DISCLOSURE VERSUS RECOGNITION: INFERENCES FROM SUBSEQUENT EVENTS

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December 2012

Abstract

Standard setters explicitly state disclosure should not substitute for recognition in financial reports. Consistent with this directive, prior research shows investors find recognized values more pertinent than disclosed values. However, it remains unclear whether reporting items are recognized because they are more relevant for investing decisions, or whether the recognition of items itself focuses investor attention to these items. Understanding if and how the presentation format of an accounting item affects its use has important regulatory implications, especially as the volume of disclosure in financial reports continues to grow. Using the context of subsequent events, I identify the differential effect of disclosure versus recognition in a setting where the accounting treatment of an item is exogenously determined. I find market prices are more sensitive to recognized values than disclosed values for firms reporting on the same or similar events. I fail to find support for the hypothesis that this difference is due to differential reliability of disclosed and recognized values. Instead my results indicate that users of financial reports fixate on recognized items while failing to fully incorporate disclosed items into prices. This finding is consistent with disclosed values requiring more effort or expertise to understand and use.

Keywords: Mandatory disclosure, recognition, subsequent events.

I am indebted to the members of my dissertation committee for their insightful comments and continued guidance: Bjorn Jorgensen (chair), Yonca Ertimur, Alan Jagolinzer, Mattias Nilsson, and Steve Rock. I also thank seminar participants at the University of Colorado Boulder for their helpful remarks. I gratefully acknowledge financial support from the Deloitte Foundation.

I. INTRODUCTION

Prior research indicates investors typically find recognized values more pertinent than disclosed values (Aboody 1996, David-Friday et al. 1999, Ahmed et al. 2006). These findings are consistent with the concept that disclosure should not substitute for recognition (FASB 1984). Why investors find recognized values more relevant than disclosed values remains an open question. Investors may rely more heavily on recognized values because of differences in the types of firms that choose to recognize rather than disclose, because of differences in the characteristics of transactions that are recognized rather than disclosed, or because of a change in the perceived importance of a reporting item when regulators require recognition of a previously disclosed item. It is unclear whether investors continue to value recognition more heavily than disclosure when these differences are held equal. That is, investors may not value recognition per se, but rather characteristics of firms or transactions that are associated with recognition. Discerning whether the act of recognition itself results in a stronger market reaction to an accounting item is difficult, as accounting standards typically require similar transactions to be uniformly recognized or disclosed (Bernard and Schipper 1994). As a result, little variation exists in the accounting treatment for similar transactions, either across or within firms. What variation does exist is typically nonrandom, precluding the establishment of causal inferences.

Using the context of subsequent events, I identify the differential effect of recognition relative to disclosure in a setting where the accounting treatment of an item is exogenously determined. The timing of the events I study determines which firms must recognize or disclose. As this timing is determined by nature, my setting yields strong inferences regarding the causal effects of the different accounting treatments. I find market prices are more sensitive to recognized values than disclosed values for firms reporting on the same or similar events. I fail

to find support for the hypothesis that differential reliability causes investors to perceive disclosed values and recognized values differently. Instead my results indicate users of financial reports fixate on recognized items while failing to fully incorporate disclosed items into prices. This finding is consistent with disclosed values requiring a greater level of effort or expertise to understand and use.

Subsequent events are events occurring after a firm's balance sheet date but before the financial statements are issued. Firms must disclose subsequent events if not disclosing them would cause the financial statements to be misleading. The loss of inventories or property, plant and equipment from a fire or natural disaster is an example of a subsequent event requiring disclosure. However, a comparable event that occurred just prior to the balance sheet date would require recognition. The timing of such events relative to the balance sheet date is determined by nature, thus allowing for the exogenous assignment of which firms are required to recognize or only disclose the financial impact of similar events. Using this random variation in the required accounting treatment of economically similar events, I demonstrate investors weigh recognized amounts more heavily than disclosed amounts in setting market prices.

Next, I provide evidence on why investors treat recognized and disclosed amounts differently. I fail to find evidence that differences in the reliability of recognized and disclosed items drive the differential investor response. Specifically, my analysis indicates differential precision does not explain the difference in the market reaction to recognized items relative to disclosed items. I also find no support for the hypothesis that the greater use of discretion on the part of disclosing firms contributes to the differential market response. Instead, my results are consistent with investors fixating on recognized items while failing to fully incorporate disclosed items into their decisions. Specifically, I show the market reaction to an item disclosed as a

subsequent event is delayed until the next quarter's earnings announcement, when the item is recognized. These results are consistent with disclosed items requiring a greater level of expertise, motivation, and aptitude to understand and use (Dearman and Shields, 2005). The presence of expert users, namely analysts, mediates this effect, consistent with analysts transforming complex information into a form more easily processed by other market participants.

These findings have implications for standard setters as they establish disclosure requirements. Regulators have long called for more research on the issue of recognition versus disclosure and, in particular, on how the effects of recognition and disclosure vary across different groups of users of financial reports (Johnson 1992). The Financial Accounting Standards Board (FASB) states that the desired outcome of their current disclosure framework development project to be an increase in the utility of the information disclosed and a net reduction in the volume of disclosure (FASB 2012). Yet, as discussed by Schipper (2007), we understand relatively little of how mandatory disclosures are used by readers of financial reports. Understanding how users of accounting information currently view disclosures is an important step in improving their usefulness.

Empirical researchers encounter difficulty in testing for differences in the effects of disclosure and recognition because accounting standards typically require companies to uniformly recognize or disclose similar transactions and events. However, prior work offers evidence on the issue of disclosure versus recognition through unique settings where firms may choose different accounting treatments (Aboody 1996, Campbell et al. 2003, Ahmed et al.

2006).[1] Previous research also examines regulatory changes, where a change in accounting treatment is imposed on a firm (Davis-Friday et al. 1999; Ahmed et al. 2006).[2] These studies indicate that users of financial statements find recognized information more pertinent than disclosed information.

While this prior work makes important strides in furthering our understanding of mandatory disclosures, concerns regarding the self-selection of which firms choose to recognize or disclose obfuscate inferences on the causal effects of disclosure versus recognition. Firm incentives influencing the recognition or disclosure choice are also likely linked to the market reaction to an accounting item (Amir and Ziv 1997, Aboody et al. 2004). Even in the context of regulatory changes, firms are often able to choose the timing of the accounting change through voluntary early adoption (Ayres 1986, Ali and Kumar 1994). And since a regulatory change is the end result of an often lengthy process, firms can alter their real activities prior to the new regulation going into effect (Mittelstaedt et al. 1995, Bens and Monahan 2008, Choudhary et al. 2009, Zhang 2009, Amir et al. 2010, Chuk 2012). For example, Choudhary et al. (2009) find firms accelerated the vesting of employee stock options in response to Financial Accounting Standard 123-R in order to avoid recognizing a previously disclosed expense. So if a new regulation requires recognition of a previously disclosed item, the economic substance of the item in question is likely to have changed during the transition from the disclosure regime to the

[1] Aboody (1996) exploits the fact that oil and gas firms are required to recognize, or only disclose, impairments of certain magnitudes depending on whether the firm chose the full cost or successful effort method in capitalizing costs of developing wells. Campbell et al. (2003) examine discretion in recognizing or disclosing contingent liabilities in the chemical industry. Ahmed et al. (2006) examine derivative accounting in bank holding companies, where the fair value of the derivative was recognized or disclosed, depending on the underlying asset or liability.
[2] Davis-Friday et al. (1999) compare the disclosed liability for retiree benefits other than pensions to the recognized liability post SFAS No. 106 for firms who chose immediate, full recognition of the liability. Ahmed et al. (2006) contrast derivatives whose fair value was disclosed pre-SFAS No. 133 to the recognized fair value of these derivatives following the standard's adoption for bank holding companies that chose to hold only disclosed derivatives prior to the standard.

recognition regime, making the items incomparable. Additionally, regulations requiring recognition of a previously disclosed item are in response to a perceived deficiency in the current reporting system. The regulation itself draws attention to this perceived deficiency and thus any effect of the regulation may be due to heightened awareness of the reporting item rather than the change in accounting treatment.

In summary, prior research may not disentangle the effects of disclosure versus recognition from (1) selection effects and (2) the effects of a change in the underlying economics of the transaction that occur simultaneously with a change in accounting treatment. My research design circumvents these issues by (1) relying on random variation provided by nature to determine which firms must recognize or disclose and by (2) holding the nature of the event and the regulatory regime constant across recognizing and disclosing firms.

This research design allows me to contribute to the accounting literature by demonstrating that differences in the required accounting treatment of a reporting item drive differences in the market response to that item. Absent the random assignment of which firms must recognize and which firms must disclose, it is not clear the accounting treatment itself is responsible for the disparate market reactions. Instead it would be possible that differences in the characteristics of the reporting items or differences in the incentives of the firm drive both the accounting method and the market reaction. My research design allows me to rule out this alternative explanation.

I also contribute to the literature on mandatory disclosure by providing evidence on the underlying reason for differences in investor response to disclosed and recognized items. An often cited reason for different market valuations of recognized and disclosed items is that these

items have differing levels of reliability (Davis-Friday et al. 2004, Libby et al. 2006, Choudhary 2011). Alternatively, others propose that cognitive processing biases cause differential weighting of items based on their presentation (Hirst and Hopkins 1998, Dietrich et al. 2001, Hodge et al. 2004). I directly test these competing hypotheses. I fail to find evidence that reliability differences drive my findings. But I do find support for users processing information differently depending on whether it is recognized or disclosed.

II. BACKGROUND

FASB Accounting Standards Codification (ASC) 855-10 defines a subsequent event for SEC filers as an event or transaction that occurs after the balance sheet date but before the financial statements are issued.[3] There are two types of subsequent events. The first type consists of events or transactions that provide additional evidence about conditions that existed at the date of the balance sheet. This type of event requires recognition in the financial statements. The second type of subsequent event consists of events that provide evidence about conditions that did not exist at the date of the balance sheet but arose subsequent to that date. This second type of subsequent event is not recognized and is the focus of this study. When I refer to subsequent events in this paper, I am referring to this second type; that is, nonrecognized subsequent events.

Firms must disclose nonrecognized subsequent events if not disclosing them would cause the financial statements to be misleading. Firms must disclose the nature of the event and estimate its financial effect, or state that such an estimate cannot be made. The amount disclosed by the firm is the same as the amount the firm would have recognized if the event had occurred within the accounting period. The accounting standard encourages firms to consider presenting

[3] Subsequent events were similarly defined and accounted for under pre-codification standards.

pro forma statements indicating the effect of the event as if it had occurred on the balance sheet date.

The FASB specifically gives as an example of a nonrecognized subsequent event the loss of plant or inventories as a result of a fire or natural disaster that occurred after the balance sheet date but before financial statements were issued. Since such events occur randomly with respect to the balance sheet date, they provide a natural experiment for testing the differential effect of recognition versus disclosure. The effect of a natural disaster occurring just before the end of a fiscal period must be recognized, but only disclosed for a similar firm with a slightly earlier balance sheet date. Figure 1 gives a timeline demonstrating how differences in balance sheet dates with respect to event dates result in variation of required disclosure and required recognition.

III. HYPOTHESIS DEVELOPMENT

Fundamentally, there is no reason a market should price information differently based only on whether the information is recognized or disclosed. An efficient market does not waste information purely due to the method of its transmission (Muth 1961, Fama 1970). Consistent with this prediction, prior work finds footnote disclosures are associated with market returns (Landsman 1986; De Franco, et. al 2011). Thus, absent market frictions or differences in the informational properties of disclosed and recognized items, I expect no difference in the market reaction to recognized items relative to disclosed items.

Prior empirical research on recognition versus disclosure, however, typically indicates that investors find recognized items more pertinent than disclosed items (Aboody 1996, David-

Friday et al. 1999, Ahmed et al. 2006).[4] Given standard setters do not intend for recognition and disclosure to substitute for one another (FASB, Concepts Statement No. 5), it is perhaps unsurprising that investors use these items differently. Concept Statement No. 5 states that disclosures may provide relevant information that does not meet all the criteria for recognition. As Schipper (2007) notes, the criterion most likely to distinguish recognition from disclosure is reliability. Schipper further highlights that investors may rationally give recognized items greater weight than disclosed items if recognized items are more reliable.

Therefore, disclosed and recognized items quite possibly have different informational properties. In particular, the previous discussion suggests recognized items should be more reliable. However, it is important to remember how this difference attains: an event occurs, the information surrounding the event is evaluated against the recognition criteria, and if all the criteria are met the event is recognized. That is, the informational properties of the event drive the accounting treatment. A very different question is whether the accounting treatments drive differences in items' informational properties.

Only the random assignment of mandated recognition or mandated disclosure can yield causal inferences on the effects of different accounting treatments. Nature provides this random variation in the setting of subsequent events. An event occurs and the timing of the event relative to the balance sheet date determines the required accounting treatment. In particular, the accounting treatment is determined independently of the event's informational properties. Thus, in this setting, if differences in reliability drive differential market reactions to disclosed and

[4] An exception is Bratten et. al (2012), who fail to find statistically significant differences in the use of recognized capital leases and imputed "as-if recognized" operating leases.

recognized items, one can infer the reliability differences are a result of the mandated accounting treatment.

Therefore, after testing for differences in the market reaction to recognized and disclosed amounts, I examine whether recognized values are more reliable than disclosed values in my setting. I consider three aspects of reliability: (1) the relative precision of the measurement of the item, (2) the relative amount of bias in the reporting of the item, and (3) the possibility of greater discretion in quantifying the item for disclosed values.

Mandating recognition of an item may lend it greater reliability through increased precision because it forces firms to estimate the magnitude of the item as a point estimate. That is, while a firm may disclose the effect of an event within a range, it can only recognize a singular value. If the greater flexibility in disclosing a less precise range estimate causes disclosed values to be less reliable than recognized values, I expect markets to react more strongly to recognized items relative only to disclosed items that are disclosed as a range or open interval (Baginski et al. 1993).

Greater auditor scrutiny of recognized values could also lend them greater precision relative to disclosed values (Libby et al. 2006). If lax auditing of disclosed items results in management exercising less care in preparing disclosed amounts, then disclosed values may contain a greater amount of noise than recognized values. The greater amount of noise in disclosed values would result in investors relying less on disclosed items when revising their beliefs concerning the value of the firm.[5] In the context of this study, the events themselves (natural disasters) are likely to introduce uncertainty regarding the firm's value. Some market

[5] This is a straightforward application of conditional expectation. For example, see Verrecchia 2001, p. 105.

participants may be better able to process information about the event into informed judgments of the firm's value (Kim and Verrecchia 1994). Thus, the events induce an increase in information asymmetry. If disclosures are less precise than recognized values, then disclosures will resolve this information asymmetry less effectively, as the lesser precision allows investors to more broadly interpret what impact the event may have on firm value. Therefore, if recognized values are more precise, I expect the average level of information asymmetry associated with the release of recognized amounts to be lower relative to the level associated with disclosed amounts.

Greater auditor attention to recognized items could also restrict the amount of bias management can introduce into the measurement of recognized items. Alternatively, greater incentives to manipulate recognized items could result in them having greater bias. For example, Choudhary (2011) finds that firms underestimate recognized costs as compared to disclosed costs. If investors perfectly anticipate any bias in reported values, the bias will have no effect on the valuation coefficient on the values in a regression on market returns, as the bias adjustment will occur entirely through the intercept term. However, if investors cannot perfectly predict the amount of bias management may introduce into a reporting item, the valuation coefficient will be affected. More bias in an item would result in a smaller valuation coefficient, as the bias decreases the informativeness of the reporting item (Fischer and Verrecchia 2000, p. 237). If recognized values contain differential bias than disclosed values, I expect the magnitude of the financial impact of an event to be on average different for recognizing firms relative to disclosing firms, controlling for economic determinants of the financial impact of the event.

In the context of subsequent events, disclosing firms can exercise more discretion than recognizing firms in that they can avoid quantifying the effect of the event by stating such an

estimate cannot be made. Thus auditors giving disclosing firms latitude in failing to estimate the effect of the event could drive differences in investors' reactions to disclosed and recognized amounts. Particularly, if the disclosing firms who anticipate a more negative market reaction attempt to avoid quantifying their disclosures, then the strength of the relation between the disclosed amount and market reaction for the disclosing firms who do quantify their disclosure could be understated. If the choice of disclosing firms to quantify the effect of the subsequent event drives differences in investors' use of disclosed and recognized amounts, I would expect controlling for this selection to mediate any differences in the market reaction to recognized items versus disclosed items. Note that a firm experiencing a subsequent event does not have a choice of whether to disclose or recognize. Rather, the choice is whether to disclose and quantify the effect of the event or state that such an estimate cannot be made.

Finally, I consider the hypothesis that any difference in investor response to recognized and disclosed items results not from differences in the items' informational properties, but from differences in how users process the information. Previous work in this area shows that to impact decisions, information must not simply be available, but be available in a format users are able to process (Russo 1977, Johnson et al. 1988). When information is costly to obtain or use, the informativeness of prices will be inversely related to the cost of becoming informed (Grossman and Stiglitz 1980, Barth et al. 2003). Disclosed items may require greater effort or cognitive resources to understand, resulting in investors relying primarily on recognized items. Theory developed in experimental work supports this prediction (Dietrich et al. 2001, Hodge et al. 2004). Consistent with this, prior empirical work finds markets react to previously available information once it is recognized (Hand 1990) or otherwise redistributed (Huberman and Regev 2001, Tetlock 2011). If users of financial statements fixate on recognized items, I expect future

returns at the next earnings announcement to be related to the disclosures of subsequent event firms, as values disclosed in the current period must be recognized in the next. This relation between current disclosures and future returns would likely be mediated by the presence of users who possess the expertise and motivation to utilize the additional information contained in the footnote disclosures (Dearman and Shields, 2005).

IV. SAMPLE SELECTION

I identify firms experiencing subsequent events by searching the EDGAR Online database through LexisNexis searches. I search for variants of the keywords "hurricane," "tornado," "earthquake," "storm," "fire," or "flood" in the subsequent event footnote in firms' 10-Q and 10-K filings. I read each footnote to verify the firm actually experienced a relevant subsequent event. The EDGAR database begins coverage in 1994 and I conduct my search through the end of the 2011 calendar year. I restrict my sample to firms listed on major exchanges (NYSE, AMEX, or NASDAQ) to avoid thinly traded stocks. This search yields 231 subsequent events.

The keywords I search for identify subsequent events involving the loss of inventories or property, plant and equipment as the result of a fire or natural disaster. Of the specific examples of nonrecognized subsequent events listed in FASB ASC 855-10-55-2, this type of event is the most likely to be unassociated with strategic choices of the firm.[6] This allows me to avoid self-selection problems that would otherwise be associated with the decision to recognize or disclose

[6] Other examples of nonrecognized subsequent events given in FASB ASC 855-10-55-2 are the sale of a bond or capital stock, a business combination, settlement of litigation when the event giving rise to the claim took place after the balance sheet date, losses on receivables resulting from conditions arising after the balance sheet date, changes in the fair value of assets or liabilities or foreign exchange rates, and entering into significant commitments or contingent liabilities.

an item. Disclosure or recognition is mandated depending on the timing of the event, which is determined by nature.

Of the 231 subsequent event observations identified, 114 quantify the financial impact of the event. For each of the 114 subsequent event observations who quantify the impact of the event, I match a firm experiencing a similar event that requires recognition. For events affecting many firms, such as hurricanes, I match a firm within the same one-digit SIC code experiencing the same event, but with an accounting period end date such that the event occurred prior to the balance sheet date. For events affecting only one firm, such as a fire, I attempt to match within the same firm. That is, I attempt to find another fiscal period during which the firm experienced a fire. If I cannot find another event within the same firm, I match a different firm within the same four-digit SIC code.

I am able to form 77 successful matches, resulting in 154 total observations. If I find multiple matches for an observation, I take the most similar observation by simultaneously matching on total assets; market-to-book-ratio; leverage; net property, plant, and equipment; inventory; and return on assets. I first standardize each of these variables for the subsequent event firm and its potential matches. I then calculate the Euclidian distance between the vector of standardized matching variables for the subsequent event firm and each potential matched firm. I select the closest matched firm to include in the sample.

In my analysis, the subsequent event firms are the disclosing firms and the matched firms are the recognizing firms. Figure 1 illustrates the timing of the event relative to the balance sheet date and filing date for both firms matched on events, and events matched within firms. In the example given in Scenario A, Bakers Footwear discloses the impact of Hurricane Katrina in the

subsequent event footnote of their 10-Q filing. As Hurricane Katrina made landfall on August 29, 2005, I search for firms mentioning the hurricane in their financial reports with fiscal periods ending just after this date. This search produces several firms who recognized the hurricane's effect as potential matches. My matching routine yielded Citi Trends as the most similar match.

Table 1 tabulates the frequencies of the types of events in my sample, as well as the match types. Fires are the most frequent event type in my sample, making up just over 40 percent of the sample. Hurricanes are the next most frequent event type. Twenty-nine matches, or 58 firms, disclosed or recognized hurricanes' effects. The majority of my matches are formed on event, rather than within firm, as illustrated in panel B.

Table 2 gives summary statistics for the firms in my sample. For most of the descriptive variables, the difference in means across the disclosing and recognizing subsamples are not statistically different. Losses from recognizing firms are smaller in magnitude than losses from disclosing firms. Losses in Table 2, and in all analyses, are signed. This preliminary univariate evidence is consistent with recognizing firms having greater incentives to understate losses. The magnitudes of the losses are economically significant: over a third of a percent of total assets on average in the full sample. Recognizing firms also tend to be more profitable in the quarter one year prior to the event, but not in the quarter of the event.

V. RESEARCH DESIGN

To understand if investors use items in financial reports differently based on whether they are recognized or disclosed, I regress an event window return on the financial impact of an event and compare the strength of the association for recognized events to disclosed events.

Most firms acknowledge the effect of the event prior to filing their financial reports. Therefore, I calculate returns around several different dates: the date of the event, the date the effect of the event on the firm was first acknowledged, the date the effect on the firm was first quantified, and the date the firm filed its financial reports. For each of these dates, I calculate the firm's three-day market adjusted abnormal return.

I then identify the financial impact of the event reported. For disclosing firms, this is the amount given in the subsequent event footnote. If an interval of values is given, I take the minimum of this range.[7] For recognizing firms, I also determine the impact of the event through footnote disclosure, but this amount is also recognized in the financial statements. I need to identify the amount of the event's impact from the footnotes of recognizing firms because most firms do not include the event as a separate line item in the financial statements. In my sample this amount is always a loss.

My main model is thus:

$$Return = \alpha_0 + \alpha_1 Recognize + \alpha_2 Loss + \alpha_3 Recognize * Loss + \sum_i \alpha_i Control_i + \varepsilon \qquad (1)$$

The dependent variable, *Return*, is the three-day cumulative market adjusted return, expressed as a percentage. It is alternatively centered on the: (1) event date, (2) first disclosure date, (3) first quantified date, and (4) filing date, as discussed previously. *Recognize* is an indicator variable for an observation being a firm recognizing the loss. *Loss* is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. I measure *Loss* net of expected insurance recoveries. The variable *Loss* is signed in all analysis, so a more negative

[7] I take the minimum of the disclosed range to be consistent with the way uncertain loss amounts within a range are recognized (FASB ASC 450-20-30-1). Inferences are robust to using the midpoint of the range. The correlation of loss amounts using the midpoint and minimum of range values is 0.9943.

value indicates a larger loss. I include control variables of *Size*, *MTB*, *Leverage*, *PPE*, *Inventory*, *GeoSegments*, and *ROA*. These control variables are intended to help explain variance in returns in the event windows. In my analysis, the random assignment of which firms must recognize or disclose limits concerns of correlated omitted variables. Thus the primary purpose of the controls is to increase statistical power. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. Large firms may be better able to absorb the impact of a one-time event, while the event may be more disruptive for growth firms. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. Loss events may more negatively impact leveraged firms, as the events may trigger covenant violations or affect the firm's ability to service its debt. *PPE* is net property, plant and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. Firms with more physical assets may be more sensitive to natural disasters. Alternatively, firms with larger inventory reserves may be better positioned to cope with the disruption. *GeoSegments* is the natural logarithm of the number of geographic segments. More geographically dispersed businesses are likely less affected by natural disasters. *ROA* is net income as a percentage of total assets. *ROAt-4* is for four quarters prior, and *ROAt* is for the current quarter. Note that including both current and seasonally lagged ROA in the regression controls for earnings surprise in a more general way than simply including the seasonal difference. In the calculation of *ROA*, I use net income prior to the effect of *Loss*. Table 2 gives summary statistics for all variables.

In equation (1) I am most interested in the coefficient on *Recognize*Loss*, which captures the incremental magnitude of association between market returns and recognized amounts over

disclosed amounts. Observing a significantly positive value would be consistent with investors finding recognized values more pertinent than disclosed values. Observing a negative value would be consistent with the disclosed values receiving more consideration.

As discussed in Section III, investors may place greater weight on recognized values if recognized amounts are more precise than disclosed amounts. Firms can only recognize point estimates of losses. Disclosed amounts, however, may be given as a range or even as an open interval. I use the variation in disclosing firms' estimation of the loss as a point, range, or open interval as a proxy for the precision of the estimate (Pownall et al. 1993, Baginski et al. 1993). Prior literature assumes point estimates to be the most precise, while open interval estimates are assumed to be the least precise.[8] Open interval estimates include statements such as "the loss will be at least $10 million" or "the loss could be as much as $10 million." My modified model allows the relation between returns and loss to vary within disclosing firms, depending how they disclose the amount of the loss:

$$Return = \beta_0 + \beta_1 Range + \beta_2 OpenInterval + \beta_3 Recognize + \beta_4 Loss + \beta_5 Range * Loss + \beta_6 OpenInterval * Loss + \beta_7 Recognize * Loss + \sum_i \beta_i Control_i + \varepsilon \quad (2)$$

In equation (2), the coefficient on *Recognize*Loss* captures the incremental market reaction to recognized items relative to items disclosed as a point estimate. A test of the equality of β_7 and β_5 reveals whether the market reaction is the same for recognized items and items disclosed as range estimates. Likewise, a test of the equality of β_7 and β_6 reveals whether the market reaction is the same for recognized items and items disclosed as open interval estimates.

[8] Note, however, that I do not make explicit assumptions about which type of disclosure is the most or least precise. Rather, I simply allow the market reaction to vary with the type of disclosure.

My next model tests the prediction that if disclosed values contain more noise than recognized values, then disclosed values will be less effective than recognized values in decreasing information asymmetries. Therefore, I test whether bid-ask spreads are on average different for disclosed and recognized items:

$$Abnormal\ Spread = \gamma_0 + \gamma_1 Recognize + \gamma_2 Loss + \sum_i \gamma_i Control_i + \varepsilon \quad (3)$$

In equation (3), I expect the coefficient on *Recognize* to be significantly negative if recognized values are more effective at resolving uncertainty than disclosed values, and thus reduce the likelihood of differentially informed traders.

To calculate the dependent variable, *Abnormal Spread*, I subtract the average spread for the time-period beginning 301 days before the event and ending 46 days before the event from the average spread during the three-day event window. I calculate bid-ask spreads as in Corwin and Shultz (2012).[9] I use abnormal spreads as opposed to raw spreads as bid-ask spreads may vary across firms for reasons other than the event being studied (Bushee et al. 2010).

The vector of control variables in equation (3) is the same as in equation (1). I continue to include *Loss* as an explanatory variable, although it is unclear what effect the magnitude of the loss should have on the bid-ask spread. Larger losses may induce more uncertainty, and thus increase the opportunity for information asymmetry. Alternatively, less uncertainty may exist for large losses. If a hurricane completely destroys a firm's factory, the effect of the loss is likely to be well known immediately following the event. However, if a portion of a firm's warehouse floods, the magnitude of the loss will likely be smaller, but the amount of uncertainty surrounding the value of inventory destroyed is likely greater.

[9] Corwin and Shultz demonstrate how to derive bid-ask spread estimates from daily high and low prices. They demonstrate an approximately 0.9 correlation between this measure and true spreads.

Next, I test the hypothesis that firms measure the events' financial impacts with bias, and that the level of bias differs depending on whether the amount is recognized or disclosed. Recognizing firms may introduce a greater bias towards zero in their measurement of expenses, as suggested by Choudhary (2011). Alternatively, increased auditor attention to recognized items may increase the cost of biasing recognized values. A greater cost of biasing recognized values would result in larger regression coefficients on loss amounts for recognizing firms, as the loss estimates would be more informative (Fischer and Verrecchia 2000, p. 237). Inconsistent with this explanation, however, Table 2 indicates that losses for recognizing firms are smaller in magnitude. However, this univariate result does not control for factors contributing to the economic significance of the event. Therefore, I regress *Loss* on firm characteristics likely associated with the magnitude of the event's impact on the firm.

$$Loss = \delta_0 + \delta_1 Size + \delta_2 MTB + \delta_3 Leverage + \delta_4 PPE + \delta_5 Inventory + \delta_6 GeoSegments + \varepsilon \quad (4)$$

$$Loss = \pi_0 Fire + \pi_1 Flood + \pi_2 Hurricane + \pi_3 Storm + \pi_4 Size + \pi_5 MTB + \pi_6 Leverage + \pi_7 PPE + \pi_8 Inventory + \pi_9 GeoSegments + \varepsilon \quad (5)$$

I estimate equations (4) and (5) separately for both disclosing and recognizing firms. I then combine the results in a seemingly unrelated estimation framework. The control variables of *Size*, *MTB*, *Leverage*, *PPE*, *Inventory*, and *GeoSegments* are all as previously defined.[10] Comparing the magnitude of the coefficient on the constant term, δ_0, across disclosing and recognizing samples allows me to assess the relative mean values of *Loss* across the samples, purged of the effect of variables likely contributing to the economic significance of the event.

[10] I do not include controls for the ability or incentives of firms to bias their loss estimates in equations (4) and (5), as this potential for bias is the construct I wish to capture in the intercept terms.

Equation (5) includes event specific intercepts, allowing each type of event to have a unique mean effect.

As discussed in Section III, auditors may allow a disclosing firm discretion in choosing to quantify impact of the event. This possibility is hinted at in the wording of FASB ASC 855-10-50-2, which states that for such events, firms must make an "estimate of [the event's] financial effect, or a statement that such an estimate cannot be made." In constructing the sample, I find firms do claim they cannot quantify the effect of the event. These firms cannot be included in my main analysis in equation (1) as I am unable to construct the *Loss* variable for these firms. I observe 117 firms that state they cannot estimate the financial impact of the event, compared with 114 firms who quantify the effect.[11] Therefore, I estimate a selection model using all subsequent event firms (both quantifying and non-quantifying) to consistently estimate the relation between event window returns and *Loss* for disclosing firms.

$$Quantify = \beta_0 + \sum_i \beta_i Control_i + \beta_{10} Days + \varepsilon_1 \quad (6)$$

$$Return = \gamma_0 + \gamma_1 Loss + \sum_i \gamma_i Control_i + \varepsilon_2 \quad (7)$$

I estimate equations (6) and (7) using full-information maximum-likelihood. Equation (6) gives the selection equation, which models the decision of firms to quantify the effect of the event. *Quantify* is an indicator variable, taking value of one if the observation is a subsequent event observation who quantified the effect of the event, and zero if the firm is a subsequent event observation who stated the effect of the event could not be quantified. Again note this decision is whether or not to quantify the effect of the event in the mandated disclosure. It is not a choice of whether to disclose or recognize the impact of the event. Disclosure is required. The vector of

[11] As discussed in Section IV, 77 of these 114 quantifying firms were successfully matched and included in the analysis.

control variables in equation (6) is the same as in equation (1). The setting of subsequent events provides a natural exclusion restriction in the estimation of equations (6) and (7). I use the variable *Days*, the number of days between the end of the fiscal period and the event date, as the excluded instrument when estimating the selection model. As the timing of the event is random with respect to the end of the fiscal period, *Days* should be uncorrelated with the magnitude of the event's impact on the firm. However, an event occurring close to the end of a fiscal period gives the firm less time to estimate the event's impact. Thus, *Days* should be strongly associated with the decision to quantify the effect of the event in the firm's disclosure.[12]

In addition to estimating the relation between *Return* and *Loss* for disclosing firms in a selection model, I also estimate equation (7) for recognizing firms in an ordinary least squares (OLS) framework. I then combine these parameter estimates and variance-covariance matrices in a seemingly unrelated estimation framework to facilitate tests of cross-model hypotheses. Specifically, I test whether the selection-corrected coefficient on *Loss* for disclosing firms is equal to the coefficient on *Loss* for recognizing firms. I also test the equality of the *Loss* coefficients without the selection adjustment (that is, OLS to OLS) for comparison purposes.

My final set of analyses tests the prediction that any difference in investor response to disclosed versus recognized items is due to differences in investors' processing of these items. If users of financial statements fixate on recognized items, as incorporating disclosed items into their decision process is more costly, then I would expect future returns to be related to the disclosures of subsequent event firms, as values disclosed in the current period must be recognized in the next.

[12] I am unable to identify the event date to calculate *Days* for 12 firms in the selection model. Two of these firms were quantifying firms, and 10 of these firms were non-quantifying firms. Thus the total number of observations included in the estimation of the selection model is 182 = (77 – 2) + (117 – 10).

$$Return_{t+1} = \theta_0 + \theta_1 Recognize + \theta_2 Loss + \theta_3 Recognize * Loss + \sum_i \theta_i Control_i + \varepsilon \quad (8)$$

$$Return_{t+1} = \phi_0 + \phi_1 Recognize + \phi_2 Loss + \phi_3 Recognize * Loss + \sum_i \phi_i Control_i + \phi_{13} Analyst + \phi_{14} Recognize * Analyst + \phi_{15} Loss * Analyst + \phi_{16} Recognize * Loss * Analyst + \varepsilon \quad (9)$$

Equation (8) is the same as equation (1), except the three-day cumulative abnormal return is now centered on the next period's earnings announcement. A positive coefficient on *Loss* would be consistent with investor reaction to disclosed items being delayed until these items are recognized. In equation (9) I interact a variable for a firm being followed by at least one analyst with *Loss* and related variables to test whether analyst following mediates this effect.

VI. RESULTS

Table 3 gives the results from equation (1). In event windows centered on the date of the event or on the first quantification of the loss, the coefficient on the interaction *Recognize*Loss* is positive and statistically significant. This finding indicates investors place greater weight on recognized values than disclosed values. This result is strongest both in terms of magnitude and statistical significance in the event window centered on the date the event is first quantified.[13] In earlier event windows, prior to the firm quantifying the amount of the loss, broader variation in investors' expectations of the event's impact on the firm may mute the market reaction, making it more difficult to differentiate the response to recognized items relative to disclosed items. By

[13] This main result is robust to using raw returns, market-model adjusted returns, or Fama-French and momentum factor adjusted returns as the dependent variable, as well as using (0, +1) or (-2, +2) return windows instead of the (-1, +1) return window.

the filing date, prices are likely to already reflect the event's impact. I therefore focus my discussion of results on returns in the event window centered the loss's first quantification.[14]

It is important to again stress the source of variation in accounting treatments – recognition versus disclosure – in Table 3, as it provides the primary contribution of this study. The disclosure or recognition of an event for a firm is mandated depending on the timing of the event relative to the firm's fiscal period. As this event timing is determined by nature, it allows for the random assignment of which firms must recognize and which firms must disclose. Thus one can infer that mandating recognition of an event results in a stronger market response to that event. The random assignment of the mandated accounting method precludes the alternative explanation that informational properties of the event, such as reliability, jointly determine the accounting method and the subsequent market reaction. However, the possibility remains that mandating recognition of an item *results* in that item having greater reliability.

Table 4 presents the analysis testing the prediction that the lesser precision of range and open interval estimates allowed in disclosed values drives the results of Table 3. In the first quantified event window, the coefficient on *Recognize*Loss* is positive and statistically significant. This indicates the market reacts more strongly to recognized values than to values disclosed as point estimates. As point estimates are the most precise disclosure method, this result indicates the lesser precision of range and open interval estimates do not drive the differential market response to recognized items relative to disclosed items. Further tests show the coefficient on *Recognize*Loss* is also larger than the coefficients on both *Range*Loss* and

[14] At the date the loss is first quantified, the market reaction reflects the new information contained in the loss number relative to the market's previous expectation of the loss amount. There should be no systematic differences in the market's prior expectation of the loss amount for recognizing firms relative to disclosing firms, as the required accounting treatment is randomly determined by the timing of the event. Even so, my results are robust to including the three-day cumulative abnormal return centered on the event date, or an indicator for a significantly negative three-day cumulative abnormal return centered on the event date, as a control for prior news.

*OpenInterval*Loss*. Thus the market reacts more strongly to recognized items than disclosed items, regardless of whether the disclosure is made as a range, open interval, or point estimate.

Table 5 presents the analysis testing whether disclosed values are measured with greater noise, which would result in them eliciting a weaker market response relative to recognized values. In all event windows the coefficient on *Recognize* is insignificantly different from zero. I am therefore unable to reject the hypothesis that bid-ask spreads are on average lower for recognized values. Thus I fail to find evidence that less uncertainty surrounding recognized values results in more convergent beliefs and less opportunity for differentially informed investors regarding the event's impact on the firm.

Table 6 gives the results from estimating equations (4) and (5). Again, each equation is estimated separately for the disclosing and recognizing subsamples. I then test the equality of coefficients across models using seemingly unrelated estimation. Except for *Size* and *Leverage*, I fail to reject the hypothesis that the coefficients on the determinants of *Loss* are the same across recognizing and disclosing firms. In particular, the average loss amount is not statistically different across the disclosing and recognizing samples after controlling for determinates of the loss. This is true in the full sample and also when I allow each type of event to have a unique average effect. This is inconsistent with recognized values containing a differential amount of bias relative to disclosed values.

I may fail to find differences in average loss amounts in Table 6 because of the difficulty in modeling *Loss*. That is, the analysis may suffer from lack of power. Therefore, I also analyze the potential effect of bias by utilizing the fact that a loss amount disclosed as a subsequent event in one period must be recognized in the following period. If disclosed values reflect greater use

of discretion than recognized values, then this additional discretion will be restricted when the previously disclosed amounts are recognized. In untabled analysis, I re-estimate equation (1), but use ex-post realizations of the disclosed loss amounts. That is, for disclosing firms, I replace the disclosed loss amount with the amount of the loss that is recognized in the next period. I am able to determine this amount for 65 of the 77 disclosing firms in the sample. However, inferences from the results are unchanged, with the coefficient on *Recognize*Loss* remaining positive and statistically significant in the event window centered on the first quantification of the loss.

Table 7 presents results of the selection model and seemingly unrelated estimation outlined in equations (6) and (7). I focus on the event window centered on the date firms first quantify the event's impact, as the results in Table 3 indicate this is the primary information event. First, for comparison purposes, I regress the three-day market return on the loss amount and control variables in an OLS model separately for both disclosing and recognizing firms. This analysis is very similar to the analysis in Table 3, expect all coefficients are allowed to vary across the disclosing and recognizing subsamples. As in Table 3, the market responds to *Loss* more strongly for recognizing firms.

Next, I estimate the results for the disclosing sample using the selection model. *Days*, the instrument excluded in the outcome equation, is strongly associated with the decision to quantify the effect of the event in the subsequent event footnote. The variance inflation factor (VIF) between the inverse mills ratio and covariates in the regression model is 3.07 and the condition number of the independent variables is 4.50 (not tabled), indicating the absence of problematic collinearity and the appropriateness selection model (Leung and Yu 1996, Puhani 2000, Lennox et al. 2012). In the selection model, the coefficient on *Loss* for disclosing firms remains insignificantly different from zero, and I fail to reject the independence of the equations (p-value

= 0.23). More importantly, the difference in the coefficients on *Loss* between the disclosing and recognizing samples remains significant using the selection model. Thus I do not find evidence that greater use of discretion in quantifying loss amounts for disclosing firms explains the greater market reaction to recognized losses.

Table 8 presents the analysis from equations (8) and (9), which are designed to test the hypothesis that users fixate on recognized values and fail to fully incorporate disclosed values into their decisions, perhaps because they lack the expertise, ability, or motivation to do so. Of primary interest in Table 8 are the regressions with the event windows centered on the next earnings announcement after the event quarter. A positive and statistically significant association exists between *Loss* and future returns. This result is consistent with the market reaction to the disclosed *Loss* amounts being at least partially delayed until the three-day window surrounding the firm's next earnings announcement. The formerly disclosed loss value is now recognized in earnings in this returns window. (Because the subsequent event, which was previously disclosed, occurred after the balance sheet date, it is recognized in the following quarter.) Although the market reaction to recognized values is not significantly different from the reaction to disclosed values in the future returns window, the association between returns and recognized values is insignificantly different form zero. That is, *Loss + Recognize*Loss* is insignificantly different from zero due to the relatively large standard error on *Recognize*Loss*.

In the analysis interacting *Loss* with an indicator for analyst coverage, the coefficient on *Loss*Analyst* is negative and statistically significant when returns are centered on the next period's earnings announcement, indicating the delay in market return is weakened for firms with an analyst following. This is consistent with analysts serving as mediators, emphasizing and translating the information contained in the accounting disclosures, thereby increasing their

decision usefulness to users. Further, the stronger market reaction to recognized values when the event's impact is first quantified is weakened when a firm has an analyst following, as indicated by the significantly negative coefficient on *Recognize*Analyst*Loss*.

VII. CONCLUSION

This study analyzes differences in how investors respond to disclosed and recognized items. Using the setting of subsequent events, I am able to obtain random variation in which firms are required to recognize or disclose the financial impact of the same or similar events. My results show recognized values are more strongly associated with event window returns than disclosed values. My research setting precludes attributing this result to firms self-selecting their accounting treatment. And since I match on events, the underlying economics of the accounting item is similar for both recognizing and disclosing firms.

Having established a stronger market response to recognized items, I conduct further analysis to provide evidence on why this difference exists. I fail to find support for the hypothesis that differential reliability between recognized and disclosed values drives my results. However, I do find support for the hypothesis that users fixate on recognized items and fail to fully incorporate disclosed values into prices. Specifically, I find the market reaction to disclosed items is delayed until the event window in which the previously disclosed items become recognized.

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TABLE 1
Event Descriptions

Panel A - Event Frequencies

Event Type	Count	Percent
Fire	62	40.26
Flood	20	12.99
Hurricane	58	37.66
Storm	14	9.09
Total	154	100.00

Panel B - Match Types

Match Type	Count	Percent
Event	128	83.12
Firm	26	16.88
Total	154	100.00

Event Type in Panel A is the type of natural event giving rise to the accounting item. Match Type in Panel B describes whether a recognizing firm was matched to a disclosing firm on event and industry or on event within the same firm. There are an equal number of recognizing and disclosing firms within each category in both Panels A and B. The 154 observations reflect 77 recognizing firms and 77 disclosing firms.

TABLE 2
Summary Statistics

Panel A - Independent Variables

	Subsequent Events: Disclosed			Matched Events: Recognized			Difference in Means		
	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Diff.	t-stat	N
Loss	-0.50	-0.23	0.75	-0.24	-0.12	0.37	-0.26***	-2.75	154
Size	2.52	2.35	1.82	2.77	3.02	1.63	-0.24	-0.88	154
MTB	4.32	1.78	13.31	3.60	1.89	8.44	0.72	0.40	154
Leverage	25.77	20.70	28.49	28.53	25.65	22.02	-2.76	-0.67	154
PPE	34.06	30.87	27.37	30.54	28.43	23.54	3.52	0.86	154
Inventory	10.32	5.27	11.50	11.18	9.04	12.88	-0.86	-0.44	154
GeoSegments	0.51	0.00	0.77	0.56	0.00	0.73	-0.05	-0.41	154
ROAt-4	0.01	0.01	0.03	0.02	0.01	0.02	-0.01**	-2.07	154
ROAt	1.05	1.32	3.84	1.05	0.88	3.72	-0.00	-0.01	154
Analyst	0.83	1.00	0.38	0.83	1.00	0.38	0.00	0.00	154

Panel B - Market Adjusted Returns: (-1, +1)

	Subsequent Events: Disclosed			Matched Events: Recognized			Difference in Means		
Reporting Window:	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Diff.	t-stat	N
Event Date	-0.70	-0.66	3.61	-0.24	-0.23	3.95	-0.47	-0.73	139
First Disclosure	0.42	0.76	4.78	0.37	0.29	4.32	0.05	0.07	154
First Quantified	0.88	0.81	6.48	-0.54	-0.42	6.80	1.42	1.32	154
Filing Date	1.28	1.17	6.72	0.20	0.54	4.63	1.08	1.16	154
Next EA	-0.55	-0.67	8.49	0.39	-0.02	9.73	-0.94	-0.64	153

Panel C - Abnormal Bid-Ask Spreads

	Subsequent Events: Disclosed			Matched Events: Recognized			Difference in Means		
Reporting Window:	Mean	Median	Std.Dev.	Mean	Median	Std.Dev.	Diff.	t-stat	N
Event Date	-0.13	-0.03	1.00	0.07	-0.06	0.98	-0.19	-1.14	139
First Disclosure	-0.13	-0.12	1.13	-0.05	-0.14	0.93	-0.08	-0.46	154
First Quantified	-0.10	-0.03	1.05	0.11	-0.10	1.25	-0.20	-1.10	154
Filing Date	-0.04	-0.11	1.12	0.10	-0.09	1.05	-0.14	-0.82	154

* p<0.10, ** p<0.05, *** p<0.01 (for two-tailed tests)

Loss is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. *PPE* is net property, plant, and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. *GeoSegments* is the natural logarithm of the number of geographic segments. *ROA* is net income as a percentage of total assets. *ROAt-4* is for four quarters prior, and *ROAt* is for the current quarter. *Analyst* is an indicator variable for the firm being followed by at least one analyst. Returns in each event window are market adjusted cumulative returns, expressed as percentages. *Event Date* is the day the event in question occurred. *Event Date* could not be determined for 15 firms. *First Disclosure* is the first date the effect of the event on the company was acknowledged. *First Quantified* is the first date the effect of the event on the company was quantified. *Filing Date* is the date of the first 10-Q or 10-K filing after the event. *Next EA* is the date of the next earnings announcement after *Filing Date* . One firm in the sample delisted prior to this date. Bid-ask spreads are calculated as in Corwin and Shultz (2012). The abnormal bid-ask spread is the average spread during the three-day reporting window less the average spread during the time period beginning 301 days prior to the reporting date and ending 46 days prior.

TABLE 3
Differential Impact of Recognition and Disclosure on Returns

Dependent Variable: (-1, +1) Market Adjusted Cumulative Return

Return Window:	*Event Date*	*First Disclosure*	*First Quantified*	*First Quantified*	*Filing Date*
Constant	-0.746	2.212	1.423	1.067	1.930
	(-0.63)	(1.58)	(0.59)	(0.45)	(0.81)
Recognize	0.811	0.464	0.580	0.765	-0.461
	(1.12)	(0.57)	(0.49)	(0.63)	(-0.43)
Loss	-0.103	1.134**	1.013	0.827	0.848
	(-0.27)	(2.09)	(1.00)	(0.76)	(0.78)
*Recognize*Loss*	1.812*	2.023	8.890***	9.079***	3.372
	(1.75)	(1.55)	(2.98)	(3.04)	(1.60)
Size	0.170	-0.314	-0.134	-0.139	-0.098
	(0.83)	(-1.22)	(-0.32)	(-0.33)	(-0.24)
MTB	-0.018	-0.017	0.024	0.017	0.024
	(-0.81)	(-0.78)	(0.61)	(0.43)	(0.68)
Leverage	0.005	-0.025**	-0.024	-0.020	-0.008
	(0.35)	(-1.99)	(-1.41)	(-1.18)	(-0.51)
PPE	-0.024**	-0.000	-0.008	-0.010	-0.010
	(-2.09)	(-0.01)	(-0.47)	(-0.52)	(-0.64)
Inventory	0.044	0.060	0.108**	0.117**	0.042
	(1.48)	(1.59)	(2.22)	(2.45)	(0.97)
GeoSegments	-0.237	-0.241	0.279	0.402	0.197
	(-0.43)	(-0.49)	(0.43)	(0.61)	(0.34)
ROAt-4	-0.761	-25.443	-19.940	-33.078	-6.883
	(-0.06)	(-1.61)	(-0.88)	(-1.39)	(-0.29)
ROAt				0.190	-0.030
				(1.25)	(-0.27)
R-Sq.	0.07	0.11	0.18	0.19	0.06
N	139	154	154	154	154

* p<0.10, ** p<0.05, *** p<0.01 (for two-tailed tests)

Recognize is an indicator variable for an observation being a firm recognizing the loss. *Loss* is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. *PPE* is net property, plant, and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. *GeoSegments* is the natural logarithm of the number of geographic segments. *ROA* is net income as a percentage of total assets. *ROAt-4 i* s for four quarters prior, and *ROAt* is for the current quarter. Returns in each event window are market adjusted cumulative returns. *Event Date* is the day the event in question occurred. *Event Date* could not be determined for 15 firms. *First Disclosure* is the first date the effect of the event on the company was acknowledged. *First Quantified* is the first date the effect of the event on the company was quantified. *Filing Date* is the date of the first 10-Q or 10-K filing after the event.

TABLE 4
Role of Precision in Explaining
Differential Effects of Recognition vs. Disclosure

Dependent Variable: (-1, +1) Market Adjusted Cumulative Return

Return Window:	*Event Date*	*First Disclosure*	*First Quantified*	*First Quantified*	*Filing Date*
Constant	-0.535	3.519*	0.525	0.135	0.684
	(-0.41)	(1.91)	(0.20)	(0.05)	(0.26)
Range	-1.160	-1.981	2.494	2.386	1.094
	(-0.90)	(-1.14)	(1.25)	(1.20)	(0.53)
OpenInterval	1.082	-0.114	2.366	2.389	3.826
	(0.95)	(-0.07)	(0.92)	(0.95)	(1.43)
Recognize	0.904	-0.336	2.343	2.520	1.450
	(0.94)	(-0.24)	(1.16)	(1.24)	(0.73)
Loss	0.671	4.689**	0.382	-0.096	-0.444
	(0.38)	(2.47)	(0.17)	(-0.04)	(-0.17)
*Range*Loss*	-0.763	-3.806**	1.928	2.225	1.717
	(-0.43)	(-2.01)	(0.74)	(0.86)	(0.55)
*OpenInterval*Loss*	-1.618	-4.547**	-1.155	-0.834	0.654
	(-0.88)	(-2.24)	(-0.47)	(-0.35)	(0.24)
*Recognize*Loss*	1.119	-1.403	9.901***	10.358***	4.981
	(0.56)	(-0.63)	(2.81)	(2.95)	(1.63)
Size	0.194	-0.326	-0.228	-0.223	-0.156
	(0.94)	(-1.30)	(-0.52)	(-0.51)	(-0.38)
MTB	-0.026	-0.021	0.010	0.004	0.011
	(-1.18)	(-1.10)	(0.25)	(0.09)	(0.34)
Leverage	-0.001	-0.033**	-0.031	-0.027	-0.014
	(-0.11)	(-2.47)	(-1.62)	(-1.43)	(-0.80)
PPE	-0.031**	-0.006	-0.018	-0.019	-0.019
	(-2.51)	(-0.38)	(-0.86)	(-0.90)	(-1.05)
Inventory	0.042	0.053	0.102**	0.111**	0.040
	(1.46)	(1.43)	(2.09)	(2.30)	(0.95)
GeoSegments	-0.187	-0.201	0.286	0.411	0.208
	(-0.37)	(-0.43)	(0.46)	(0.64)	(0.37)
ROAt-4	1.971	-24.611	-15.047	-27.706	-2.341
	(0.15)	(-1.56)	(-0.64)	(-1.13)	(-0.10)
ROAt				0.183	-0.024
				(1.23)	(-0.23)
Tests of equality of coefficients (p-values reported)					
*Range*Loss = Recognize*Loss*	0.07	0.05	0.01	0.01	0.19
*OpenInterval*Loss = Recognize*Loss*	0.01	0.04	0.00	0.00	0.04
R-Sq.	0.12	0.15	0.21	0.21	0.10
N	139	154	154	154	154

* p<0.10, ** p<0.05, *** p<0.01 (for two-tailed tests)

TABLE 4 (continued)

Range is an indicator variable for an observation being a disclosing firm who disclosed the loss amount within a range of values. *OpenInterval* is an indicator variable for an observation being a disclosing firm who disclosed the loss amount as an open interval (e.g. the loss was at least...). *Recognize* is an indicator variable for an observation being a firm recognizing the loss. *Loss* is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. *PPE* is net property, plant, and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. *GeoSegments* is the natural logarithm of the number of geographic segments. *ROA* is net income as a percentage of total assets. *ROAt-4* is for four quarters prior, and *ROAt* is for the current quarter. Returns in each event window are market adjusted cumulative returns. *Event Date* is the day the event in question occurred. *Event Date* could not be determined for 15 firms. *First Disclosure* is the first date the effect of the event on the company was acknowledged. *First Quantified* is the first date the effect of the event on the company was quantified. *Filing Date* is the date of the first 10-Q or 10-K filing after the event.

TABLE 5
Analysis of Potential for Differential Uncertainty in Disclosed Values Relative to Recognized Values

Dependent Variable: Abnormal Bid-Ask Spread

Reporting Date:	*Event Date*	*First Disclosure*	*First Quantified*	*First Quantified*	*Filing Date*
Constant	0.128	-0.063	-0.175	-0.250	-0.221
	(0.50)	(-0.20)	(-0.57)	(-0.79)	(-0.63)
Recognize	0.242	0.114	0.217	0.245	0.249
	(1.32)	(0.61)	(1.03)	(1.16)	(1.26)
Loss	0.223*	0.114	-0.077	-0.109	-0.207
	(1.82)	(0.84)	(-0.73)	(-1.00)	(-1.55)
Size	0.010	0.024	0.042	0.042	-0.014
	(0.21)	(0.37)	(0.65)	(0.66)	(-0.21)
MTB	0.006	0.004	0.006	0.004	0.010*
	(1.09)	(0.88)	(1.29)	(1.00)	(1.68)
Leverage	-0.010***	-0.007**	-0.005	-0.005	-0.006*
	(-2.83)	(-2.32)	(-1.34)	(-1.18)	(-1.82)
PPE	0.002	0.002	-0.002	-0.002	0.000
	(0.48)	(0.54)	(-0.54)	(-0.61)	(0.06)
Inventory	0.004	0.004	0.000	0.002	0.006
	(0.49)	(0.47)	(0.05)	(0.27)	(0.67)
GeoSegments	0.083	0.063	0.194*	0.220*	0.334***
	(0.82)	(0.56)	(1.71)	(1.91)	(2.87)
ROAt-4	-7.712*	-5.426	0.097	-2.727	-4.699
	(-1.76)	(-1.24)	(0.02)	(-0.54)	(-0.88)
ROAt				0.040	0.026
				(1.61)	(0.74)
R-Sq.	0.10	0.04	0.04	0.05	0.11
N	139	154	154	154	154

* p<0.10, ** p<0.05, *** p<0.01 (for two-tailed tests)

TABLE 5 (continued)

Bid-ask spreads are calculated as in Corwin and Shultz (2012). The abnormal bid-ask spread is the average spread during the three-day reporting window less the average spread during the time period beginning 301 days prior to the reporting date and ending 46 days prior. These spreads are the dependent variables. *Event Date* is the day the event in question occurred. *Event Date* could not be determined for 15 firms. *First Disclosure* is the first date the effect of the event on the company was acknowledged. *First Quantified* is the first date the effect of the event on the company was quantified. *Filing Date* is the date of the first 10-Q or 10-K filing after the event.

Recognize is an indicator variable for an observation being a firm recognizing the loss. *Loss* is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. *PPE* is net property, plant, and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. *GeoSegments* is the natural logarithm of the number of geographic segments. *ROA* is net income as a percentage of total assets. *ROAt-4* is for four quarters prior, and *ROAt* is for the current quarter.

TABLE 6
Analysis of Potential for Differential Bias in
Recognized Values Relative to Disclosed Values

Dependent Variable: *Loss*

Sample:	(1) Disclosed	(2) Recognized	(3) Disclosed	(4) Recognized	p-value: Disclosed and Recognized coeffs. Equal
Constant	-0.557***	-0.640***			.72
	(-2.89)	(-4.69)			
Fire			-0.316	-0.668***	.22
			(-1.39)	(-3.76)	
Flood			-0.805***	-0.617***	.58
			(-2.66)	(-4.02)	
Hurricane			-0.389	-0.652***	.35
			(-1.59)	(-4.69)	
Storm			-0.931**	-0.715***	.61
			(-2.51)	(-3.53)	
Size	0.015	0.115***	0.011	0.118***	.04
	(0.41)	(3.19)	(0.33)	(2.96)	
MTB	-0.003	0.001	-0.005**	0.001	.27
	(-0.82)	(0.19)	(-2.20)	(0.23)	
Leverage	-0.002	0.003**	-0.003	0.003*	.05
	(-0.85)	(2.00)	(-1.24)	(1.93)	
PPE	-0.000	0.000	-0.001	0.001	.70
	(-0.12)	(0.32)	(-0.23)	(0.56)	
Inventory	0.007	0.000	0.004	0.000	.45
	(1.50)	(0.15)	(0.92)	(0.05)	
GeoSegments	0.067	-0.010	0.051	-0.005	.63
	(0.82)	(-0.12)	(0.59)	(-0.06)	
R-Sq.	.03	.32	.38	.52	
N	77	77	77	77	

* p<0.10, ** p<0.05, *** p<0.01 (for two-tailed tests)

Loss is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. *Fire, Flood, Hurricane,* and *Storm* are each indicator variables for the type of event. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. *PPE* is net property, plant, and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. *GeoSegments* is the natural logarithm of the number of geographic segments. P-values test the equality of coefficients for the model between the Disclosed and Recognized samples. All p-values are associated with tests of equality across equations (3) and (4), with the exception of the test of the Constant term, which compares equations (1) and (2).

TABLE 7
Role of Selective Disclosure in Explaining Differential Effects of Recognition vs. Disclosure

Model:	**OLS**	**OLS**	**Selection**		**OLS**
Sample:	Disclosed	Recognized	Disclosed		Recognized
Dep. Variable:	*First Quant.*	*First Quant.*	*Quantify*	*First Quant.*	*First Quant.*
Constant	-0.510	4.121	-0.004	2.662	4.121
	(-0.18)	(1.29)	(-0.01)	(0.84)	(1.30)
Loss	0.416	10.109***		0.149	10.109***
	(0.36)	(4.06)		(0.13)	(4.07)
Size	-0.024	-0.340	0.011	0.125	-0.340
	(-0.04)	(-0.63)	(0.19)	(0.24)	(-0.63)
MTB	0.020	0.002	0.040***	-0.011	0.002
	(0.44)	(0.02)	(2.98)	(-0.26)	(0.02)
Leverage	0.004	-0.041	0.002	-0.004	-0.041
	(0.17)	(-1.57)	(0.38)	(-0.17)	(-1.57)
PPE	-0.014	-0.012	0.004	-0.039*	-0.012
	(-0.56)	(-0.56)	(1.06)	(-1.66)	(-0.56)
Inventory	0.122*	0.103*	-0.014**	0.191***	0.103*
	(1.86)	(1.76)	(-2.06)	(2.87)	(1.76)
GeoSegments	0.954	-0.445	0.203	0.503	-0.445
	(1.32)	(-0.43)	(1.45)	(0.66)	(-0.43)
ROAt-4	-30.677	-39.348	5.209	-56.351*	-39.348
	(-0.94)	(-1.14)	(1.37)	(-1.66)	(-1.14)
ROAt	0.442*	-0.029	-0.032	0.653**	-0.029
	(1.67)	(-0.20)	(-1.07)	(2.28)	(-0.20)
Days			-0.017***		
			(-3.18)		
p-value:					
Disclosed *Loss* =					
Recognized *Loss*:	0.00			0.00	
N	77	77	182		77

* p<0.10, ** p<0.05, *** p<0.01 (for two-tailed tests)

Quantify is a indicator variable for a subsequent event/disclosing firm quantifying the effect of the event in their disclosure. This variable takes value of one for 75 observations and zero for 107 observations. *Loss* is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. *PPE* is net property, plant, and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. *GeoSegments* is the natural logarithm of the number of geographic segments. *ROA* is net income as a percentage of total assets. *ROAt-4* is for four quarters prior, and *ROAt* is for the current quarter. *Days* is the number of days between the end of the fiscal period and the *Event Date* (for subsequent event/disclosing firms). *First Quant.* is the three-day (-1, +1) market adjusted cumulative return for the date the firm first quantified the effect of the event.

TABLE 8
Role of Earnings Fixation in Explaining Differential Effects of Recognition vs. Disclosure

Dependent Variable: (-1, +1) Market Adjusted Cumulative Return

Return Window:	*First Quantified*	*First Quantified*	*Filing Date*	*Filing Date*	***Next EA***	***Next EA***
Constant	1.067	3.578	1.930	5.203	1.021	7.903*
	(0.45)	(0.93)	(0.81)	(1.44)	(0.37)	(1.81)
Recognize	0.765	0.174	-0.461	-0.784	0.229	-1.950
	(0.63)	(0.05)	(-0.43)	(-0.24)	(0.14)	(-0.46)
Loss	0.827	4.037	0.848	4.992	1.639*	16.292***
	(0.76)	(0.93)	(0.78)	(1.14)	(1.85)	(3.43)
*Recognize*Loss*	9.079***	32.232***	3.372	30.260***	-3.017	-0.485
	(3.04)	(2.78)	(1.60)	(2.90)	(-1.07)	(-0.05)
Size	-0.139	-0.392	-0.098	-0.366	-0.204	-0.454
	(-0.33)	(-0.80)	(-0.24)	(-0.79)	(-0.42)	(-0.79)
MTB	0.017	0.013	0.024	0.017	0.041	0.043
	(0.43)	(0.34)	(0.68)	(0.50)	(0.91)	(0.98)
Leverage	-0.020	-0.025	-0.008	-0.013	0.036	0.024
	(-1.18)	(-1.43)	(-0.51)	(-0.85)	(1.35)	(0.92)
PPE	-0.010	-0.012	-0.010	-0.014	-0.023	-0.030
	(-0.52)	(-0.68)	(-0.64)	(-0.95)	(-1.05)	(-1.40)
Inventory	0.117**	0.117**	0.042	0.043	-0.071	-0.084
	(2.45)	(2.32)	(0.97)	(0.99)	(-0.81)	(-0.95)
GeoSegments	0.402	0.377	0.197	0.112	-0.287	-0.366
	(0.61)	(0.53)	(0.34)	(0.17)	(-0.28)	(-0.33)
ROAt-4	-33.078	-32.942	-6.883	-6.004	-43.965	-49.135
	(-1.39)	(-1.37)	(-0.29)	(-0.25)	(-1.21)	(-1.35)
ROAt	0.190	0.175	-0.030	-0.055	-0.483	-0.501
	(1.25)	(1.20)	(-0.27)	(-0.47)	(-1.28)	(-1.27)
ROAt+1					0.810	0.771
					(1.63)	(1.55)
Analyst		-1.695		-2.355		-5.304
		(-0.49)		(-0.76)		(-1.26)
*Recognize*Analyst*		1.428		1.142		2.079
		(0.36)		(0.31)		(0.44)
*Loss*Analyst*		-3.331		-4.301		-15.169***
		(-0.76)		(-0.97)		(-3.19)
*Recognize*Analyst*Loss*		-22.564*		-26.340***		-1.983
		(-1.97)		(-2.63)		(-0.19)
R-Sq.	0.19	0.23	0.06	0.12	0.10	0.13
N	154	154	154	154	153	153

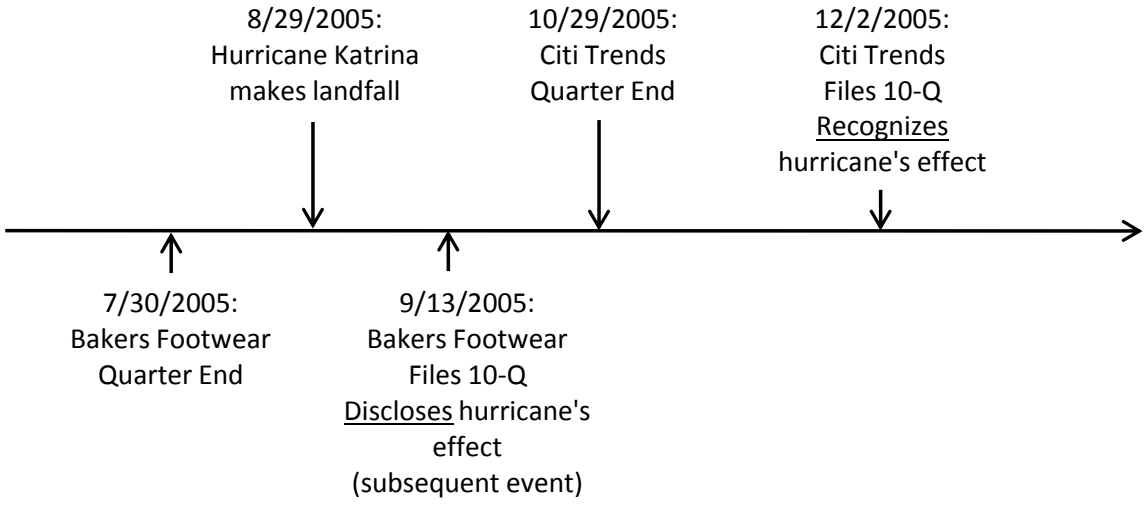
* p<0.10, ** p<0.05, *** p<0.01 (for two-tailed tests)

TABLE 8 (continued)

Recognize is an indicator variable for an observation being a firm recognizing the loss. *Loss* is the pre-tax income effect of the event as a percentage of total assets at the beginning of the quarter. *Size* is the natural logarithm of assets at the beginning of the quarter. *MTB* is the market value of equity divided by the book value of equity, both measured at the beginning of the quarter. *Leverage* is current liabilities plus long-term debt as a percentage of total assets, all measured at the beginning of the quarter. *PPE* is net property, plant, and equipment at the beginning of the quarter as a percentage of total assets. *Inventory* is beginning of quarter inventory as a percentage of total assets. *GeoSegments* is the natural logarithm of the number of geographic segments. *ROA* is net income as a percentage of total assets. *ROAt-4* is for four quarters prior, *ROAt* is for the current quarter, and *ROAt+1* is for the subsequent quarter. *Analyst* is an indicator variable for the firm being followed by at least one analyst. Returns in each event window are market adjusted cumulative returns. *First Quantified* is the first date the effect of the event on the company was quantified. *Filing Date* is the date of the first 10-Q or 10-K filing after the event. *Next EA* is the date of the next earnings announcement after *Filing Date* . One firm in the sample delisted prior to this date.

FIGURE 1
How Event Timing Creates Variation in Accounting Treatment

Scenario A: Match on Event



Scenario B: Match on Firm