 AGW_{t+1} + \gamma_2 POST_{t+1} + _t \gamma_3 POST*AGW_{t+1} + \gamma_4 SLACK\ DISCLOSURE_t + \gamma_5 SLACK\ DISCLOSURE_t*AGW_{t+1} + \gamma_6 SLACK\ DISCLOSURE_t*POST_{t+1} + \gamma_7 SLACK\ DISCLOSURE_t*POST_{t+1}* AGW_{t+1} + \sum \gamma_i\ Controls + e \qquad (4b)$$

Where *SPREAD* is a firm's bid-ask spread around earnings impairment announcement date;

UGW or *AGW* are measures of unexpected goodwill impairment as discussed below. *POST* is an

indicator variable equal to one if year is for 2009-2012 and zero for 2004-2007. *SLACK*

DISCLOSURE is as defined previously. The main difference between models (4a) and (4b) is in

their definitions of unexpected goodwill surprise. In Model 4a, we define this surprise as *UGW*,

which is defined as the absolute value of the unexpected goodwill impairment measured as the

difference between actual goodwill impairment in year t+1 and the actual goodwill impairment

for year t divided by number of shares outstanding and then deflated by market price per share,

where both the number of shares outstanding and price are measured on the 2 days before the

earnings announcement date. In model (4b) we use *AGW* (abnormal goodwill impairment) to

measure goodwill impairment surprise; *AGW* is defined as the absolute value of the unexpected

goodwill impairment measured as the difference between actual goodwill impairment and the

expected goodwill impairment for year t+1 divided by number of shares outstanding and then

deflated by market price per share, both the number of shares outstanding and price are measured

on the 2 days before the earnings announcement date (Li et al. 2011). The expected goodwill

impairment is obtained from the goodwill impairment prediction model (equation 3a), estimated

without slack variable.

Table 8 reports results of OLS estimation of equations (4a) and (4b), in Panels A and B,

respectively, for both consistent and occasional disclosers samples. Overall, bid ask spreads are

significantly smaller in the post period. We note that coefficient γ_7 is negative and significant in

all models with p-values ranging from 0.5% to 1%. This is consistent with our expectation that

goodwill slack disclosures in prior year reduce the level of information asymmetry between

informed and uninformed investors during subsequent year's announcements of earnings

impairments. Thus, these results sustain the notion that earlier disclosure of goodwill slack is

potentially useful to investors.

5. Conclusion

The SEC chose to take a more principles-based approach when it expanded the disclosure for

goodwill in 2009 by not providing a *bright-line* for what is meant by *substantially in excess*. The

opacity of this requirement has led to significant heterogeneity in the expanded goodwill

disclosure. Because there is no prescribed way of disclosing slack, we focus on whether or not

firms in our sample provide any sort of slack disclosure and the effect of their disclosure on the

likelihood of next period impairment and future information asymmetry. In our analyses we use

the Ramanna and Watts (2012) model as a baseline to build a determinants model for the existence and level of detail contained in a slack disclosure. We find that the existence of a slack disclosure is associated with deteriorating performance, firm age, higher goodwill levels, having a Big 4 auditors, lower litigation risk. Firms disclosing high amounts of slack—>20%—tend to be older companies, audited by Big 4 firms with large amounts of goodwill, and lower R&D intensity and expected impairment. As the level of disclosed slack declines, deteriorating firm performance, level of goodwill and leverage appear to play larger roles. These findings are consistent with the SEC's belief that firms with deteriorating performance have a higher risk of goodwill impairment warranting the expanded disclosure.

We consider the usefulness of slack disclosure to investors in anticipating future impairment announcements. Our findings are that slack disclosure is positively associated with future impairments. In particular, slack disclosures where firms report having slack that is less than 10% (Levels 2 &3) have a higher probability of experience an impairment in the next period. Lastly, we measure the reduction in information asymmetry—bid ask spread—from the expanded goodwill disclosures. Our findings support the notion that early indicators of slack reduce the uncertainty that arises when goodwill impairments are announced. Take together our results demonstrate the usefulness of the expanded goodwill disclosures in alerting investors to the increasing likelihood of a goodwill impairment. As firms continue to apply the principle-based disclosure requirements, investors will learn more about the potential impairment of goodwill. Moreover, rule of thumb standards may begin to arise regarding the meaning of *substantially in excess*.

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Appendix A: Definition of Variables

Dependent Variables	Definition
SLACK DISCLOSURE$_t$	An indicator variable set equal to one if the firm provides any quantitative percentage goodwill disclosure, and zero otherwise; i.e. we set this variable to one if a firm provides open range or a point estimate of goodwill slack, and zero whenever a firm does not mention slack measure at all in the 10-K. (Suning pls double check the definition to make sure it is correct).
IMPAMT$_{t+1}$	The goodwill impairment amount (Compustat GDWLIP) over total assets (Compustat AT) at the end of year t+1.
IMPAIR$_{t+1}$	A dummy variable equal to one if the firm records goodwill impairment (Compustat GDWLIP) in year t+1.
SPREAD$_{t+1}$	The mean effective Spread, defined as (ASKHI-BIDLO)/ (ASKHI+BIDLOW)/2 over the 3 day window, from trading days -1 through +1 surrounding the annual earnings announcement date.

Independent Variables	Definition
AGW$_{t+1}$	Absolute value of the unexpected goodwill impairment measured as the difference between actual goodwill impairment and the *expected* goodwill impairment for year t+1 divided by number of shares outstanding and then deflated by market price per share, both the number of shares outstanding and price are measured on the 2 days before the earnings announcement date. The expected goodwill impairment is obtained from the goodwill impairment prediction model (equation 3a).
ASSET VERIFIABILITY$_t$	Asset verifiability, as defined in Ramanna and Watts (2012). ASSET VERIFIABILITY is the in sample rank of (CASH+All Investments and Advances-Debt-Preferred Stock)/(Total Assets-Total Liabilities)
BHAR$_t$	Buy-and-hold size adjusted stock return measured over the fiscal year t
BIG 4$_t$	Indicator variable equal to one if the firm is audited by a big 4 auditor in year t and zero otherwise.
COMMENT$_t$	An indicator variable equal to one if a firm receives a comment letter for year t's 10-K
EARN VALUE RELEVANCE$_t$	The R square from a time series regression of quarterly price per share on earnings from continued operations (IBQ) per share, computed over the period of 20 quarters prior to the end of year t.
EXCHANGE$_t$	An indicator variable equal one if a firm is listed on NASDAQ or AMEX exchanges
EXPECTED IMPAIRMENT$_t$	A dummy variable equal one if the book value of equity exceeds the market value of equity; equal to 0 otherwise, measured at the end of year t
FIRM AGE$_t$	Natural log of firms age in year t.

Appendix A: Definition of Variables, continued

Independent Variables	Definition
FIRM SIZE$_t$	Natural log of market value of equity (PRCC_F*CSHO) measured in the end of year t+1.
FIXED ASSETS$_t$	Ratio of fixed assets divided by total assets in year t.
GOODWILL$_t$	Ratio of total goodwill (GDWL) to total assets (AT) at the end of year t.
LEVERAGE$_t$	Ratio of total long term debt(short+long term portion) (LT) to market value of equity ((dlc+dltt)/(CSHO*PRCC_F) at the end of year t.
LITIGATE$_t$	An indicator variable equal to one if the firm falls into a high litigation risk industry as defined by Francis et al (1994) and zero otherwise.
MTB$_t$	Market-to-Book ratio (CSHO*PRCC_F)/CEQ) at the end of year t
NET REPURCHASES$_t$	Dummy variable equal one if a firm reports positive net repurches per Ramanna and Watts (2012).
POST	Indicator variable equal to one for years 2009-2012 and zero for years 2004-2007
PRICE INVERSE$_{t+1}$	The inverse of stock price at the end of fiscal year t+1
R&D INTENSITY$_t$	Ratio of Research and Development (XRD) to sales (SALE) at the end of year t. When XRD is missing, it is set to zero.
ROA$_t$	Ratio of income before extraordinary item (IB)measured at the end of year t
TURNOVER$_{t+1}$	Defined as trading volume divided by # shares outstanding, during the 20 –trading days ending in 2 days before annual earnings announcement date of fiscal year t+1.
UEARN$_{t+1}$	Absolute value of goodwill-adjusted unexpected earnings for year t+1 per share. To compute goodwill-adjusted unexpected earnings, any goodwill impairment was added back to earnings, and then annual change in these adjusted earnings was computed and deflated market price per share on the 2 days before the earnings announcement date.
UGW$_{t+1}$	Absolute value of the unexpected goodwill impairment measured as the difference between actual goodwill impairment in year t+1 and the actual goodwill impairment for year t divided by number of shares outstanding and then deflated by market price per share, both the number of shares outstanding and price are measured on the 2 days before the earnings announcement date.
VOLATILITY$_{t+1}$	Standard deviation of daily stock returns during the 20 trading days ending 2 days before the annual earnings announcement date.
VOLUME$_{t+1}$	Natural logarithm of the average trading volume over the 20 –trading days ending in 2 days before annual earnings announcement date of fiscal year t+1.

Appendix B: An of Example of SEC Comment Letter on Goodwill Slack

The following is an excerpt from Wellpoint's Comment Letter Response to the SEC related to its 12/31/2012 10-K. The comment letter response is dated June 3, 2013 and was obtained from EDGAR via Audit Analytics

SEC Comment (page 3):
You disclose that you annually evaluate goodwill for impairment using the income and market approaches to estimate the fair value of your reporting units and that you had no impairments as of December 31, 2012. Y*our disclosure appears to suggest that due to lower operating margins experienced in some of your lines of business, some of your reporting units could have fair values not substantially in excess of carrying value as of the date of the impairment test performed.* Please provide us proposed disclosure to be included in future periodic reports to explain if any of your reporting units have a fair value that is not substantially in excess of its carrying value. *For any reporting unit at risk of failing step one in the goodwill impairment test, please provide us proposed disclosure to be included herein in future periodic reports that discloses the following information:*

• *The percentage by which fair value exceeded carrying value as of the date of the most recent test;*

• The amount of goodwill allocated to the reporting unit;

• A description of the methods and key assumptions used and how the key assumptions were determined;

• A discussion of the degree of uncertainty associated with the key assumptions. The discussion regarding uncertainty should provide specifics to the extent possible (e.g., the extent inpatient trends due to increases in spinal surgeries and other cases are expected to affect the assumptions); and,

• Description of potential events and/or changes in circumstances that could reasonably be expected to negatively affect the key assumptions.

Wellpoint's Response (page 4)

Response: The following table summarizes the estimated fair value, carrying value and the excess of fair value over carrying value by reporting unit as of December 31, 2012.

	Dollars in $000,000's			
Reporting Unit	Estimated Fair Value	Carrying Value	Estimated Fair Value in Excess of Carrying Value	Percentage by which fair value exceeds carrying value
Individual	3,283.6	1,907.1	1,376.5	72%
Local Group	13,448.9	11,869.4	1,579.5	13%
Medicare	4,787.6	2,644.4	2,143.2	81%
Medicaid	2,842.1	439.0	2,403.1	547%
Specialty Products	2,648.3	798.2	1,850.1	232%

As noted in the above table, the estimated fair values of our reporting units are substantially in excess of the carrying values as of December 31, 2012. In order for the estimated fair values to decrease below the carrying values, which could potentially result in a material impairment charge in the next twelve months, the Company would need to experience both a significant decrease in future profitability projections and a significant increase in the weighted-average cost of capital, which we believe is unlikely. Given the estimated fair values in excess of carrying values noted above, we believe that the estimated fair value substantially exceeds the carrying value for all reporting units. We do not believe that any of our reporting units are at risk of failing step one in the goodwill impairment test in the next twelve months. As a result, we do not believe the disclosures outlined in comment 2 above are necessary.

Table 1
Sample Selection and Composition

The sample period spans 2009-2012. The hand collected sample is based on firms with assets of greater than $1 billion with non-missing goodwill in Compustat and having data to compute all necessary control variables in our regression models, as indicated below. The variables are defined in the Appendix.

Panel A: Sample Selection—Slack Determinants and Goodwill Impairment Prediction Tests

Compustat firms with at least $1 billion in assets and non-missing goodwill/assets ratio during 2009-2012	10,315
Exclude non-top quintile of goodwill/assets ratio	(8,688)
Exclude non US firms only (cross-listed firms filing forms 20-F)	(344)
Exclude firm years without available information from 10-Ks, and variables necessary to estimate regression models	(163)
Final sample size	**1,120**

Panel B: Annual Sample Distribution

Year	*N*	*%*
2009	285	25.45
2010	291	25.98
2011	287	25.63
2012	257	22.95
	1,120	**100**

Table 1, continued
Sample Selection and Composition

Panel C: Industry Distribution

Industry	N	%
Agriculture	4	0.36
Mining and Construction	16	1.43
Food	61	5.45
Textile	51	4.55
Chemical	24	2.14
Pharmaceutical	26	2.32
Extractive	6	0.54
Durable	266	23.75
Computers	239	21.34
Transportation	73	6.52
Utilities	20	1.79
Retail and Wholesale	71	6.34
Services	142	12.68
Financial	69	6.16
Other	52	4.64
	1,120	**100%**

Table 2
Descriptive Statistics

The Table summarizes the descriptive statistics for the primary sample used in estimating Slack Disclosure Determinants and Impairment Predictions models in the paper. Sample selection procedures are described in Table 1. All variables are defined in the Appendix.

Panel A: Statistics on Variables of Interest

Variable	Mean	STD	Q1	Median	Q3	MIN	MAX
SLACK DISCLOSURE$_t$	0.672	0.470	0.000	1.000	1.000	0.000	1.000
IMPAIR$_{t+1}$	0.154	0.361	0.000	0.000	0.000	0.000	1.000
IMPAMT$_{t+1}$	0.007	0.026	0.000	0.000	0.000	0.000	0.196
ROA$_t$	0.055	0.056	0.031	0.058	0.084	-0.212	0.214
BHAR$_t$	0.020	0.266	-0.146	0.003	0.157	-0.578	1.048
R&D INTENSITY$_t$	0.035	0.058	0.000	0.009	0.046	0.000	0.295
FIRM AGE$_t$	2.898	0.855	2.485	2.890	3.611	0.693	4.431
GOODWILL$_t$	0.365	0.114	0.291	0.349	0.431	0.016	0.662
MTB$_t$	2.773	2.332	1.543	2.174	3.091	0.695	15.910
LEVERAGE$_t$	0.401	0.525	0.132	0.255	0.453	0.000	3.560
FIRM SIZE$_t$	8.270	1.252	7.395	8.154	9.118	4.791	12.145
FIXED ASSETS$_t$	0.130	0.111	0.055	0.096	0.161	0.012	0.563
EXPECTED IMPAIRMENT$_t$	0.056	0.231	0.000	0.000	0.000	0.000	1.000
BIG 4$_t$	0.964	0.186	1.000	1.000	1.000	0.000	1.000
LITIGATE$_t$	0.287	0.452	0.000	0.000	1.000	0.000	1.000
EXCHANGE$_t$	0.355	0.479	0.000	0.000	1.000	0.000	1.000
ASSET VERIFIABILITY$_t$	-0.656	1.341	-0.717	-0.341	-0.032	-8.000	0.865
NET REPURCHASES$_t$	0.021	0.145	0.000	0.000	0.000	0.000	1.000
EARN VALUE RELEVANCE$_t$	0.244	0.230	0.043	0.175	0.402	0.000	0.904
COMMENT$_t$	0.088	0.283	0.000	0.000	0.000	0.000	1.000

Panel B: Distribution of Firms that Report or Do not Report Some Form of Detailed Slack Disclosure

Firm Type	N	%
Level 0- Not Reporting Detailed Slack Disclosure	367	32.8
Reporting Detailed Slack Disclosure		
Level 1 - Reporting >/= 20 percent	276	24.7
Level 2 - Reporting > 10% and < 20%	104	9.2
Level 3 - Reporting < /= 10%	373	33.3
Total Slack Reporters	753	67.2
Total Observations	1,120	100.0

Panel C: Distribution of Firms that Report or Do not Report Some Form of Detailed Slack Disclosure by Year

Year	Number of firms with slack disclosure	Number of firms without slack disclosure	Total number of firms	Percentage of firms with slack disclosure
2009	168	117	285	58.95%
2010	183	108	291	62.89%
2011	198	89	287	68.99%
2012	204	53	257	79.38%
Total	753	367	1,120	

Table 2, continued
Descriptive Statistics

Panel D: Distribution of Firms by Type that Experience a Next Year Impairment

Firm Type	Total firm years	Firm years with future impairment	% of next year's impairments by firm type
Level 0- Not Reporting Detailed Slack Disclosure	367	30	17%
Reporting Detailed Slack Disclosure			
Level 1 - Reporting >/= 20 percent	276	28	16%
Level 2 - Reporting > 10% and < 20%	104	20	12%
Level 3 - Reporting < /= 10%	373	94	55%
Total Slack Reporters	753	142	83%
Total Observations	1,120	172	100%

Panel E: Distribution of Firms by Type that Received a Comment Letter Referencing Impairment

Firm Type	Total firm years	Firm years with comment letter	% of firms years with comment letter by type
Level 0- Not Reporting Detailed Slack Disclosure	367	25	25%
Reporting Detailed Slack Disclosure			
Level 1 - Reporting >/= 20 percent	276	32	32%
Level 2 - Reporting > 10% and < 20%	104	8	8%
Level 3 - Reporting < /= 10%	373	34	34%
Total Slack Reporters	753	74	74%
Total Observations	1,120	99	100%

Table 3
Correlations

The table summarizes Pearson correlation (below diagonal) and Spearman correlation (above diagonal) coefficients for key variables over the described in Table 1. Bolded cells denote correlations significant at levels at 0.05. All variables are defined in the Appendix.

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	SLACK DISCLOSURE$_t$	-	**0.14**	**0.14**	**-0.16**	**-0.07**	**0.07**	**0.11**	**-0.08**	**0.13**	-0.04	0.01	0.05	**-0.12**	**-0.08**	**-0.12**	0.01	-0.01	0.05
2	IMPAIR$_{t+1}$	**0.14**	-	**1.00**	**-0.19**	**-0.06**	0.00	0.04	**-0.21**	**0.17**	**-0.08**	**0.12**	-0.02	**-0.09**	0.04	**-0.10**	0.04	-0.06	0.00
3	IMPAMT$_{t+1}$	**0.07**	**0.58**	-	**-0.20**	**-0.06**	0.00	**0.05**	**-0.22**	**0.18**	**-0.09**	**0.14**	-0.03	**-0.09**	0.04	**-0.10**	0.04	-0.05	-0.01
4	ROA$_t$	**-0.15**	**-0.21**	**-0.19**	-	**0.09**	0.02	**-0.07**	**0.45**	**-0.54**	**0.30**	**-0.23**	0.03	**0.07**	-0.02	**0.34**	**-0.09**	**0.14**	-0.04
5	R&D Intensity$_t$	**-0.12**	**-0.09**	-0.02	0.02	-	0.04	-0.03	**0.13**	**-0.36**	**0.17**	**-0.12**	**0.08**	**0.35**	**0.20**	**0.35**	**-0.07**	0.03	-0.07
6	AGE$_t$	**0.07**	0.00	-0.04	0.01	-0.05	-	**-0.12**	**-0.08**	0.00	**0.25**	**-0.09**	0.04	**-0.07**	**-0.28**	-0.02	-0.01	**0.11**	0.02
7	GOODWILL$_t$	**0.11**	0.03	**0.09**	-0.05	-0.04	**-0.10**	-	**-0.16**	**0.15**	0.00	0.05	-0.06	0.02	0.04	**-0.17**	**-0.06**	0.03	0.00
8	MTB$_t$	-0.02	**-0.10**	**-0.13**	**0.25**	-0.02	**-0.08**	**-0.20**	-	**-0.31**	**0.28**	**-0.40**	**0.09**	0.04	0.03	-0.04	-0.04	**0.10**	-0.01
9	LEVERAGE$_t$	**0.10**	**0.16**	**0.21**	**-0.43**	**-0.24**	**-0.11**	0.02	-0.01	-	**-0.21**	**0.22**	0.04	**-0.20**	**-0.16**	**-0.84**	**0.13**	**-0.12**	-0.01
10	FIRM SIZE$_t$	-0.05	**-0.07**	**-0.17**	**0.30**	**0.11**	**0.26**	-0.01	**0.13**	**-0.32**	-	**-0.18**	**0.16**	-0.02	**-0.20**	**0.10**	-0.06	**0.11**	-0.07
11	EXPECTED IMPAIRMENT$_t$	**0.01**	**0.12**	**0.22**	**-0.22**	**-0.09**	**-0.07**	0.04	**-0.20**	**0.25**	**-0.19**	-	**-0.12**	-0.03	**0.05**	-0.01	**0.15**	-0.02	0.05
12	BIG 4$_t$	0.05	-0.02	**-0.07**	0.04	0.04	0.03	-0.05	**0.07**	0.01	**0.17**	**-0.12**	-	**-0.07**	**-0.14**	**-0.05**	0.00	0.03	**-0.11**
13	LITIGATE$_t$	**-0.12**	**-0.09**	-0.04	0.05	**0.48**	-0.05	0.00	-0.03	**-0.09**	0.00	-0.03	**-0.07**	-	**0.25**	**0.24**	**0.11**	-0.04	-0.04
15	EXCHANGE$_t$	**-0.08**	0.04	**0.06**	**-0.06**	**0.37**	**-0.23**	0.02	-0.02	**0.02**	**-0.21**	0.05	**-0.14**	**0.25**	-	**0.19**	-0.05	**-0.10**	0.02
15	ASSET VERIFIABILITY$_t$	**-0.09**	-0.05	-0.05	**0.27**	**0.25**	**0.09**	-0.03	**-0.42**	**-0.71**	**0.16**	0.02	-0.05	**0.14**	0.05	-	**-0.10**	0.06	0.03
16	NET REPURCHASES$_t$	**0.01**	0.04	0.02	**-0.06**	**-0.06**	-0.02	-0.05	**0.07**	**0.17**	-0.06	**0.15**	0.00	**0.11**	-0.05	**-0.12**	-	0.00	-0.05
17	EARN VALUE$_t$	-0.01	-0.05	-0.03	**0.17**	-0.05	**0.11**	0.02	0.01	**-0.13**	**0.11**	-0.03	0.03	-0.03	**-0.09**	**0.10**	0.00	-	**0.12**
18	COMMENT$_t$	0.05	0.00	-0.04	-0.01	-0.05	0.02	0.01	-0.01	-0.02	**-0.08**	0.05	**-0.11**	-0.04	0.02	0.01	-0.05	-0.01	1.00

Table 4
Slack Prediction Model

This table presents logistic regression models of slack disclosure determinants model (Equation (1)). Reported p-values are based on t-statistics estimated using standard errors clustered on firm and year All continuous variables are winsorized at the 1st and 99th percentiles. *, **, *** denote two-tail significance levels at 0.1, 0.05, and 0.01, respectively. All variables are defined in the Appendix.

Prob(SLACK DISCLOSURE=1)$_t$ =γ_0+ γ_1*ROA$_t$ + γ_2*BHAR$_t$ + γ_3*R&D INTENSITY $_t$ + γ_4*FIRM AGE$_t$ + γ_5*Goodwill$_t$ + γ_6*MTB$_t$ + γ_7*FIRM SIZE$_t$+ γ_8*FIXED ASSETS$_t$+ γ_9* LEVERAGE$_t$ +γ_{10}* EXPECTED IMPAIRMENT$_t$ + γ_{11}*BIG4$_t$ + γ_{12}*LITIGATE $_t$ +γ_{13}* EXCHANGE $_t$ + γ_{14}* ASSET VERIFIABILITY $_t$ + γ_{15}*NET REPURCHASES$_t$ + γ_{16}*EARN VALUE RELEVANCE $_t$ + γ_{17}* COMMENT$_t$ +Industry Fixed Effects+Year Fixed Effects+e   (1)*

Variables	DEPVAR=(SLACK DISCLOSURE=1) Coefficient	p-value
Intercept	0.023	0.98
ROA$_t$	-6.592***	0.00
BHAR$_t$	-0.405	0.20
R&D INTENSITY$_t$	-1.883	0.30
FIRM AGE$_t$	0.214*	0.08
GOODWILL$_t$	4.251***	0.00
MTB$_t$	0.046	0.38
FIRM SIZE	-0.173**	0.02
FIXED ASSETS$_t$	-0.364	0.73
LEVERAGE$_t$	0.847***	0.00
EXPECTED IMPAIRMENT$_t$	-0.540	0.22
BIG 4$_t$	0.873**	0.05
LITIGATE$_t$	-0.709**	0.03
EXCHANGE$_t$	-0.197	0.33
ASSET VERIFIABILITY$_t$	0.417***	0.00
NET REPURCHASES$_t$	-0.084	0.90
EARN VALUE RELEVANCE$_t$	-0.052	0.89
COMMENT$_t$	0.419	0.18
Year fixed effects	Yes	
Industry fixed effects	Yes	
N	1,120	
Pseudo R^2	26.76%	

Table 5

This table presents multinomial regression models of SLACK determinants (Equation (2)). Reported p-values are based on t-statistics estimated using standard errors clustered on firm and year. All continuous variables are winsorized at the 1st and 99th percentiles. *, **, *** denote two-tail significance levels at 0.1, 0.05, and 0.01, respectively. All variables are defined in the Appendix.

Prob(SLACK DISCLOSURE LEVEL X=1)$_t$ =γ_0+ γ_1*ROA$_t$ + γ_2*BHAR$_t$ + γ_3*RD_INT$_t$ + γ_4*LAGE$_t$ + γ_5*GWAT$_t$ + γ_6*MTB$_t$ + γ_7*LMVE +γ_8*TANG+ γ_9* LEV$_t$ +γ_{10}* EXPECTED IMPAIRMENT$_t$ + γ_{11}*B5$_t$ + + γ_{12}*LITIGATE $_t$ +γ_{13}* EXCHANGE $_t$ + γ_{14}* ASSET VERIFIABILITY $_t$ + γ_{15}*NET REPURCHASES$_t$ + γ_{16}*EARN VALUE RELEVANCE $_t$ + γ_{17}* COMMENT$_t$ +Industry Fixed Effects+Year Fixed Effects+e   *(2)*

SLACK DISCLOSURE LEVEL0: No slack disclosure
SLACK DISCLOSURE LEVEL1: Disclosure Slack >/= 20%, including substantial
SLACK DISCLOSURE LEVEL2: Disclosure Slack > 10% and < 20%
SLACK DISCLOSURE LEVLE3: Disclosure Slack </= 10%, including "took impairment", "pass qualitative", "exceed,"

Variables	SLACK LEVEL 1 *Coefficient*	*p-value*	SLACK LEVEL 2 *Coefficient*	*p-value*	SLACK LEVEL 3 *Coefficient*	*p-value*
ROA$_t$	-0.982	0.67	-5.265*	0.07	-9.765***	0.00
BHAR$_t$	-0.373	0.33	-0.615	0.25	-0.595*	0.08
R&D INTENSITY$_t$	-3.909*	0.08	-1.809	0.58	2.876	0.16
FIRM AGE$_t$	0.293**	0.03	0.079	0.64	0.131	0.28
GOODWILL$_t$	5.648***	0.00	3.685***	0.02	3.182***	0.00
MTB$_t$	0.067	0.16	0.004	0.95	-0.016	0.73
FIRM SIZE$_t$	-0.337***	0.00	-0.079	0.53	-0.020	0.82
FIXED ASSETS$_t$	-0.850	0.50	2.327	0.15	-0.825	0.47
LEVERAGE$_t$	0.347	0.32	0.006	0.99	0.699***	0.01
EXPECTED IMPAIRMENT$_t$	-1.451**	0.02	0.127	0.85	-0.186	0.66
BIG 4$_t$	1.159**	0.03	17.477	0.99	0.547	0.27
LITIGATE$_t$	-0.824	0.01	-0.706*	0.09	-1.190***	0.00
EXCHANGE$_t$	-0.118	0.62	-0.481	0.15	-0.544**	0.02
ASSET VERIFIABILITY$_t$	0.132*	0.03	0.083	0.31	0.015	0.78
NET REPURCHASES$_t$	-16.520	0.99	-0.035	0.97	0.510	0.39
EARN VALUE RELEVANCE$_t$	0.337	0.43	0.071	0.90	-0.007	0.99
COMMENT$_t$	0.689**	0.04	0.101	0.84	0.280	0.39
Year fixed effects	Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes	
N	643=276+367		471=104+367		740=373+367	
Pseudo R^2	18.43%					

Table 6
Prediction of Future Impairment Model

This table presents OLS and LOGIT models of Impairment$_{t+1}$ determinants
. OLS Model (Equation (3a) estimates the level of impairment charge deflated by total assets (IMPAIRMENT AMOUNT); LOGIT model (Equation (3b) estimates determinants of the presence of impairment charge (Prob IMPAIR=1). Reported p-values are based on t-statistics estimated using standard errors clustered on firm and year. All continuous variables are winsorized at the 1st and 99th percentiles. *, **, *** denote two-tail significance levels at 0.1, 0.05, and 0.01, respectively. All variables are defined in the Appendix.

$IMPAMT_{t+1}=\gamma_0+ \gamma_1*SLACK\ DISCLOSURE_t + \gamma_2*ROA_t + \gamma_3*BHAR_t + \gamma_4*R\&D\ Intensity_t + \gamma_5* FIRM\ AGE_t + \gamma_6*GOODWILL_t +\gamma_7* MTB_t + \gamma_8* FIRM\ SIZE_t + \gamma_9* FIXED\ ASSETS_t + \gamma_{10}*LEVERAGE_t + \gamma_{11}* EXPECTED\ IMPAIRMENT_t + \gamma_{12}* BIG\ 4_t + \gamma_{13}*LITIGATE_t + \gamma_{14}*EXCHANGE_t + \gamma_{15}*ASSET\ VERIFIABILITY_t +\gamma_{16}*NET\ REPURCHASES_t +\gamma_{17}*EARN\ VALUE\ RELEVANCE_t + \gamma_{18}* COMMENT_t +Industry\ Fixed\ Effects+Year\ Fixed\ Effects+e$ (3a)

$Prob(IMPAIR_{+1}=1)=\gamma_0+ \gamma_1*SLACK\ DISCLOSURE_t + \gamma_2*ROA_t + \gamma_3*BHAR_t + \gamma_4*R\&D\ Intensity_t + \gamma_5* FIRM\ AGE_t + \gamma_6*GOODWILL_t +\gamma_7* MTB_t + \gamma_8* FIRM\ SIZE_t + \gamma_9* FIXED\ ASSETS_t + \gamma_{10}*LEVERAGE_t + \gamma_{11}* EXPECTED\ IMPAIRMENT_t + \gamma_{12}* BIG\ 4_t + \gamma_{13}*LITIGATE_t + \gamma_{14}*EXCHANGE_t + \gamma_{15}*ASSET\ VERIFIABILITY_t +\gamma_{16}*NET\ REPURCHASES_t +\gamma_{17}*EARN\ VALUE\ RELEVANCE_t + \gamma_{18}*COMMENT_t +Industry\ Fixed\ Effects+Year\ Fixed\ Effects+e$ (3b)

Panel A: Prediction of Future Impairment – Full Sample

Variables	DEPVAR= *IMPAMT$_{t+1}$*		DEPVAR=Prob (*IMPAIR $_{t+1}$=1*)	
	Coefficient	p-value	Coefficient	p-value
Intercept	-0.130***	0.01	-4.078***	0.00
SLACK DISCLOSURE$_t$	0.024**	0.02	0.637**	0.02
ROA$_t$	-0.154**	0.05	-4.858**	0.02
BHAR$_t$	-0.070***	0.00	-1.476***	0.00
R&D INTENSITY$_t$	-0.043	0.69	-3.356	0.31
FIRM AGE$_t$	0.007	0.23	0.192	0.21
GOODWILL$_t$	0.043	0.33	0.258	0.81
MTB$_t$	-0.004	0.18	-0.096	0.45
FIRM SIZE$_t$	0.001	0.78	0.123	0.32
FIXED ASSETS$_t$	-0.046	0.36	-0.903	0.51
LEVERAGE$_t$	0.022**	0.05	0.433	0.22
EXPECTED IMPAIRMENT$_t$	0.021	0.17	0.010	0.98
BIG 4$_t$	-0.031	0.13	-0.439	0.57
LITIGATE$_t$	-0.038**	0.04	-0.768	0.11
EXCHANGE$_t$	0.019**	0.05	0.525*	0.06
ASSET VERIFIABILITY$_t$	0.000	0.95	0.011	0.95
NET REPURCHASES$_t$	0.033	0.22	1.004	0.27
EARN VALUE$_t$ RELEVANCE$_t$	-0.025	0.19	-0.738	0.16
COMMENT$_t$	-0.005	0.71	-0.007	0.99
Year fixed effects	Yes		Yes	
Industry fixed effects	Yes		Yes	
Pseudo R^2	74.32%		14.91%	

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Table 6, Continued

Panel B: prediction of future impairment model 3b when slack disclosure level is defined as follows:

SLACK DISCLOSURE LEVEL0: No slack disclosure
SLACK DISCLOSURE LEVEL1: Disclosure Slack >/= 20%, including substantial
SLACK DISCLOSURE LEVEL2: Disclosure Slack > 10% and < 20%
SLACK DISCLOSURE LEVLE3: Disclosure Slack </= 10%, including "took impairment", "pass qualitative", "exceed,"

DEPVAR = Prob (IMPAIR$_{t+1}$)	SLACK LEVEL 1		SLACK LEVEL 2		SLACK LEVEL 3	
Variables	*Coefficient*	*p-value*	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Intercept	-2.680	0.22	-11.639***	0.00	-4.473**	0.01
SLACK DISCLOSURE$_t$	-0.050	0.73	0.410*	0.10	0.947***	0.00
ROA$_t$	-7.944**	0.04	-2.069	0.71	-2.734	0.32
BHAR$_t$	-3.033***	0.00	-3.079***	0.01	-1.324**	0.02
R&D INTENSITY$_t$	-5.086	0.25	-4.776	0.46	-0.109	0.98
FIRM AGE$_t$	0.254	0.32	0.359	0.18	0.181	0.39
GOODWILL$_t$	0.012	1.00	1.171	0.61	1.191	0.43
MTB$_t$	-0.162	0.28	-0.011	0.96	-0.310	0.13
FIRM SIZE$_t$	0.079	0.67	0.062	0.82	0.124	0.42
FIXED ASSETS$_t$	-5.256**	0.05	-4.396	0.27	-2.719*	0.09
LEVERAGE$_t$	-0.748	0.28	2.505	0.02	0.317	0.48
EXPECTED IMPAIRMENT$_t$	0.749	0.35	-0.024	0.98	-0.536	0.30
BIG 4$_t$	-1.177	0.13	-2.434**	0.03	-0.673	0.40
LITIGATE$_t$	0.183	0.81	-0.770	0.41	-1.456	0.02
EXCHANGE$_t$	0.850**	0.04	0.881	0.15	0.608	0.08
ASSET VERIFIABILITY$_t$	-0.636*	0.07	1.416**	0.03	-0.160	0.50
NET REPURCHASES$_t$	-13.686***	0.00	-7.903***	0.00	1.733*	0.06
EARN VALUE$_t$ RELEVANCE$_t$	0.022	0.98	-0.326	0.76	-0.227	0.72
COMMENT$_t$	0.496	0.48	0.578	0.49	0.460	0.38
Year fixed effects	Yes		Yes		Yes	
Industry fixed effects	Yes		Yes		Yes	
N	643=276+367		471=104+367		740=373+367	
Pseudo R^2	14.33%		21.14%		20.92%	

Table 6, Continued

Panel C: prediction of future impairment model 3b pooled across level

DEPVAR = Prob (IMPAIR$_{t+1}$)	Coefficient	p-value
Intercept	-3.917***	0.003
LEVEL 1	0.145	0.660
LEVEL 2	0.928***	0.011
LEVEL 3	0.834***	0.003
ROA$_t$	-3.892*	0.056
BHAR$_t$	-1.465***	0.003
R&D INTENSITY$_t$	-3.409	0.246
FIRM AGE$_t$	0.206	0.163
GOODWILL$_t$	0.292	0.784
MTB$_t$	-0.094	0.357
FIRM SIZE$_t$	0.098	0.361
FIXED ASSETS$_t$	-1.007	0.444
LEVERAGE$_t$	0.384	0.221
EXPECTED IMPAIRMENT$_t$	-0.070	0.887
BIG 4$_t$	-0.489	0.459
LITIGATE$_t$	-0.792*	0.084
EXCHANGE$_t$	0.578**	0.020
ASSET VERIFIABILITY$_t$	0.003	0.987
NET REPURCHASES$_t$	0.911	0.151
EARN VALUE$_t$ RELEVANCE$_t$	-0.675	0.159
COMMENT$_t$	0.019	0.963
Year fixed effects	YES	
Industry fixed effects	YES	
N	1,120	
Pseudo R^2	15.49%	

Table 7
Descriptive Statistics for Bid-Ask Spread Change Analysis

Panel A: Sample Selection of Bid-Ask Spread Sample

	Number of Observations
Compustat firms with at least $1 billion in assets and non-missing goodwill/assets ratio during 2009-2012	10,315
Exclude non-top quintile of goodwill/assets ratio	(8,688)
Exclude non US firms only (cross-listed firms filing forms 20-F)	(344)
Exclude firm years without available information from 10-Ks, and variables necessary to estimate regression models	(163)
Sample for 2009-2012	1,120
Add back firm years in 2004 through 2007	1,088
Sample used in Difference in Differences Bid-Ask Spread test (with occasional slack disclosers)	2,208
Excluding mixed type	(658)
Final sample size (consistent disclosers only)	**1,550**

Panel B: Univariate Statistics-Consistent Disclosers (N=1,550)

Variable	Mean	STD	Q1	Median	Q3	MIN	MAX
BIDASK	0.043	0.022	0.027	0.037	0.053	0.001	0.175
AGW	0.022	0.096	0.000	0.000	0.000	0.000	0.756
UGW	0.012	0.054	0.000	0.000	0.000	0.000	0.401
UEARN	0.025	0.043	0.005	0.012	0.025	0.000	0.299
TURNOVER	0.018	0.016	0.009	0.014	0.022	0.000	0.158
PRICE INVERSE	0.040	0.035	0.021	0.030	0.047	0.001	0.373
VOLATILITY	0.019	0.012	0.011	0.016	0.023	0.006	0.067
VOLUME	12.730	1.283	11.846	12.674	13.557	9.592	15.996

Panel C: Pearson (below diagonal) and Spearman (above diagonal) Correlations (N=1,550, Consistent Disclosers; Correlations Significant at 0.05 are highlighted in bold.

		1	2	3	4	5	6	7	8
BIDASK	1	-	**0.065**	**0.105**	**0.278**	**0.471**	**0.267**	**0.667**	**-0.074**
UGW	2	**0.310**	-	**0.795**	**0.238**	-0.047	**0.142**	**0.054**	-0.013
AGW	3	**0.312**	**0.882**	-	**0.221**	-0.023	**0.139**	**0.101**	0.008
UEARN	4	**0.384**	**0.446**	**0.383**	-	**0.161**	**0.235**	**0.289**	-0.031
TURNOVER	5	**0.333**	0.057	0.080	0.114	-	**0.089**	**0.375**	**0.303**
PRICE INVERSE	6	**0.232**	**0.269**	**0.209**	**0.260**	-0.008	-	**0.225**	0.040
VOLATILITY	7	**0.708**	**0.248**	**0.236**	**0.347**	**0.279**	**0.185**	-	**0.085**
VOLUME	8	**-0.066**	-0.040	-0.007	-0.012	**0.243**	0.026	**0.086**	-

Table 8
Slack Disclosures Effect on Year t+1 Bid-Ask Spread Change Around Earnings Announcements

This table presents difference-in-differences OLS regression of year t+1 earnings announcement's bid-ask spread on SLACK disclosure (Equation (4)). It documents the effects of excess goodwill disclosure on bid-ask spread around year t+1 fourth quarter earnings announcement. Reported p-values are based on t-statistics estimated using standard errors clustered at firm level. Industry and year fixed effects are included. All continuous variables are winsorized at the 1st and 99th percentiles. *, **, *** denote two-tail significance levels at 0.1, 0.05, and 0.01, respectively. All variables are defined in the Appendix.

Panel A: Using annual difference in goodwill impairment amount (UGW) as a measure of unexpected goodwill impairment

$SPREAD_{t+1} = \gamma_0 + \gamma_1 UGW_{t+1} + \gamma_2 POST_{t+1} +_t \gamma_3 POST*UGW_{t+1} + \gamma_4 SLACK\ DISCLOSURE_t + \gamma_5 SLACK\ DISCLOSURE_t*UGW_{t+1} + \gamma_6 SLACK\ DISCLOSURE_t*POST_{t+1} + \gamma_7 SLACK\ DISCLOSURE_t*POST_{t+1}* UGW_{t+1} + \Sigma\ Controls + \varepsilon$ (4a)

DEPVAR= *SPREAD* $_{t+1}$		Consistent Disclosers		Occasional Disclosers	
		Coefficient	p-value	Coefficient	p-value
Intercept	γ_0	0.055***	<.0001	0.055***	<.0001
UGW$_t$	γ_1	0.015	0.345	0.013	0.341
POST$_t$	γ_2	-0.003**	0.045	-0.004**	0.023
POST$_t$*UGW$_t$	γ_3	0.095**	0.046	0.097**	0.022
SLACK DISCLOSURE$_t$	γ_4	0.002	0.175	0.002*	0.058
SLACK DISCLOSURE$_t$*UGW$_t$	γ_5	0.023	0.183	0.022	0.132
SLACK DISCLOSURE$_t$*POST$_t$	γ_6	0.000	0.992	0.000	0.815
SLACK DISCLOSURE$_t$*POST$_t$*UGW$_t$	γ_7	-0.129***	0.008	-0.121***	0.005
UEARN$_t$	γ_8	0.051***	<.0001	0.059***	<.0001
TURNOVER$_t$	γ_9	0.289***	<.0001	0.263***	<.0001
PRICE INVERSE$_t$	γ_{10}	0.068***	0.001	0.070***	<.0001
VOLATILITY$_t$	γ_{11}	1.085***	<.0001	1.101****	<.0001
VOLUME$_t$	γ_{12}	-0.003***	<.0001	-0.004***	<.0001
ROA$_t$	γ_{13}	0.007	0.347	0.004	0.596
BHAR$_t$	γ_{14}	0.004**	0.032	0.002	0.101
R&D INTENSITY$_t$	γ_{15}	-0.010	0.326	-0.014*	0.067
FIRM AGE$_t$	γ_{16}	-0.001	0.214	-0.001**	0.044
GOODWILL$_t$	γ_{17}	0.006*	0.100	0.005	0.103
MTB$_t$	γ_{18}	0.000	0.676	0.000	0.874
LEVERAGE$_t$	γ_{19}	0.001	0.404	0.002	0.169
FIRM SIZE$_t$	γ_{20}	0.001	0.305	0.001**	0.017
FIXED ASSETS$_t$	γ_{21}	0.001	0.872	0.000	0.941
EXPECTED IMPAIRMENT$_t$	γ_{22}	0.000	0.906	-0.001	0.500
BIG 4$_t$	γ_{23}	-0.003	0.207	-0.002	0.175
LITIGATE$_t$	γ_{24}	0.002	0.338	0.002	0.229
EXCHANGE$_t$	γ_{25}	0.000	0.924	0.001	0.446
ASSET VERIFIABILITY$_t$	γ_{26}	0.000	0.577	0.000	0.928
NET REPURCHASES$_t$	γ_{27}	-0.001	0.783	0.000	0.872
EARN VALUE RELEVANCE$_t$	γ_{28}	0.055***	<.0001	0.003*	0.074
COMMENT$_t$	γ_{29}	0.015	0.345	0.055**	<.0001
Year Fixed Effects		YES		YES	
Industry fixed effects		YES		YES	
F-test	$\gamma_{4+}\gamma_{5+}\gamma_{6+}\gamma_7$	3.25*	0.07	3.02*	0.08
N		1,550		2,208	
Adj R^2		61.36%		61.31%	

Impact of Slack Disclosures on Year t+1 Bid-Ask Spread Change Around Earnings Announcements

Panel B: Using abnormal goodwill impairment amount from prediction model of goodwill (AGW) as a measure of unexpected goodwill impairment

$$SPREAD_{t+1} = \gamma_0 + \gamma_1 AGW_{t+1} + \gamma_2 POST_{t+1} + \gamma_3 POST*AGW_{t+1} + \gamma_4 SLACK\ DISCLOSURE_t + \gamma_5 SLACK\ DISCLOSURE_t*AGW_{t+1} + \gamma_6 SLACK\ DISCLOSURE_t*POST_{t+1} + \gamma_7 SLACK\ DISCLOSURE_t*POST_{t+1}*AGW_{t+1} + \Sigma\ Controls + \varepsilon \qquad (4b)$$

DEPVAR= *SPREAD* $_{t+1}$		Consistent Disclosers		Occasional Disclosers	
		Coefficient	*p-value*	*Coefficient*	*p-value*
Intercept	γ_0	0.055***	<.0001	0.055***	<.0001
AGW$_t$	γ_1	0.041	0.51	0.032	0.61
POST$_t$	γ_2	-0.003*	0.07	-0.004**	0.02
POST$_t$*AGW$_t$	γ_3	0.145**	0.03	0.146**	0.03
SLACK DISCLOSURE$_t$	γ_4	0.002	0.16	0.002*	0.06
SLACK DISCLOSURE$_t$*AGW$_t$	γ_5	0.024	0.70	0.024	0.70
SLACK DISCLOSURE$_t$*POST$_t$	γ_6	0.000	0.93	0.000	0.76
SLACK DISCLOSURE$_t$*POST$_t$*AGW$_t$	γ_7	-0.190***	0.01	-0.181***	0.01
UEARN$_t$	γ_8	0.050***	0.00	0.059***	<.0001
TURNOVER$_t$	γ_9	0.285***	<.0001	0.262***	<.0001
PRICE INVERSE$_t$	γ_{10}	0.067***	0.00	0.069***	<.0001
VOLATILITY$_t$	γ_{11}	1.087***	<.0001	1.108***	<.0001
VOLUME$_t$	γ_{12}	-0.003***	<.0001	-0.004****	<.0001
ROA$_t$	γ_{13}	0.005	0.57	-0.001	0.89
BHAR$_t$	γ_{14}	0.004**	0.03	0.002*	0.10
R&D INTENSITY$_t$	γ_{15}	-0.011	0.29	-0.015	0.05
FIRM AGE$_t$	γ_{16}	-0.001	0.23	-0.001	0.04
GOODWILL$_t$	γ_{17}	0.006	0.12	0.005	0.12
MTB$_t$	γ_{18}	0.000	0.81	0.000	0.97
LEVERAGE$_t$	γ_{19}	0.001	0.26	0.002	0.16
FIRM SIZE$_t$	γ_{20}	0.000	0.95	0.002***	0.01
FIXED ASSETS$_t$	γ_{21}	0.001	0.44	0.000	0.92
EXPECTED IMPAIRMENT$_t$	γ_{22}	0.000	0.94	-0.002	0.44
BIG4$_t$	γ_{23}	-0.003	0.19	-0.002	0.22
LITIGATE$_t$	γ_{24}	0.002	0.20	0.002	0.17
EXCHANGE$_t$	γ_{25}	0.000	0.89	0.001	0.46
ASSET VERIFIABILITY$_t$	γ_{26}	0.000	0.62	0.000	0.90
NET REPURCHASES$_t$	γ_{27}	-0.001	0.84	0.000	0.85
EARN VALUE RELEVANCE$_t$	γ_{28}	0.002	0.20	0.003**	0.06
COMMENT$_t$	γ_{29}	-0.003*	0.08	-0.002	0.15
Year Fixed Effects		YES		YES	
Industry fixed effects		YES		YES	
F-test	$\gamma_4 + \gamma_5 + \gamma_6 + \gamma_7$	4.34**	0.04	4.25**	0.04
N		1,550		2,208	
Adj R^2		61.51%		61.28%	