

Critical Accounting Policy Disclosures

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Abstract

To increase investor awareness of the sensitivity of financial statements to the methods, assumptions, and estimates underlying their preparation, the Securities and Exchange Commission proposed that firms include disclosures about critical accounting policies in their 10 - Ks. Using a large sample of CAP disclosures from SEC filers, we provide evidence on the extent to which CAP disclosures correlate with existing financial statement information, provide new information, and corroborate theories of voluntary disclosure. We also consider the interaction among disclosures, finding limited support for disclosure decisions following a portfolio rather than an account by account approach.

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1. Introduction

This paper investigates firms' motives for critical accounting policy disclosure (CAP) and the extent to which critical accounting policy disclosures provide information to investors. The CAP section of management's discussion and analysis should include disclosure of those estimates which require assumptions about matters that are highly uncertain, and for which different estimates would have a material impact on the presentation of financial condition. We provide evidence on the extent to which CAP disclosures correlate with existing financial statement information, corroborate theories of voluntary disclosure, and provide new information to investors.

Prior to the cautionary statement advising firms to include a critical accounting policy section in their MD&A, considerable footnote disclosure about accounting policies was required. Specifically, APB 22 states "a description of all significant accounting policies of the reporting entity should be included as an integral part of the financial statements (Accounting Principles Board 1972)." The SEC writes that "disclosure should supplement, not duplicate, the description ... already disclosed [and] provide greater insight into the quality and variability of information regarding financial condition and operating performance." We demonstrate that the critical accounting policy section, which includes a selection of which policies qualify as critical (rather than significant) and their description, is informative and that investors appear to incorporate the information into valuations.

Our sample, which consists of a cross-section of annual electronic filings available on EDGAR, is created using text extraction techniques. We have a starting sample of 5,983 critical sections from machine readable 10-K filings which we code for

accounting policies using related keywords. On average, firms disclose 6 to 7 policies as critical, with the most commonly cited 5 policies (revenue recognition, taxes, contingencies, marketable securities and impairments) covering about half of the total disclosures. There is commonality of disclosure within an industry¹ and disclosure is related to financial statement information already available in the public domain (i.e., the historical mean and variance of the associated account balances). For example, firms that disclose intangible asset valuation as a critical policy generally have higher intangible balances and a higher historical variance of intangibles.

Though the mean and variance of an account are related to the firm's designation of it as critical, many firms make unexpected decisions. For example, many firms for which accounts receivable is a large fraction of total assets do not designate it as critical. One explanation is that there are conflicting incentives for critical policy disclosure, parallel to the tradeoffs often cited in other papers on voluntary disclosure (e.g., revealing proprietary information to competitors vs. informing the market of a good outcome).² On one hand, if policies are disclosed, investors will be less surprised when outcomes differ from initial reports, leaving managers and their firms less liable. On the other hand, by disclosing policies as critical, the firm may lose its ability to credibly communicate good information, as all financial information is viewed more skeptically. Therefore, we consider explanations for critical policy disclosure (or non-disclosure) beyond existing financial statement characteristics.

The literature linking disclosures to litigation typically holds as a maintained assumption that lawsuits are triggered when investors are surprised (e.g., Skinner (1994),

¹ Callahan and Smith (2008) finds systematic differences in the association between operating performance and disclosure practices across industries.

² See Wagenhofer (1990), Darrough and Stoughton (1990), and Newman and Sansing (1993) for examples.

Francis, Philbrick, and Schipper (1994), and Field, Lowry, and Shu (2005)). Therefore, a motivating reason behind providing investors with information about the critical policies is to reduce the surprise should realizations differ from expectations. Our results are consistent with firms using critical policy disclosures to reduce their exposure to lawsuits. We find firms facing high *ex ante* litigation risk are more likely to make critical disclosures.

Frankel, McNichols, and Wilson (1995) find a positive association between disclosure and the tendency to seek capital and Botosan and Plumlee (2000) demonstrate a negative relation between the cost of capital and voluntary disclosure. To the extent that “[critical] accounting policies are least understood by investors and [with their disclosure] investors would be in a better position to assess the quality of, and potential variability of, a company’s earnings (S7-16-02),” CAP disclosures may in turn affect a firm’s information premium. Although all managers are likely to care about their cost of capital, those who anticipate capital market transactions in the near term may benefit more from such disclosures. We include post-disclosure financing as an explanatory variable in our model of critical accounting policy disclosure decisions, but do not find a reliable association.

Although surprises can be account specific, we expect that the surprises most likely to trigger lawsuits are large aggregate (or, overall) errors. Based on their analysis of MD&A disclosures, Clarkson, Kao and Richardson (2000) write “it would appear that MD&A disclosure quality is the result of a conscious, deliberate overall disclosure strategy on the part of the firm.” Specifically, if net income (rather than a single line item on the income statement) or total assets (rather than a single asset account) are different

from expected, it is more likely to prompt litigation. Given the tradeoffs, it seems reasonable to expect that managers would like to avoid designating accounts as critical as long as the costs of limiting disclosure are not too high.³ Though our results are limited to a small subset of all critical policies, we show that the correlation between an individual account and aggregated financial information is positively related to the decision to disclose the account as critical.

We use two approaches to assess whether critical disclosures are informative – a prediction model and a market model. In the former, we examine changes in account balances and subsequent levels of account balances following critical disclosure. If these disclosures are informative, they will have explanatory power, after controlling for other predictive variables. We show that the disclosure decisions have predictive ability for changes in account balances and post disclosure levels. Our approach is similar to Li (2008), who finds that changes in risk sentiment provide predictive power in a regression of changes in future earnings on current earnings changes.

Turning to the market tests, we first compare earnings and book value multiples in the pre- and post-disclosure period, based on critical accounting disclosures. Barth, Elliott, and Finn's (1999) study finds that firms with patterns of increasing earnings have significantly larger earnings multiples than other firms which in turn decrease significantly when the pattern of increases is broken. Lundholm and Myers (2002) and Gelb and Zarowin (2002) show that greater disclosure allows investors to alter expectations not only about current period, but also about future period earnings. Taken

³ The data in Clarkson, Kao and Richardson (1994) are consistent with disclosure policy reflecting concern for product market competition and market valuation. Bhojraj, Blaccionere, and D'Souza (2004) find that disclosure practices following the deregulation of the utilities industry are consistent with a desire to balance regulatory incentives and capital market incentives.

together, we expect that critical disclosures, which reveal earnings variability, will affect price earnings multiples even if disappointments (lower earnings than in previous periods) have not yet been realized. We find that, following disclosure, firms with fewer (more) critical disclosures than expected see a increase (reduction) in their earnings multiple.⁴

To provide evidence on the informativeness of the critical accounting policy section per se, we use an event study, where we compare the market reaction around the first 10 - K filing that includes critical accounting policies with the market reaction to the earnings announcement immediately prior. We show that reversal of the announcement date reaction on the 10-K filing date is more likely for firms that have reported more CAPs than expected.

Our study provides a large sample analysis of a relatively new accounting disclosure practice. Several innovative papers have evaluated other aspects of MD&A disclosure. Tone changes (positive vs. negative) in the MD&A section are shown to have information content beyond financial measures (Feldman, Govindaraj, Livnat, and Segal 2008), and changes in risk sentiment are informative of future earnings (Li 2008). Li (2006) shows that firms with lower (higher) earnings have harder (easier) to read annual reports. Paprocki and Stone (2004) find a negative relation between the quality of CAP disclosures and information asymmetry. Cho, Park, and Warfield (2004) (CPW) find a positive relation between the quality of CAP disclosures and accrual quality. CPW measure a firm's disclosure quality as the average quality, as assessed by the authors, of

⁴ Our time period coincides with the imposition of other regulation, most notably Sarbanes-Oxley. Consequently, it may be impossible for us to conclude that the critical accounting policy is the particular change in the information set allowing investors to differentiate among firms. However, as a proxy for the reliability of accounting information, the critical accounting policy section is related to the magnitude of the coefficients on earnings and book values.

its CAP disclosures. In contrast, we find a negative relation between accrual quality and the number of CAPs disclosed. In essence, CPW looks at variation within critical disclosures, conditional on disclosing, whereas our paper examines variations in the decision to disclose a particular policy or not.

The analysis in this paper is significant for regulators, particularly when different regulating bodies participate in rule making (here, Congress and the SEC). Referring to Section 302 of The Sarbanes-Oxley Act of 2002, which requires CEO certification of financial statements, Paul Sarbanes stated “[the Act] strengthens corporate responsibility, requiring CEOs and CFOs to be personally responsible for the accuracy of their company’s financial reports.” A common objection to the certification requirement is that terms such as certification and accuracy imply a much higher level of assurance than can reasonably be applied to financial information. If CEOs are concerned about the accuracy of their numbers, does the critical accounting policy regulation give them a get out of jail free card? Can CEOs avoid litigation by appealing to the safe harbor protection afforded to MD&A, arguing that investors were warned about the estimates involved in the computation of financial reports, despite the certification?⁵ By describing firms’ critical policy disclosures, we take the first step toward evaluating possibly conflicting regulatory efforts.

We organize the remainder of the paper as follows. Section 2 outlines the institutional background and develops the hypotheses. Sample selection criteria and a

⁵ The SEC states “MD&A is the ideal location for providing disclosures regarding these critical accounting policies. The types of judgments that are required by a critical accounting policy are of the variety that may underlie why past performance may not be indicative of future results. In addition, the safe harbor provisions afforded to qualifying MD&A disclosures allow management to provide investors with its views about future events, which, after all, forms the basis for making the underlying estimates.”

description of the data are given in section 3. We lay out the research design and report results in section 4. Section 5 contains concluding remarks.

2. Disclosure of Critical Accounting Policies

2.1 Institutional Background

In a speech to the Financial Executives Institute given on January 24, 2002, Robert Herdman, then-chief accountant of the SEC said:

A critical accounting policy is one that is both very important to the portrayal of the company's financial condition and results, and requires management's most difficult, subjective or complex judgments. The circumstances that make these judgments difficult, subjective and/or complex have to do with the need to make estimates about the effect of matters that are inherently uncertain. As the number of variables and assumptions increase, those judgments become even more subjective and complex. As the time period increases over which the uncertainties will be resolved, estimates will likely change in a greater number of periods, potentially adding volatility to published results.

The proposed rule, issued in May 2002, defines a critical accounting policy (CAP) as a policy in which both of the following are true: (i) the accounting estimate requires assumptions about matters that were highly uncertain at the time the accounting estimate was made and (ii) different estimates that reasonably could have been used or changes in those estimates that are likely to occur from period to period would have a material impact on the presentation of financial condition or results of operations. The disclosure would involve three elements: the information needed for a basic understanding of the estimates, information needed for an understanding of the sensitivity of the results to the estimates, and a discussion of whether management and the audit committee discussed the development, selection and disclosure of the critical estimates. The rule was criticized

for being too broad, for requiring information that would not be useful to investors, and for excessiveness to the point of obscuring rather than revealing.⁶

The traditional rule setting process was interrupted by regulatory action taken by the US Congress (i.e., the Sarbanes-Oxley Act) after a series of corporate and reporting failures. To date, no final draft has been written, but firms are advised to comply with the cautionary statement and the proposed rule. Interpretation differs significantly across firms – actual disclosures range from none to many, and from boilerplate and vague to descriptive and fairly detailed. Although the potential benefits to information on the degree of subjectivity (reliability) of estimates in financial statements may seem obvious, it is possible that the proposed regulation will not result in realized useful disclosures. However, dismissing all regulatory efforts based on the argument that ‘if disclosures provided benefits, firms would voluntarily disclose,’ seems unreasonable without specific analysis.

Beaver (1991) writes “[b]ecause a key feature of future events is that they are multidimensional in nature, information is lost by attempting to describe the entire distribution in terms of a single number, except in a few special cases... A single number creates the appearance of certainty when it does not exist.” The goal of critical accounting policies is to better describe the multidimensionality of the (single) numbers included in financial statements. For CAP disclosures to be informative, they cannot be meaningless boilerplate. They may either highlight (bring investor attention to) information already in the financial statements or provide new information. Our hypotheses address both of these potential roles of critical accounting policies.

⁶ See <http://www.sec.gov/rules/proposed/s71602/sullivanacromwell.htm>.

2.2 Hypothesis Development

“MD&A is the ideal location for providing disclosures regarding these critical accounting policies... the safe harbor provisions afforded to qualifying MD&A disclosures allow management to provide investors with its views about future events, which, after all, forms the basis for making the underlying estimates” (Robert Herdman, former chief accountant of the SEC). This comment suggests that if policies are disclosed as critical, the related accounts could qualify for safe harbor protection in the event of a subsequent realization that differs significantly from the reported amount. A recent court ruling, dismissing a class action suit against Centene Corporation, is consistent with this argument – although the plaintiffs argued that careful monitoring of medical costs implies that Centene must have known about higher costs, Centene successfully cited numerous statements, including mentions in the critical accounting policy section, warning that numbers were estimates only and earnings could be affected if the estimates were inaccurate.

A cost of utilizing the safe harbor protection is that when a policy is disclosed as critical, investors rely less on the report and more on their prior assessment of the firm. Specifically, critical amounts are inherently less certain and rational investors update by placing a relatively lower weight on amounts with high variance, making it harder to communicate positive news. Also, because the amounts may qualify for greater (safe harbor) protection, the barrier to manipulation of these numbers is lower, which could result in more deliberate misstatement in accounts associated with critical accounting policies. This tradeoff between protection, on the one hand, and loss of ability to

convince investors of good news, on the other, provides the motivation for our hypotheses.

Although including critical policy disclosures may be viewed as mandatory, the content of the CAP section is left to the discretion of the firm. While the size or variability of an account is likely to play a significant role in its determination as critical, it is unlikely to fully explain disclosure decisions. Regulators intend critical accounting policies to reveal information about underlying uncertainties. If policies are disclosed as critical, investors will be less surprised should realizations differ from initial reports. To the extent surprises prompt litigation, we hypothesize that, *ceteris paribus*, firms with higher litigation risk are more likely to disclose. If disclosures reduce information asymmetry, then those who anticipate making capital market transactions in the near term may use CAP disclosures to reduce their information premium. If critical policy disclosures increase the perception of risk, more disclosure would increase the risk premium. We determine which (if either) of the two tensions is more prevalent in affecting CAP disclosures.⁷

Finally, we examine a firm's "portfolio" of disclosures. If lawsuits are triggered by large surprises in aggregate measures rather than surprises in individual accounts, there is reason to consider disclosure decisions holistically. If, for example, whenever intangibles drop below their expected levels increases in other assets mitigate or offset this unexpected decrease, litigation costs may be lower than if total assets were also significantly affected. In deciding whether to protect (i.e., invoke safe harbor provisions on) an account by designating it as critical, then, the firm must consider its interaction

⁷ Other theories exist to explain voluntary disclosure, but most are specific to single news events rather than underlying characteristics, making them a poor fit for our disclosure setting.

with an aggregate measure as well as individual account properties. The SEC states, “[i]nvestors, however, will not benefit from a lengthy discussion of a multitude of accounting estimates in which the truly critical ones are obscured.” If firms wish to reduce the number of critical accounting policies, they may be able to avoid designation of an account if it has low (or negative) correlation with the aggregate.

Hypothesis 1

(a) Disclosure (lack of disclosure) is more likely for firms with high (low) litigation risk.

(b) Disclosure (lack of disclosure) is more likely for firms which raise (do not raise) capital in the post-disclosure period.

(c) Disclosure (lack of disclosure) is more likely for firms with high (low) correlation between the account and the aggregate, total assets.

We now turn to hypotheses on the informativeness of critical policy disclosures. A disclosure is informative if, after controlling for other predictors, it improves our ability to estimate changes in accounts, or levels of accounts. For example, a firm with a low (high) account balance might disclose (fail to disclose) if it expects the account balance to increase (decrease) in the years to come, particularly when the change would be otherwise unexpected. To address whether the information in critical accounting disclosures is a determinant of valuation multiples, we link the reliability of accounting information (i.e., measured by the number of critical accounting designations) to the magnitude of the coefficients on earnings and book value. Suppose that prior to CAP disclosure, investors cannot adequately differentiate between reported earnings that were

more reliable (i.e., not subject to critical accounting policies) and less reliable. The firms with less reliable earnings are then pooled with firms with more reliable earnings, and investors use an average earnings multiple. Consequently, the firms with less reliable accounting would have higher than deserved multiples, while firms with more reliable earnings would have lower than deserved earnings multiples. If the content of the critical policy section allows investors to differentiate (separate) along reliability, then in the post-CAP period, we expect the low (high) reliability firms to have a decrease (increase) in their earnings multiple. We also test for incremental informativeness using an event study, where we compare the market reaction around the first 10 - K filing that includes critical accounting policies with the market reaction to the earnings announcement immediately prior. If the information contained in the critical policy section is new, the market can separate firm types on the 10 - K filing date that it could not on the earnings announcement date; the unexpected number of critical policies will be related to the market reversal (i.e., returns) around the filing date. Specifically, firms with many critical policies will be more likely to experience a reversal of the reaction to earnings and firms with fewer critical policies are more likely to have a response consistent with the initial reaction. Hypothesis 2 summarizes these predictions.

Hypothesis 2

(a) If a firm discloses (does not disclose) an accounting policy as critical, the related account is more likely to have large (small) changes from the pre- to postdisclosure period.

(b) Pre-disclosure earnings multiples are higher (lower) than post-disclosure earnings multiples for firms that disclose more (fewer) critical accounting

policies than expected. (c) Firms with more (fewer) critical policies than expected have filing date returns that reverse (confirm) earnings announcement date returns.

3. Sample Selection and Data

3.1 Creating the Dataset

The initial sample contains the complete electronic 10-K text filing on Edgar for all SEC registrants, or a starting sample of 5,984 firms available as of February 2005.⁸ We use a computerized information retrieval process to find and code the data. Information retrieval processes extract information from text using a list of pre-established keywords. To determine these keywords, we manually read several hundred critical accounting policy disclosures to determine commonalities across disclosures. We identify 24 accounting estimates (e.g., allowance for doubtful accounts or valuation of long-lived assets) and the key words which would pick up a related policy disclosure. By combining expertise with computer aided search, we have the benefit of our knowledge of accounting standards and policies crossed with an objective and replicable coding approach. The resulting data set is large and more representative of the population than any data set we could collect by individually reading each disclosure, and less susceptible to judgment biases. Fully computerized text mining, which looks for patterns and trends in text, may have the advantage of correctly classifying some disclosures with less standard terminology (fewer Type II errors), but will suffer from increasing the number of policies incorrectly grouped together based on common language that is unrelated to

⁸ Typically, it is a 2004 filing relating to a fiscal year of 2003. For later tests, we restrict attention to only those firms with their first critical disclosure in the 2002 10-K

the specific accounting standard (more Type I errors). For example, consider the following disclosures, both containing the terms *temporary* and *changes*:

DISCLOSURE #1

The Company regularly reviews its deferred tax assets for recoverability and establishes a valuation allowance based on ... the expected timing of the reversals of existing *temporary* differences... If ... there is a material *change* in the actual effective tax rates or time period within which the underlying temporary differences become taxable or deductible, the Company could be required to increase its valuation allowance... [emphasis added]

DISCLOSURE #2

We make judgments about the recoverability of goodwill, purchased intangible assets and other long-lived assets whenever events or *changes* in circumstances indicate an other-than-*temporary* impairment in the remaining value of the assets ... [emphasis added]

Since temporary changes are cited in these and many other critical disclosures, this represents an instance where specific accounting knowledge refines the data coding process.⁹

3.2 Descriptive Statistics

The Securities and Exchange Commission (2002) proposal states that “[w]hile the number of critical accounting estimates will vary by company, we would expect... the vast majority of companies to have somewhere in the range of three to five critical accounting estimates. Investors, however, will not benefit from a lengthy discussion of a multitude of accounting estimates in which the truly critical ones are obscured.” Table 1 suggests that the number of CAP disclosures is higher – the median number of critical policies is 6 and the mean is 6.46. It is possible that ambiguity in the proposal leads to increased disclosure to avoid the perception of non-compliance. Another possibility is that firms are trying to obscure the significant critical estimates in lengthy CAP sections,

⁹ Additional details of the data collection are in Appendix A.

confirming the SEC's concerns. Finally, firms might take advantage of CAP disclosures to gain protection (to counterbalance the impact of CEO certification, for example) for potential inaccuracies in their financial statements.

Some accounting policies, like software capitalization and oil and gas accounting, apply only to a particular industry or industries. Other more general standards apply to all firms, but the uncertainty and judgment required in the application of the standard are industry specific. To evaluate the differential disclosure policies across industries, we provide disclosure frequencies by NAICS 2 digit code (for industries with at least 30 observations) in Table 2. The by-industry analysis increases our confidence in the coding process. The critical issue most disclosed by (the heavily regulated) utilities industry is regulatory accounting and the only industry which has a significant number oil and gas disclosures is the mining industry. Retailers tend to disclose inventory valuation while wholesalers disclose valuation of receivables among their critical policies. In addition to disclosing critical accounting policies, Rule S7-16-02 proposes to require companies to present quantitative information about changes in its overall financial performance and, to the extent material, line items in the financial statements that would result if changes relating to a critical accounting estimate were assumed to occur. Few firms in our sample provide quantitative sensitivity analysis.¹⁰ In the subsample (14% of our total sample) that mentions sensitivity, it is typically in a broad disclosure that suggests results might be materially affected if estimates are different from realizations or if alternate

¹⁰ Union Pacific Corporation provides a (rare) example of quantitative sensitivity disclosure/ "Various methods are used to estimate useful lives for each group of depreciable property. Due to the capital intensive nature of the business and the large base of depreciable assets, variances to those estimates could have a material effect on our Consolidated Financial Statements. If the estimated useful lives of all depreciable assets were increased by one year, annual depreciation expense would decrease by \$36 million. If the estimated useful lives of all assets to be depreciated were decreased by one year, annual depreciation expense would increase by \$39 million."

assumptions were adopted.¹¹ The language in the critical policy section of MD&A does differ from the footnote disclosure, despite its lack of quantitative sensitivity analysis. We provide an example in Appendix A of 3M's critical accounting policy disclosure and footnote disclosure related to asset impairment.

To decrease the possibility that controversial issues are hidden within the flexibility of GAAP, S7-16-02 proposes to require that firms disclose whether or not management discussed with the audit committee the critical accounting estimates and their disclosure. In our sample, less than 10% of firms mention whether the CAPs have been discussed with the audit committee. Those that disclose use the same (or very similar) language as the examples provided in the proposed rule. For example, Trans Lux Corp. writes "Senior management has discussed the development and selection of these accounting estimates and the related disclosures with the audit committee of the Board of Directors." While we cannot provide conclusive evidence that firms do not discuss their critical policies with the audit committee based on the small fraction of firms that reveal they do, it does suggest that firms are complying more with the requirements to disclose the policies themselves than with the additional requirement to disclose whether the policies have been discussed with the audit committee.

In Table 3, we provide information about the relation between the total number of critical policy disclosures and firm characteristics that proxy for firm size, growth and complexity. Firms with many critical policies tend to be larger (e.g., the natural logarithm of assets, sales, and the market value of equity are increasing in number of policies), have more business and geographic segments, have greater institutional holding and higher

¹¹ For example, Pharmaceutical Formulations, Inc. writes "All such valuation methodologies, including the determination of subsequent amortization periods, involve significant judgments and estimates. Different assumptions and subsequent actual events could yield materially different results."

analyst following. Although significant, the highest correlations between the critical designation and our measures of complexity are relatively low (17-26%), suggesting that firm complexity is not the only factor driving the variation in number of critical policies.

Table 4 provides evidence on the relation between financial statement information and CAP disclosures.¹² Firms which disclose critical accounting policies related to receivables, intangibles, inventory, and property and equipment have larger related accounts (as a percentage of total assets) on average.¹³ For example, firms which disclose the valuation of receivables as a critical policy have, on average, 18.2% of their total assets invested in receivables, compared to 10.6% of assets invested in receivables for non-disclosers.¹⁴ Although high mean balances are associated with greater disclosure on average (Table 4) there are many firms with high account balances that do not disclose and firms with low account balances that do. For example, 25% of the firms that do not disclose revenue recognition as critical have account balances that are larger than the balances of 50% of the firms that disclose revenue recognition as critical. With the exception of leases, accounts that are designated as critical generally have higher historical variance. The variance in receivables/total assets is 0.007 for critical disclosers

¹² The table presents the cross sectional means of the individual firms' account balances and variance of the account balances for firms with a critical policy section. Where possible, we use a three-year account balance mean (from 2000-2002) and 10-year account balance variance (1993-2002); if the firm has fewer observations, we use as many as we have to compute the mean and variance. Specifications using different time aggregations of data or including firms with an electronic 10-K but no critical accounting policy section (i.e., all CAPs are coded with a 0) yield similar results.

¹³ Using alternative scaling variables does not change the nature of the results. We also conduct the analysis on an industry by industry basis, Means exhibit similar differences for disclosers and non-disclosers within industries.

¹⁴ To insure that our conclusions are not driven by a small subset of firms without balances in the relevant accounts, we repeat the analyses with firms for which the observations are strictly positive.

and 0.004 for non-disclosers.¹⁵ If disclosures are sticky, and a single observation is less likely to drive the general decision to disclose a policy as critical, we would expect a link between past data and critical policy designations. However, historical variance is a noisy proxy for underlying variance; in some cases, lack of historical variance may suggest a failure to take impairments or writedowns, creating an increased need to do so in the future.¹⁶ Additional analyses to determine whether the critical disclosure decision is related to the empirical distribution of the account balance and accrual quality give mixed results. The distribution of account balances is less positively skewed for firms that disclose the policy as critical although the empirical frequency with which account balances fall two standard deviations below their mean (using 2003 data) is not reliably lower for firms that disclose the policy as critical.

The nature of accrual accounting requires the incorporation of future events into current financial reports. “Accruals can be viewed as a form of forecast about the future based on current and past events, and accrual accounting can be viewed as a cost-effective way of conveying expectations about future benefits or sacrifices” (Beaver 1991). Because the underlying distributions differ across firms, forecast errors, which are a necessary part of accrual accounting, will also differ across firms. Whether the underlying process is genuinely difficult to determine without significant estimates and judgment or the account is used for earnings management, we would expect firms in

¹⁵ Since our sample is created from the critical accounting policy section, even if the firm does not disclose receivables, it will have other critical accounting disclosures.

¹⁶ Historical variance fails to explain disclosure decisions in multivariate tests including the historical mean and other firm specific controls. This may be due to the correlations between several controls and variance, which although not particularly large, are generally negative and significant. For example, firms with more business segments are better diversified, and thus have lower variance.

either setting to seek protection for their estimates. Consequently, we expect CAP disclosure is negatively associated with earnings quality.

Dechow and Dichev (2002) (hereafter DD) demonstrate the use of residuals from firm specific regressions of changes in working capital (ΔWC) on past, current and future operating cash flows (CFO) as a measure of earnings quality. Following their approach, we can compare the earnings quality of firms that disclose working capital as a critical accounting policy from those that do not. The DD regression specification is: _

$$\Delta WC_t = b_0 + b_1 CFO_{t-1} + b_2 CFO_t + b_3 CFO_{t+1} + \epsilon_t \quad (1)$$

and the metric for accrual quality is the inverse of the standard deviation of the residual of the regression. Higher values of the standard deviation indicate lower quality accruals because less of the variation in current accruals is explained by lagged, contemporaneous, and lead operating cash flow realizations. We estimate the regression for each firm, requiring a minimum of 8 years of data over the period 1987-2002. Separating the firms into three groups, those that disclose neither inventory nor accounts receivable as critical (NCAPS=0), one of the two as critical (NCAPS=1), or both as critical (NCAPS=2), Panel A of Table 5 shows that the set of firms with neither critical disclosure have higher quality accruals (0.035) than firms disclosing both as critical (0.047).¹⁷ Flipping the tests (Panel B, Table 5), the firms with the highest accrual quality have a lower average number of critical disclosures (0.69) than the firms with the lowest accrual quality (1.14). While the results are not strictly monotonic across the quintiles, quintiles 4 and 5, which represent the lowest accrual quality, have statistically significantly more critical

¹⁷ We consider accounts receivable and inventory accruals only as these are the CAPs pertaining to working capital.

disclosures on average than quintiles 1 and 2.¹⁸ At first glance, our results would seem to contradict Cho, et. al. (2004), who find a positive relation between CAPs and accrual quality. CPW measure the average quality of CAPs, conditional on the firm making a particular critical disclosure. In contrast, we index disclosure by the number of CAPs, conditional only on the firm having a critical section.¹⁹

4. Tests and Results

We first test for Hypothesis 1, which provides disclosure motives when industry practices, individual account balances or other firm characteristics (e.g., size, complexity) cannot explain the CAP disclosure. We estimate the probability of disclosure for each firm of each critical policy j by

$$CAP_j = G\left(\sum_d \alpha_{jd} I_d + \beta_{1j} PLIT + \beta_{2j} FIN + \beta_{3j} CORR(j, TA) + \beta_{4j} HMEAN_j + \beta_{5j} HVAR_j + \gamma_{1j} MVE + \gamma_{2j} BTM + \gamma_{3j} EP + \gamma_{4j} ROE + \gamma_{5j} AF + \gamma_{6j} INSTIT + \gamma_{7j} BUSSEG + \gamma_{8j} GEOGSEG + \gamma_{9j} EVOL + \gamma_{10j} AQ\right). \quad (2)$$

The explanatory variables are the historical mean and variance of the account associated with policy j ($HMEAN_j$ and $HVAR_j$), size (market value of equity, MVE), growth (book to market, BTM , and earnings to price ratio, EP), performance (return on equity, ROE), investor interest (analyst following, AF and institutional holding, $INSTIT$), complexity (number of business, $BUSSEG$ and geographic segments, $GEOGSEG$) and reporting risk (earnings volatility $EVOL$ and accounting quality AQ , a dummy variable equal to 1 if the firm has restated its financials between 1997 and June 2002).²⁰ Hereafter, for notational

¹⁸ Our results are unchanged when we exclude industries with high concentration and replicate the analysis.

¹⁹ In a sample as large as ours, we are precluded from replicating the CPW cross-sectional tests.

²⁰ χ^2 test statistics of the prediction model are significant at $p = 0.01$ for each policy j, and the percentage concordant ranges from 68% to 89%.

simplicity, we refer to the vector of control variables (*MVEAQ*) as *C*. We include industry fixed effects, where $I_d = 1$ if the firm is a member of industry *d* and 0 otherwise. If the critical policy cannot be linked to a specific account balance, the historical mean and variances are excluded from the model. Examples of policies without traceable accounts include contingencies, where obligations are often deemed “inestimable” and warranties, in which liability or expense accounts are not disaggregated from other line items.

The variable *PLIT* is our measure of the probability of litigation, estimated with a model whose explanatory variables include performance, skewness, leverage and financing measures.²¹ *FIN* is the firm’s average financing activity over the three year period following disclosure, or $\frac{1}{3} \sum_{t=2003}^{2005} F_t$, where $F_t = 1$ if the firm issues debt or equity in year *t* and 0 otherwise. The higher the score, the more frequently the firm seeks financing in the post-disclosure period and the greater the expected disclosure. Although the litigation probability model uses financing, it is measured in the pre-disclosure period, in contrast to the variable *FIN* which is measured in the post-disclosure period.

Estimates of Equation 2 are in Table 6; critical policies with traceable financial statement balance include explanatory variables *HMEAN* and *HVAR*, while critical policies without traceable balances do not. Using table 6, we see that the coefficient on *PLIT* is positive and significant for almost all (11 of 14) critical policies. For example, the coefficient on *PLIT* for the accounts receivable model is $b_l = 2.574$ ($p = 0.00$). Thus, for firms with similar levels (and variance) of accounts receivable, those disclosing the policy as critical have higher average litigation risk than those that do not disclose.²² We

²¹ The model is similar to that in Johnson, Kasznik, and Nelson (2001) and Field, et. al. (2005). Details of the variable construction and the model’s estimation are presented in Appendix A.

²² To ensure that our measure of litigation risk is not simply proxying for variance, we replace *PLIT* in the model given by Equation 2 with the residual in a regression of *PLIT* on *HVAR*. The results are unchanged.

also estimate a model in which the coefficients on the probability of litigation may vary for firms with high and low mean account balances. The interaction between the size of the account balance and the probability of litigation is important; firms are more likely to be affected by the probability of litigation when their account balances are high (results untabulated).

While the estimates provide strong evidence for Hypothesis 1a, there is little support for Hypothesis 1b. The coefficient b_2 is rarely significant, although generally directionally consistent with Hypothesis 1b. Recall that additional CAPs may suggest additional risk, dampening the general preference by firms seeking financing for more disclosure. We note that *PLIT* and *FIN* are significantly correlated ($\rho = 0.25$; $p = 0.00$); the coefficient on *FIN* is positive and significant for nearly all critical policies when *PLIT* is excluded from Equation 2 and F-tests of joint significance indicate that both variables together have explanatory power. Figure 1 links firms' overall disclosure practices to litigation risk and future financing. The total number of critical policy disclosures is increasing in litigation risk and financing plans.²³ Greater disclosure for those firms raising capital may indicate greater caution rather than an effort to improve their terms of financing.

For Hypothesis 1c, we consider the estimates on the coefficients of the correlation between the related (unscaled) account measure and total assets. For example, for the inventory CAP, the independent variable is the correlation between inventory and total assets. This research design limits the analysis to CAPs related to balance sheet accounts included in total assets. We cannot implement an analogous income statement test

²³ For significance tests, we run an ordered logistic model with *NUMCAPS*, the total number of critical policies, as the dependent variable and *PLIT* and *FIN* and the dependent variables; both coefficients are positive and significant (p -values < 0.001). Results available upon request from authors.

because there are rarely identifiable income statement line items related to CAPs. Many of the critical disclosures directly related to the income statement pertain to expenses such as sales rebates and returns that typically are aggregated with other expenses on the income statement. Other critical disclosures pertain to hypothetical costs such as contingencies or impairments.

While the data limitations preclude us from implementing a more complete analysis, our empirical tests provide limited support for Hypothesis 1c. For example, the higher the correlation between accounts receivable and total assets, the more likely receivables are disclosed as critical ($\beta_{3j} = 0.641$; $p = 0.00$). If the correlation is negative, the firm may be able to avoid disclosing receivables as critical, as the overall impact of a negative realization on net assets is offset by increases to another account (e.g., inventory).²⁴

Turning to Hypothesis 2, if critical accounting policy disclosures provide new information about the underlying uncertainty and potential for misestimation, then we expect firms that disclose to have larger changes in their related account balances than those that do not disclose. By using scaled account measures, we eliminate the effects of overall growth or decline. We estimate the following two equations, and present the results in Table 7.

²⁴ Another approach would be to consider two specific critical policies whose accounts are directly summed together in a relevant aggregate. The only two policies which reasonably fit this definition are accounts receivable and inventories, which are naturally related and contribute to the majority of working capital or current assets. In untabulated results, we show that the correlation between inventory and receivables is positive and significantly related to the number of critical policy disclosures (0 for neither, 1, and 2 for both). This suggests that a firm may be able to avoid disclosing (may have a greater need to disclose) accounts receivable and inventory as critical where they otherwise would if their correlation is large and negative (positive).

$$|FMEAN_j - HMEAN_j| = \sum_d \alpha_d IND_{dj} + \beta_1 CAP_j + \beta_2 HVAR_j + \beta_3 PLIT_j + \sum_n \gamma_n C_n \quad (3)$$

$$FMEAN_j = \sum_d \alpha_d IND_{dj} + b_1 CAP_j + b_2 HMEAN_j + b_3 HVAR_j + b_4 PLIT_j + \sum_n g_n C_n \quad (4)$$

Model 1 (equation 3) regresses the (unsigned) change in the account balances from the pre- to post- disclosure periods on the critical policy disclosure, where *FMEAN* is the three year post-disclosure mean and *HMEAN* is the three year pre-disclosure mean. We find a positive and significant coefficient on the critical policy disclosure for all disclosures (with the exception of marketable securities), after controlling the account measure variance and probability of litigation. The account variance proxies for expected changes, based on the known characteristics of the account. We expect that the probability of litigation is negatively related to the change, in so far as firms with high litigation risk are likely to take operational measures that stabilize their results to avoid surprises. To illustrate, Table 7 demonstrates that if a firm discloses taxes as critical, the change in deferred taxes (as a percentage of total assets) is expected to be 0.005 higher than a firm that has not disclosed. A firm disclosing intangibles as critical will have a change in intangibles (as a percentage of assets) that is 0.033 higher than a firm that has not disclosed. Based on the evidence from Model 1, disclosures have power in predicting future (unexpected) balance changes.

In the spirit of Li (2008), who finds that risk sentiment increases asymmetrically in advance of bad news, rather than in advance of all significant changes, we evaluate whether CAPs can predict the level of the future account balance. Model 2 (equation 4) in Table 7 provides evidence that firms are more likely to disclose when their account balances increase (rather than decrease). In most cases, the sign on the coefficient for

critical designation is positive, suggesting that firms are more likely to provide disclosures when they anticipate an unfavorable change, rather than simply a change per se. To illustrate, if a firm discloses intangible assets as a critical account, its postdisclosure balance is likely to be 0.042 higher than a firm that has not disclosed intangibles as critical, after controlling for the levels predicted by the historical mean, the historical variance, and the probability of litigation.

To test Hypotheses 2b, we estimate market multiples in the pre- and post-disclosure period. Our two stage estimation allows us to control for information already available and correlated to that contained in the critical policy section. The pricing multiples are estimated based on unexpected CAP disclosures, grouped into (i) those that disclose fewer critical policies than expected, (ii) those that disclose more than expected, and (iii) those whose disclosure is consistent with expectations. The prediction model (Equation 5) includes industry membership and controls for size, growth, risk and historical performance, where NEGE measures the fraction of years of negative earnings in the pre-disclosure period.

$$NUMCAPS = \sum_d \alpha_d I_d + \beta_1 MVE + \beta_2 BTM + \beta_3 ROE + \beta_4 NEGE \quad (5)$$

The R^2 of the above model is 89%; while other variables might be considered in a prediction model, they significantly reduce our sample size without a commensurate increase in predictive accuracy. From the estimated probabilities of each number of disclosures, we calculate a predicted number.²⁵ The residuals, or the difference between the actual number of CAPs and the predicted number of CAPs, serve as our dependent variable, UD (unexpected disclosure). We classify firms into three groups based on their

²⁵ The signs of the coefficients themselves cannot be interpreted as affecting the probabilities in a particular direction.

disclosure surprise: firms with more critical policies than expected ($UD > 1.5$) are high surprise firms (HIGH), firms with fewer CAPs than predicted ($UD < 1.5$) are low surprise firms (LOW). Firms within one of the expected number of disclosures make up the no surprise group (NO).²⁶ Then, we estimate the regressions described by equations 6 and 7 below. Coefficients vary for the six possible combinations of surprise s and period t : high, low and no surprise and pre- and post- disclosure.

$$P_t = \sum_d \alpha_d IND_d + \beta_1 NI_t + \beta_2 BV_t + \beta_3 GROWTH_t + \beta_4 AQ \quad (6)$$

$$P_t = \sum_d \alpha_d IND_d + b_1 ACC_t + b_2 CFO_t + b_3 BV_t + b_4 GROWTH_t + b_5 AQ \quad (7)$$

Equation 6 estimates simple earnings (NI) and book value (BV) multiples with industry and growth controls.²⁷ The pre-CAP period is 1996-2002 and the post-disclosure period is 2003-2006 (see Figure 2). We hypothesize that the earnings multiple (β_1) will be lower in the post-disclosure period than it was in the pre-disclosure period for the high surprise firms, and higher in the post-disclosure period than in the pre-disclosure period for the low surprise firms. Francis and Schipper (1999) find an upward trend in the explanatory power of book value and earnings for market values. To control for such trends in the data, we test the difference in differences of the coefficients, using the no surprise group as the benchmark. We estimate Equation 6 with controls for growth; reported estimates use the change in sales ($\Delta Sales$), but results are unchanged using lagged book to price (BP) and lagged earnings to price (EP). Equation 7 allows for differences in the multiples on the accrual and cash flow components of earnings. Critical policies are more likely to

²⁶ For these tests, we have 940 firms classified as LOW, 1513 classified as NO and 897 classified as HIGH. Our results are robust to alternate cutoffs on UD.

²⁷ Price, earnings and book values are measured at year end. We estimate separate coefficients for profit and loss firm-year observations.

pertain to accruals (i.e., items that need estimation) than cash flows (i.e., values that are “hard”), and consequently we predict that the lower weight (higher weight) placed on earnings for firms with more (fewer) CAPs than expected will be predominantly on the accrual component.

The pre- and post- CAP disclosure periods coincide with the pre- and post-Sarbanes Oxley periods. While CAP disclosures seem to allow us to separate firms in the post-disclosure period, we cannot conclude that CAP disclosures are the sine qua non by which the separation is effected. CAP disclosures may either provide information themselves or may corroborate the information contained in other regulatory changes implemented at the same time. Examining the unexpected critical policy disclosures and SOX 302 inefficiencies (either material weaknesses or significant deficiencies), we find an insignificant correlation ($\rho = 0.06$; $p = 0.22$), suggesting that the information contained in CAPs may be different from the information contained in SOX disclosures. Although the average correlations are low, we allow the coefficients in the post-disclosure period to vary not only on the basis of unexpected disclosures but also on SOX disclosures. This provides additional assurance that the changes in pre- and post-disclosure multiples we document are not driven by SOX regulation.

Table 8 presents the results on changes in coefficients for the variables of interest. Firms with more disclosures than expected (HIGH, SOX=0), have a decrease in their valuation multiple on earnings of 11.99 (from 18.03 in the pre-disclosure period to 6.03 in the post-disclosure period). In contrast, the benchmark (NO) decrease is 1.80 (the no-surprise group has an earnings multiple of 13.84 in the pre-disclosure period and 12.04 in the post-disclosure period or those firms without a SOX deficiency). This suggests that

the market values earnings of firms with a high CAP surprise at a relatively lower multiple in the post-disclosure period than it does firms with no surprise. For example, the difference in difference is computed as

$$\underbrace{\text{Coefficients for high surprise firms}}_{(\beta_1(\text{PRE,HIGH}) - \beta_1(\text{PRE,HIGH,SOX=0}))} \quad \underbrace{\text{Coefficients for no surprise firms}}_{(\beta_1(\text{PRE,NO}) - \beta_1(\text{PRE,NO,SOX=0}))} --$$

which results in a difference in differences of 10.20 (statistically significant with p-value=0.00). Our hypothesis also predicts that the valuation multiple on the group of firms with fewer than expected disclosures should increase relative to the benchmark. There is an absolute and relative increase for the low surprise firms but while directionally consistent with our predictions, is not statistically significant (p=0.26). One possible explanation for the lack of significance is that fewer than expected disclosures may be interpreted as either firms with (i) genuinely less risk or (ii) weak/inadequate disclosure practices. To the extent both types are pooled together, it may weaken the expected valuation reward (i.e., relative multiple increase) for the group with fewer disclosures than expected.

Predictions on the change in book value multiples over time are opposite those on earnings multiples. For high (low) surprise firms, investors weight book value relatively more (less), as compared to the control group, which is confirmed in our analysis. For firms with SOX deficiencies, multiples also decrease, although the sample is quite small. As expected, the firms with SOX deficiencies and high CAP surprises suffer the largest earnings multiple decreases. Turning to the disaggregated model, the overall decrease in the earnings multiple for the high surprise firms cannot be solely attributed to the

decrease on the accrual income multiple. The multiples on each decrease relative to the no surprise group. We note that the model we estimate for Hypothesis 2b may not be well specified. In all cases, the coefficients on book value are different from 1.

To further test whether there is “incremental” value to CAP disclosures, we look at returns around the earnings announcement and filing dates. Specifically, we test whether, on average, the sign and magnitude of the three-day 10-K filing period returns, relative to the three day earnings announcement returns, are related to the critical policy news. We examine those firms for which their first critical disclosure is in their 2002 10-K filing and for which there is no preceding SOX 302 material weakness disclosure. Given the timing and implementation of SOX 302, the restriction that CAP disclosures are not preempted or accompanied by SOX disclosures eliminates only 37 observations in our sample. In other words, the short window returns in our analysis are unaffected by (yet to be announced) SOX disclosures. If CAP disclosure contains new information, investors will use it to update their beliefs about the level of uncertainty in the estimates underlying the financial statements. All else equal, investors should dampen their reaction to the previously released financial information for firms that disclose more CAPs. In other words, there will be a larger reversal of the price change that occurred at the earnings announcement date. We have ruled out the possibility that the reaction is due to SOX material weakness disclosures; we further include Li’s (2008) change in risk sentiment metric (*ARS*) to ensure that reactions cannot be attributed to other textual disclosures in the 10-K. The change in risk sentiment is the difference in risk related words from one year to the next. Li (2008) shows that changes in risk sentiment are generally associated with future realizations, rather than risk per se. Filing date returns

are regressed on the total unexpected disclosure (UD) and the interaction between the UD and the sign of the earnings announcement returns. We use the magnitude of earnings announcement returns and the change in risk sentiment as control variables. For consistency with the previous section, we also estimate the model using a categorical variable for surprise whereas before a firm has a high (low) [no] surprise if its actual number of critical policies exceeds (is fewer than) [is within 1 of] its predicted number (Equation 9).

$$R^{FD} = \alpha + \beta_1 UD + \beta_2 R^{EA} + \beta_3 UD * SIGN(R^{EA}) + \beta_4 \Delta RS \quad (8)$$

$$R_s^{FD} = a_s + b_{1s} R^{EA} + b_{2s} \Delta RS \quad (9)$$

UD is low (negative) when the number of actual critical policies is below the predicted number and high when the number of critical policies exceeds expectations. In the first column of Table 9, $\beta_3 = 0.076$ ($p = 0.00$) which is consistent with Hypothesis 4b. Using the categorical (Equation 9) variable, firms with low surprise (fewer CAPs than expected) have a filing date reaction in the same direction as the earnings announcement date reaction ($b_{1,LOW} = 0.022$; $p = 0.24$), whereas firms with a high surprise have a filing date reaction in the opposite direction of their earnings announcement reaction ($b_{1,HIGH} = 0.027$; $p = 0.16$). To test our hypothesis, we compare the difference in reversal for each group with the benchmark. The reversal for high surprise firms is significantly different from the reaction to filing for the no surprise group (0.065, $p=0.01$). In contrast, the low surprise group has announcement returns in the same direction as the previous returns, particularly when compared with the benchmark. Finally, Model 3 examines whether the sign of the earnings announcement returns affects the degree of reversal. The coefficients on UD for both groups are significant, suggesting that investors “back off” both good and

bad news. It may seem surprising that firms with high CAPs are rewarded if their initial returns were negative. One possibility is that CAPs inform the market that the negative earnings are more likely to be temporary. The coefficients on change in risk sentiment are insignificant in Models 1 and 2, consistent with Li (2008), which finds that the market does not seem to react to the information (about the future) contained in the change in risk sentiment. Overall, the short window returns tests suggest that the market may react on the filing date to information contained in the critical accounting policy section after we control for other changes in risk disclosures in the 10-K.

In summary, we find that critical policy disclosures are generally consistent with existing financial information, but also provide new information, particularly when there are more disclosures than expected. Managers seem to be mindful of the general information interests of the firm and the overall disclosure strategy when determining CAP disclosures.

5. Conclusion

The main contribution of our paper is that we construct the first large database of critical accounting policy disclosures and provide both descriptive statistics and analysis of the forces that drive the decision to designate an accounting policy as critical. We identify 25 different critical policies, the most common of which are marketable securities, asset impairment, and revenue recognition. As part of the regulatory process, the SEC asks for comments on its proposals before creating a final rule. Typically, there is insufficient information on which to base conclusions, and the written comments reflect opinion or conjecture. In this case, because of the initial cautionary advice, and the long lag between proposal and final rule, we can provide direct evidence on the questions

raised in the proposal. For example, the proposal asks: “How many accounting estimates would a company typically identify as critical accounting estimates under the proposed definition?” The firms in our sample disclose between 0 and 17 critical accounting policies, with a median of 6.

The SEC seeks comments on whether the definition is “appropriately designed to identify the accounting estimates that require management to use significant judgment or that are the most uncertain.” The incidence of a balance sheet account being designated as critical is positively related both to its relative size and its variability. We interpret the former as the materiality of the account and the latter as its inherent uncertainty.²⁸ Our analysis shows that the decision to disclose a policy as critical is associated with the current and future magnitude and variance of the account, and, after controlling for these and industry membership, the firm’s litigation risk and future financing plans.

The correlation between the related account balance and all other assets, for a subset of the critical policies disclosed, is also positively related to the disclosure, suggesting that the critical policies designation may depend on the interrelatedness of accounts. That is, our evidence for several of the critical policies is consistent with firms’ sensitivity to the realization of aggregations of accounts, and not just individual realizations. As far as we know, this more “strategic” aspect of critical policy disclosures has not been a concern of the SEC but our results suggest that it should be considered and addressed.

The SEC asks: “Would additional information elicited by the proposals would be useful to investors and other users of company disclosure?” We provide evidence that the

²⁸ The likelihood that firms designate accounts receivable and/or inventory as critical is also positively related to the firms’ Dechow and Dichev (2002) measure of accrual quality.

market places a lower weight on earnings for firms with many CAPs in comparison with the weights that existed prior to the SEC recommendation to disclose CAPs. We argue that this lower weighting is consistent with CAPs providing incremental information to investors about the uncertainty underlying the realization of earnings. Additionally, when the number of policies is greater than expected, returns around the filing date are more likely to reverse (i.e., be in the opposite direction of) returns around the earnings announcement immediately prior. When the number of policies is fewer than expected, returns around the filing date confirm (i.e., are in the same direction as) the earnings announcement date returns. There were many simultaneous regulatory changes in the period we study. Therefore, while CAPs are correlated with information that affects pricing, they may not be the only source of this information. Our tests are designed to minimize this concern by (a) examining only the “unexpected” portion that is revealed by critical policies in the multiple tests and (b) in the reversal tests, using a short window around the first 10-K filing in which the CAP disclosure is made, ensuring that it has not been preempted by SOX disclosure and controlling for other changes in that filing.

Taken together, our results provide quantitative responses to the inquiries made in the SEC proposal, as well as insights into the use of the critical accounting policy section as a means of (i) providing information and (ii) providing safe harbor protection for information.

Appendix

Data Collection Details

We begin the computer-aided search by matching on the section within the Management Discussion and Analysis Section labeled “Critical Accounting Policies” or

“Critical Accounting Estimates.” We extract and write to a file the critical accounting policy sections for 4,937 firms.²⁹ We code the critical accounting policy sections, using the taxonomy of disclosure categories and key words in the Appendix; we rarely can capture all related disclosures with a single keyword. For example, consider the two excerpts below from disclosures related to the valuation of accounts receivable.

DISCLOSURE #1

Allowance for Doubtful Accounts. The Company evaluates the collectibility of accounts receivable based on numerous factors, including past transaction history with particular customers and their creditworthiness. Initially, the Company estimates an allowance for doubtful accounts as a percentage of net sales based on historical bad debt experience.

DISCLOSURE #2

Valuation of Receivables. We are subject to tenant defaults and bankruptcies at our office and retail properties that could affect the collection of outstanding receivables. In order to mitigate these risks, we perform credit review and analysis on all commercial tenants and significant leases before they are executed. We evaluate the collectibility of outstanding receivables and record allowances as appropriate.

Searching on the string *allowance for doubtful accounts*, identifies disclosure #1, but not #2. Thus, we extend the search to include the terms *valuation of receivables*, *accounts receivable*, *bad debt expense* and others. If the search process finds the keywords associated with a specific policy (and/or account), we assign a 1 (i.e., the policy is critical) to an indicator for that policy; otherwise we assign a 0 (i.e., the policy is not critical). We do not believe that omissions in our keyword lists or inclusions of

²⁹ We conduct all of our analyses using the firms with critical sections. We may be systematically excluding firms that are not complying with the rules or firms that genuinely believe they do not have critical policies (i.e., they have an electronic 10-K, but no critical section). The latter is less likely, because firms can (and some do) include a critical accounting policy section and state “we do not have any critical policies.” If non-compliance firms are systematically more (or less) likely to have particular policies be critical, excluding them would bias against finding differences in the firms we do include.

unrelated disclosures lead to systematic errors, and such errors reduce the likelihood that we find differences across groups of disclosers and non-disclosers.³⁰

Table 10 presents the classification scheme for coding critical accounting policy disclosures.

Comparison of Disclosures: Critical Section vs. Footnote

3M's Critical Accounting Policy Section

Potential Asset Impairment Issues:

Management makes estimates and assumptions in preparing the consolidated financial statements for which actual results will emerge over long periods of time. This includes the recoverability of long-lived assets employed in the business, including assets of acquired businesses. These estimates and assumptions are closely monitored by management and periodically adjusted as circumstances warrant. For instance, expected asset lives may be shortened or an impairment recorded based on a change in the expected use of the asset or performance of the related business reporting unit. Although there is greater risk with respect to the accuracy of these long-term estimates and assumptions because of the long period over which actual results will emerge, such risk is mitigated by management's ability to make changes in these estimates and assumptions over the same long period. 3M has approximately \$2.4 billion of goodwill that, based on impairment testing, is not impaired. A portion of this goodwill (approximately \$300 million) is in 3M's telecommunications business, which the Company believes will maintain its value. However, if unanticipated events impact this sector for an extended period of time, it could create future impairment losses.

Footnote Disclosure

Property, plant and equipment amounts are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset (asset group) may not be recoverable. An impairment loss would be recognized when the carrying amount of an asset exceeds the estimated undiscounted future cash flows expected to result from the use of the asset and its eventual disposition. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. Indefinite-lived intangible assets are tested for impairment annually, and will be tested for impairment between annual tests if an event occurs or circumstances change that would indicate that the carrying amount may be impaired. Intangible assets with a definite life are tested for

³⁰ In our coding process, we classify a firm as a discloser or not. There may be different degrees of disclosure quality, but that is not the focus of this analysis.

impairment whenever events or circumstances indicate that a carrying amount of an asset (asset group) may not be recoverable. The Company has determined that no material impairments existed as of December 31, 2004. An impairment loss is recognized when the carrying amount of an asset exceeds the estimated undiscounted cash flows used in determining the fair value of the asset. The amount of the impairment loss to be recorded is calculated by the excess of the asset's carrying value over its fair value. Fair value is generally determined using a discounted cash flow analysis. Costs related to internally developed intangible assets are expensed as incurred.

Litigation Risk Measurement

We estimate the *ex ante* litigation risk of the firm using Equation 10

$$\Pr(\text{Litigation}_i = 1) = G(\alpha + \beta_1 MVE_i + \beta_2 \text{Beta}_i + \beta_3 \text{Return}_i + \beta_4 \text{Skewness}_i + \beta_5 \text{Turnover}_i + \beta_6 \text{Leverage}_i + \beta_7 \text{Financing}_i) \quad (10)$$

where *litigation*=1 if the Securities Class Action Clearinghouse listed the firm as a defendant in a class action lawsuit in either 2001 or 2002 and 0 otherwise. The model is estimated with 187 “sued” firms and 2,570 firms that were not involved in a suit. *MVE* is the market value of equity, determined on the first day of 2001, *Beta* is the slope coefficient from a model regressing daily returns on the equal weighted market index in the calendar year 2001, *Skewness* is the skewness of daily raw returns in calendar year 2001, *Turnover* is $[1-(1-\text{Turn})^{252}]$ where $\Pr(\text{Litigation}_i = 1) = G(\alpha + \beta_1 MVE_i + \beta_2 \text{Beta}_i + \beta_3 \text{Return}_i + \beta_4 \text{Skewness}_i + \beta_5 \text{Turnover}_i + \beta_6 \text{Leverage}_i + \beta_7 \text{Financing}_i)$ (8) is the average of daily trading volume divided by shares outstanding and 252 is the number of trading days in 2001, *Leverage* is measured as Debt/Equity at the beginning of 2001, and *Financing* is a dummy variable equal to 1 if the firm issued debt or equity in 2001-2002. Parameter estimates are in Table 11.

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Table 1: Descriptive Statistics

Panel A: Disclosure Decisions, by Disclosure

	Variable Name	# Disclosing	% Disclosing
Critical Policy			
Accounts Receivable	ACCTREC	2,508	50.80%
Asset Impairment	IMPAIR	2,867	58.07%
Asset Retirement Obligation	RETIRE	268	5.42%
Compensation	COMP	1,459	29.55%
Consolidation	CONSOL	294	5.95%
Contingencies	CONTING	3,254	65.91%
Contractual Arrangements	CONTRACT	182	3.68%
Depreciation of Long-Lived Assets	DEPREC	1,179	23.88%
Hedging	HEDGE	673	13.63%
Intangible Assets	INTANG	2,659	53.85%
Inventory	INVENT	1,381	27.97%
Leasing	LEASE	1,529	30.97%
Loss Reserves	LOSSRES	1,223	24.77%
Marketable Securities	MKTSEC	3,313	67.10%
Oil and Gas	OAG	169	3.42%
Pension and Post Retirement Benefits	PENSION	857	17.35%
Regulatory Accounting	REGULATE	658	13.32%
Restructuring	RESTRUCT	361	7.31%
Revenue Recognition	REVREC	2,727	55.23%
Sales Returns and Rebates	RETREB	570	11.54%
Software	SOFTWARE	271	5.48%
Special Purpose Entities	SPE	42	0.85%
Taxes	TAXES	2,722	55.13%
Warranties	WARRANT	733	14.84%

Panel B: Disclosure Decisions, by Number of Disclosures

Total Caps (of 25)	# Firms
0	1,090/44
1	160
2	230
3	362
4	504
5	529
6	680
7	665
8	560
9	473
10	326
11	192
12	122
13	57
14	18
15	11
16	2
17	2

Panel A presents descriptive statistics for all firms with a machine readable, electronic 1-0-K filing and a critical accounting policy section (N=4,397). In Panel B, including firms with no CAP section but an electronic 10-K: Median = 6; Mean = 5.33; Total sample size: 5,984. Excluding firms with no CAP section: Median = 6, Mean = 6.46; Total sample size: 4,937.

Table 2: Top 3 Critical Disclosures, by Industry

<u>NAICS</u>	<u>INDUSTRY</u>	<u>AVG</u> <u>CAPS</u>	<u>MOST FREQUENTLY DISCLOSED</u>		
			<u>1ST</u>	<u>2ND</u>	<u>3RD</u>
21	Mining N = 118	7.47	MKTSEC 0.75	DEPREC 0.75	TAXES 0.69
22	Utilities N = 105	7.73	REGULAT 0.88	MKTSEC 0.82	PENSION 0.77
23	Construction N = 48	6.33	CONTING 0.79	MKTSEC 0.75	REVREC 0.71
31	Manufacturing N = 135	6.78	ACCTREC 0.72	TAXES 0.70	CONTING 0.67
32	Manufacturing N = 447	6.21	MKTSEC 0.66	CONTING 0.65	REVREC 0.65
33	Manufacturing N = 988	7.74	REVREC 0.74	CONTING 0.74	ACCTREC 0.74
42	Wholesale Trade N = 142	7.20	ACCTREC 0.82	CONTING 0.72	INTANG 0.72
44	Retail Trade N = 108	6.73	CONTING 0.80	IMPAIR 0.75	MKTSEC 0.62
45	Retail Trade N = 75	6.65	CONTING 0.73	INVENT 0.68	IMPAIR 0.67
48	Transportation N = 89	6.46	CONTING 0.85	IMPAIR 0.67	MKTSEC 0.64
51	Information N = 470	7.61	REVREC 0.85	MKTSEC 0.80	INTANG 0.77
52	Finance/Insurance N = 570	4.84	MKTSEC 0.71	LOSSRES 0.63	CONTING 0.53
53	Real Estate/Leasing N = 76	5.70	MKTSEC 0.67	CONTING 0.66	REVREC 0.55
54	Professional/Scientific N = 214	6.84	REVREC 0.90	MKTSEC 0.72	ACCTREC 0.72
56	Administrative/Support N = 100	6.92	CONTING 0.76	INTANG 0.76	ACCTREC 0.75
62	Health Care N = 85	6.45	ACCTREC 0.85	CONTING 0.76	INTANG 0.75
72	Accommodations/Food Services N = 85	6.25	IMPAIR 0.89	CONTING 0.81	MKTSEC 0.68

Industry titles based on 2-digit NAICS code. Table includes industries in sample with at least 30 members. Values show percent of firms within industry reporting the policy as critical.

Table 3. Critical Accounting Policies and Firm Characteristics

Variable	Number of Critical Accounting Policies						ρ
	<u>1-2</u>	<u>3-4</u>	<u>5-6</u>	<u>7-8</u>	<u>9-10</u>	<u>≥ 10</u>	
ln (Assets)	5.11	5.13	5.46	5.68	6.07	6.45	0.20
ln(Sales)	3.92	4.23	4.94	5.33	5.72	6.17	0.30
ln(<i>MVE</i>)	4.32	4.58	4.98	5.35	5.83	6.35	0.26
Book to Market (<i>BTM</i>)	0.86	0.82	0.82	0.80	0.74	0.62	-0.06
Net Income	16.30	20.30	35.82	44.08	46.60	63.85	0.07
LT Debt/Total Assets	0.18	0.16	0.20	0.21	0.19	0.20	0.04
Return on Equity (<i>ROE</i>)	-0.10	-0.13	-0.06	-0.06	-0.02	0.03	0.07
Price/Earnings	5.18	4.34	9.15	10.76	12.15	12.96	0.07
# Business Segments	1.64	1.85	2.03	2.18	2.36	2.61	0.16
# Geographic Segments	1.38	1.78	2.17	2.51	2.86	3.25	0.26
Analyst Following	1.81	1.95	2.75	3.44	4.16	5.01	0.17
Institutional Holding	47.77	53.46	63.25	66.73	71.76	76.18	0.23

Values in this table are the means, by number of critical policies, of size related variables. The first three size variables are the natural logarithm of assets, sales and the market value of equity. *BTM* is the accounting book value of equity divided by the market value of equity, *ROE* is measured as net income divided by total shareholders' equity. Analyst following is the 4-quarter average number of analysts following the firm in 2001. Institutional holding is the percentage of the firm held by institutions. Correlations of the size variable with the number of critical policies are given in the last column.

Table 4: Balance Sheet Account Percentiles, Magnitudes and Variability

POLICY		3-YEAR MEAN				10-YEAR VARIANCE			
<u>[MEASURE]</u>		<u>25%</u>	<u>50%</u>	<u>75%</u>	<u>MEAN</u>	<u>25%</u>	<u>50%</u>	<u>75%</u>	<u>MEAN</u>
ACCTREC	0	0.027	0.074	0.155	0.106	0.000	0.001	0.003	0.004
[REC/TA]	1	0.090	0.165	0.243	0.182	0.001	0.002	0.007	0.007
N=1389:2146	Diff (0-1)				(0.00)				(0.00)
DEPREC	0	0.080	0.161	0.315	0.227	0.001	0.002	0.007	0.007
[PPE/TA]	1	0.185	0.381	0.642	0.415	0.001	0.003	0.011	0.010
N=2633:738	Diff (0-1)				(0.00)				(0.00)
INTANG	0	0.000	0.000	0.023	0.034	0.000	0.000	0.001	0.003
[INT/TA]	1	0.036	0.119	0.257	0.174	0.000	0.003	0.011	0.011
N=1561:2163	Diff (0-1)				(0.00)				(0.00)
INVENT	0	0.000	0.013	0.082	0.067	0.000	0.000	0.001	0.002
[INV/TA]	1	0.097	0.171	0.279	0.201	0.001	0.002	0.005	0.004
N=2086:1267	Diff (0-1)				(0.00)				(0.00)
LEASES	0	0.000	0.000	0.069	0.154	0.000	0.000	0.025	1.516
[CAPLSE/LTD]	1	0.000	0.001	0.175	0.201	0.000	0.002	0.096	0.162
N=2109:974	Diff (0-1)				(0.02)				(0.36)
MKTSEC	0	0.070	0.262	0.577	0.345	0.003	0.013	0.035	0.026
[MSEC/TA]	1	0.093	0.278	0.617	0.362	0.004	0.014	0.038	0.027
N=1118:2218	Diff (0-1)				(0.13)				(0.23)
PENSION	0	0.000	0.002	0.004	0.004	0.000	0.000	0.000	0.003
[PEXP/TA]	1	0.000	0.003	0.007	0.004	0.000	0.000	0.000	0.000
N=2501:679	Diff (0-1)				(0.98)				(0.58)
REVREC	0	0.047	0.108	0.186	0.132	0.000	0.001	0.002	0.003
[REC/TA]	1	0.073	0.151	0.236	0.170	0.001	0.002	0.008	0.007
N=1096:2197	Diff (0-1)				(0.00)				(0.00)
TAXES	0	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001
[DT/TA]	1	-0.004	0.000	0.002	-0.001	0.000	0.000	0.000	0.001
N=1595:2364	Diff (0-1)				(0.00)				(0.60)

Variable Definitions: CAP= Critical Accounting Policy, Variable= Account linked to CAP; CAP= 1 if critical; 0 otherwise; AR= Accounts Receivable; TA= Total Assets; PPE = Net Property Plant and Equipment; INT= Intangibles; INV= Inventory; LTD= Long term debt; DTA=0 if deferred tax asset and 1 otherwise; CAPLSE= Capitalized Lease Obligations; PEXP=Pension Expense; MSEC= Marketable Securities. We provide tests for the differences in means of the individual firm 3-year means measured over the period 1999-2001 and 10-year variances measured over the period 1992-2001. We also provide the 25th, 50th, and 75th percentiles of the 3-year means and 10-year variances. Values in parentheses are p-values for differences in means. Number of observations in each subgroup given as 0:1 below the variable definition.

Table 5. Accrual Quality and CAP Disclosures

Panel A. Receivable and Inventory Disclosures and Accrual Quality

<u>NCAPS</u>	Average <u>sresid</u>	Stdev <u>sresid</u>	<u> \Delta WC_t </u>	<u>N</u>
0	0.035	0.032	0.047	732
1	0.040	0.031	0.055	967
2	0.047	0.032	0.063	775
Difference	0-1	1-2	0-2	
	-0.005	-0.006	-0.011	
	(-3.05)	(-4.25)	(-6.74)	

Panel B: Accrual Quality Quintiles and CAP Disclosures

<u>Quintile</u>	<u>Std. Resid</u>	<u> \Delta WC_t </u>	<u>% AR</u>	<u>% INV</u>	<u>AR+INV</u>	<u>N</u>
1	0.011	0.025	0.482	0.206	0.688	494
2	0.020	0.037	0.590	0.408	0.998	495
3	0.031	0.047	0.632	0.461	1.093	495
4	0.048	0.065	0.687	0.479	1.166	495
5	0.094	0.100	0.671	0.471	1.141	495
Diff	1-4	1-5	2-4	2-5		
	-0.477	-0.453	-0.168	-0.143		
	(-10.14)	(-9.53)	(-3.44)	(-2.91)		

Variable Definitions: NCAPS = 0 (NCAPS = 1) ((NCAPS = 2)) if neither (one) ((both)) receivables and/or inventory is critical; sresid is the measure of accrual quality, taking the standard deviation of the residuals from a regression of the changes in working capital (ΔWC) on lag, current and lead cash flows. %AR and %INV are the percentage of firms disclosing as critical receivables and inventory, respectively; AR + INV simply sums these two values.

Table 6: Voluntary Disclosure Explanations for Critical Designation

$$CAP = \sum_d \alpha_d IND_d + \beta_1 PLIT + \beta_2 FIN + \beta_3 CORR + \beta_4 HMEAN + \beta_5 HVAR + \sum_n \gamma_n C_n$$

	H1a	H1b	H1c		
<u>Critical Policy</u>	<u>PLIT</u>	<u>FINAVG</u>	<u>CORR</u>	<u>HMEAN</u>	<u>HVAR</u>
ACCT REC	2.574	0.681	0.641	3.039	6.326
697/1238	(0.00)	(0.05)	(0.00)	(0.00)	(0.22)
DEPRECIATION	-0.483	-0.182	0.416	2.042	10.178
1420/397	(0.62)	(0.65)	(0.10)	(0.00)	(0.03)
INTANGIBLES	1.144	0.458	0.141	1.032	5.541
704/1145	(0.00)	(0.28)	(0.00)	(0.00)	(0.00)
INVENTORY	3.245	0.290	0.879	3.273	-1.728
1198/787	(0.00)	(0.51)	(0.00)	(0.00)	(0.82)
LEASES	3.348	-0.626	0.221	-0.037	0.062
1075/530	(0.00)	(0.24)	(0.08)	(0.84)	(0.26)
MKT SECURITIES	4.440	0.061	0.079	-0.455	-0.576
565/1225	(0.00)	(0.88)	(0.61)	(0.15)	(0.78)
PENSION	-2.160	0.199		0.269	-0.146
166/293	(0.20)	(0.62)		(0.00)	(0.07)
REVENUE REC	6.930	0.492		1.467	12.109
624/1294	(0.00)	-(0.14)		(0.01)	(0.06)
TAXES	0.977	0.201		14.749	0.000
660.1270	(0.05)	(0.30)		(0.73)	(0.50)
CONTING	0.476	-0.119			
553/1445	(0.32)	(0.55)			
IMPAIRMENT	1.320	0.245			
712/1286	(0.00)	(0.19)			
RESTRUCTURING	4.171	0.231			
1770/229	(0.00)	(0.46)			
RETURNS/REBATES	1.846	0.248			
1670/329	(0.00)	(0.00)			
WARRANTY	1.678	-0.209			
1555/443	(0.00)	(0.41)			

The models are estimated separately for each policy j with industry fixed effects and the controls described previously; p-values are in parentheses. For critical policies without related balance sheet accounts, the variables *HMEAN* and *HVAR* are omitted. *CORR* is included for those critical policies with related accounts that contribute to total assets. Numbers below policy are Firms with $CAP=0$ /Firms with $CAP=1$. C is the vector of control variables for size, growth, performance, investor interest, complexity and reporting risk. χ^2 is significant at $p < 0.01$ for each model.

Table 7: Predicting Absolute Changes and Levels of Post-Disclosure Account Balance

MODEL 1:

$$|FMEAN_j - HMEAN_j| = \sum_d \alpha_d IND_{dj} + \beta_1 CAP_j + \beta_2 HVAR_j + \beta_3 PLIT_j + \sum_n \gamma_n C_n$$

MODEL 2:

$$FMEAN_j = \sum_d \alpha_d IND_{dj} + b_1 CAP_j + b_2 HMEAN_j + b_3 HVAR_j + b_4 PLIT_j + \sum_n g_n C_n$$

	MODEL 1				MODEL 2					
	<u>CAP</u>	<u>HVAR</u>	<u>PLIT</u>	<u>ADJ R²</u>	<u>CAP</u>	<u>HMEAN</u>	<u>HVAR</u>	<u>PLIT</u>	<u>ADJ R²</u>	<u>N</u>
ACCTREC	0.006 (0.00)	0.649 (0.00)	0.016 (0.16)	9.5%	0.004 (0.07)	0.826 (0.00)	-0.159 (0.08)	-0.058 (0.00)	82.0%	2,450
DEPREC	0.003 (0.17)	1.020 (0.00)	-0.022 (0.09)	8.8%	0.006 (0.07)	0.914 (0.00)	0.076 (0.59)	0.006 (0.40)	92.6%	2,321
INTANG	0.033 (0.00)	0.797 (0.00)	0.113 (0.00)	24.4%	0.042 (0.00)	0.833 (0.00)	-0.312 (0.00)	0.055 (0.02)	75.7%	2,530
INVENT	0.009 (0.00)	1.350 (0.00)	-0.011 (0.18)	24.7%	0.005 (0.01)	0.866 (0.00)	0.078 (0.41)	-0.034 (0.00)	92.3%	2,710
LEASES	0.014 (0.27)	0.112 (0.00)	0.284 (0.00)	12.6%	-0.002 (0.85)	0.614 (0.00)	0.099 (0.26)	-0.058 (0.00)	41.1%	1,983
MKTSEC	-0.004 (0.32)	0.470 (0.00)	-0.015 (0.51)	4.7%	-0.011 (0.03)	0.827 (0.00)	0.000 (0.65)	0.191 (0.00)	86.3%	2,288
PENSION	0.002 (0.00)	0.001 (0.57)	-0.008 (0.00)	2.2%	0.004 (0.00)	0.378 (0.00)	0.000 (0.77)	-0.008 (0.00)	56.3%	2,157
REVREC	0.003 (0.11)	0.651 (0.00)	0.014 (0.23)	9.2%	0.001 (0.61)	0.829 (0.00)	-0.160 (0.08)	-0.058 (0.00)	81.9%	2,450
TAXES	0.005 (0.00)	0.354 (0.00)	-0.005 (0.40)	4.3%	0.002 (0.03)	0.361 (0.00)	0.005 (0.41)	-0.193 (0.00)	10.4%	1,983

In Model 1, the dependent variable is the absolute change in the mean account measure ($|FMEAN - HMEAN|$) with analysis presented for each policy j . In Model 2, the dependent variable is the 3 year post-disclosure mean account measure ($FMEAN$) of policy j . The coefficients for industry fixed effects and other controls (for size, complexity, growth) are untabulated. p-values are in parentheses.

Table 8. Earnings and Book Value Multiples Pre- and Post-Disclosure

Model 1:

$$P = \sum_d \alpha_d IND_d + \beta_1 NI + \beta_2 BV + \beta_3 GROWTH + \beta_4 AQ$$

	<u>LOW</u>			<u>NO</u>			<u>HIGH</u>		
	<u>PRE</u>	<u>POST</u>	<u>POST</u>	<u>PRE</u>	<u>POST</u>	<u>POST</u>	<u>PRE</u>	<u>POST</u>	<u>POST</u>
		<u>SOX=0</u>	<u>SOX=1</u>		<u>SOX=0</u>	<u>SOX=1</u>		<u>SOX=0</u>	<u>SOX=1</u>
<i>NI</i>	14.204	14.351	12.905	13.842	12.040	6.641	18.028	6.031	0.025
	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.17)	(0.00)	(0.00)	(0.95)
<i>BV</i>	1.268	0.705	0.591	0.862	0.794	1.898	0.143	1.203	4.081
	(0.00)	(0.00)	(0.32)	(0.00)	(0.00)	(0.03)	(0.59)	(0.00)	(0.00)
Δ in Δ : <i>NI</i>		-1.950	-5.903					10.196	10.802
		(0.26)	(0.05)					(0.00)	(0.02)
Δ in Δ : <i>BV</i>		0.495	1.713					-1.128	-2.901
		(0.40)	(0.11)					(0.00)	(0.01)

Model 2:

$$P = \sum_d \alpha_d IND_d + \beta_1 ACC + \beta_2 CFO + \beta_3 BV + \beta_4 GROWTH + \beta_5 AQ$$

	<u>LOW</u>			<u>NO</u>			<u>HIGH</u>		
	<u>PRE</u>	<u>POST</u>	<u>POST</u>	<u>PRE</u>	<u>POST</u>	<u>POST</u>	<u>PRE</u>	<u>POST</u>	<u>POST</u>
		<u>SOX=0</u>	<u>SOX=1</u>		<u>SOX=0</u>	<u>SOX=1</u>		<u>SOX=0</u>	<u>SOX=1</u>
<i>ACC</i>	15.764	15.621	9.322	13.752	12.604	5.109	19.750	6.013	0.208
	(0.00)	(0.00)	(0.11)	(0.00)	(0.00)	(0.50)	(0.00)	(0.00)	(0.63)
<i>CFO</i>	14.038	15.104	10.344	14.438	13.391	5.722	21.278	6.047	11.349
	(0.00)	(0.00)	(0.32)	(0.00)	(0.00)	(0.35)	(0.00)	(0.00)	(0.02)
Δ in Δ : <i>ACC</i>		-1.005	-2.201					12.588	10.899
		(0.61)	(0.01)					(0.00)	(0.01)
Δ in Δ : <i>CFO</i>		-2.113	-5.023					14.184	1.213
		(0.82)	(0.06)					(0.16)	(0.76)

This table presents the estimates of an OLS stacked regression, with coefficients varying across periods, surprise and SOX effectiveness. Pre-disclosure period is 1996-2000; post-disclosure period is 2003-2006. HIGH(LOW)[NO] are firms with more (fewer) [within 1] CAP(s) of the predicted amount determined by Equation 3; *NI* is net income; *CFO* is cash flow from operations, *ACC* is the accrual component of income or *NI - CFO*; *BV* is common equity; *GROWTH* is measured as the percentage change in sales and *AQ* is an indicator variable for accounting quality. The differences presented are relative to the no surprise benchmark for each *SOX* classification. Coefficients on *GROWTH* and *AQ* are insignificant for all period/surprise combinations and are omitted. Values in parentheses are p-values for significance. Estimated coefficients loss firm-year coefficients are untabulated. In MODEL 1, the difference in differences is computed as $\beta_n(\text{PRE}; \text{SURP}) - \beta_n(\text{POST}; \text{SURP}; \text{SOX}) - (\beta_n(\text{PRE}; \text{NO}) - \beta_n(\text{POST}; \text{NO}; \text{SOX}))$, where $n \in \{1, 2\}$ SURP $\in \{\text{LOW}, \text{HIGH}\}$ and $\text{SOX} \in \{0, 1\}$. For MODEL 2, $b_n(\text{PRE}; \text{SURP}) - b_n(\text{POST}; \text{SURP}; \text{SOX}) - (b_n(\text{PRE}; \text{NO}) - b_n(\text{POST}; \text{NO}; \text{SOX}))$, where $n \in \{1, 2\}$ SURP $\in \{\text{LOW}, \text{HIGH}\}$ and $\text{SOX} \in \{0, 1\}$.

Table 9. Incremental Information: Reactions around 10-K Filing Dates

$$\text{MODEL 1: } R^{FD} = \alpha + \beta_1 UD + \beta_2 R^{EA} + \beta_3 UD * \text{SIGN}(R^{EA}) + \beta_4 \Delta RS$$

$$\text{MODEL 2: } R_s^{FD} = a_s + b_{1s} R^{EA} + b_{2s} \Delta RS$$

$$\text{MODEL 3: } R_p^{FD} = a_p + b_{1p} UD + b_{2p} R^{EA} + b_{3p} \Delta RS$$

	<u>MODEL 1</u>	<u>MODEL 2</u>			<u>MODEL 3</u>	
		<u>LOW</u>	<u>NO</u>	<u>HIGH</u>	<u>R^{EA}(-)</u>	<u>R^{EA}(+)</u>
Intercept	-0.116 (0.00)	-0.111 (0.03)	-0.085 (0.08)	-0.161 (0.01)	0.131 (0.05)	0.019 (0.75)
<i>UD</i>	0.036 (0.03)				0.038 (0.03)	-0.039 (0.01)
<i>R^{EA}</i>	0.016 (.16)	0.022 (0.24)	0.038 (0.03)	-0.027 (0.16)	0.036 (0.13)	-0.017 (0.44)
<i>UD*SIGN(R^{EA})</i>	-0.076 (0.00)					
<i>ΔRS</i>	0.028 (0.71)	-0.057 (0.66)	0.073 (0.51)	0.080 (0.59)	0.220 (0.02)	-0.028 (0.01)
<i>Δ(COL-NO)</i>		-0.016 (0.53)		0.065 (0.01)		
R ²	0.01		0.01			0.01
Num of obs.	1,766		2,001			1,774

This table examines whether CAP surprises (measured around the filing date of the first 10-K that contains CAPs) are related to investors' initial reaction to earnings news (measured on earnings announcement date immediately prior). *UD* is the unexpected disclosure, calculated as the difference between actual and predicted (using Equation 3) total CAPs. Model 2 is a stacked regression in which separate coefficients are estimated for $UD \in \{\text{HIGH}, \text{LOW}, \text{NO}\}$, for comparison with the multiples results. Model 3 estimates separate coefficients for positive and negative earnings announcement returns. $R^{FD}(R^{EA})$ measures three day returns around the filing (earnings announcement) date; $\text{SIGN}(R^{EA})$ is the sign of the earnings announcement date returns and ΔRS is the change in risk sentiment. Firms are eliminated if their CAP disclosure is preceded or accompanied by a SOX deficiency disclosure. Differences are between column surprise and NO surprise.

Table 10: Disclosure Key Words and Classifications

<p>Allocation across Bundle</p> <ul style="list-style-type: none"> Contracts with multiple elements Purchase price allocation <p>Compensation</p> <ul style="list-style-type: none"> Employee stock options Executive compensation Stock based compensation Variable compensation <p>Consolidation</p> <ul style="list-style-type: none"> Consolidation <p>Contingencies</p> <ul style="list-style-type: none"> Claims Commitments Contingencies Contingent Liabilities Environmental Environmental Reserves Estimates from counsel Legal Contingencies Legal proceedings Litigation Litigation contingencies <p>Contracts</p> <ul style="list-style-type: none"> Contractual agreements Contractual commitments Financial guarantees <p>Deferred Taxes</p> <ul style="list-style-type: none"> Deferred Tax Assets Deferred Tax Liabilities Deferred Taxes Income Taxes Tax Valuation Allowances <p>Depreciation</p> <ul style="list-style-type: none"> Amortization Depletion Depreciable Lives of Plant and Equipment Depreciation Valuation of long-lived assets <p>Fresh Start Accounting</p> <ul style="list-style-type: none"> Fresh start accounting Fresh start reporting 	<p>Hedging</p> <ul style="list-style-type: none"> Accounting for Derivative Instruments Derivative instruments Hedging Activities Interest rate swap Risk Management Activities <p>Impairment</p> <ul style="list-style-type: none"> Asset Impairment Asset Impairment Determinations Asset Impairments Impairment of Assets Long-Lived Asset Impairments Recoverability of long-lived assets <p>Intangible Assets</p> <ul style="list-style-type: none"> Brand names Goodwill Impairment of goodwill Intangible Assets Recoverability of goodwill Trade names Trademarks Valuation of Intangible Assets <p>Inventory</p> <ul style="list-style-type: none"> Inventories Inventory Inventory Costing Inventory Obsolescence Inventory Reserve Inventory Valuation Obsolete Inventory Surplus inventory <p>Investments</p> <ul style="list-style-type: none"> Fair Value Accounting Forward Futures contracts Marketable securities Spot Valuation of positions <p>Leases</p> <ul style="list-style-type: none"> Equipment on or Available for Lease Lease Lease operating expenses Valuation of Purchased Leases and Contracts
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<ul style="list-style-type: none"> Long term revenue contracts <ul style="list-style-type: none"> Installment Percentage of Completion Loss Reserves <ul style="list-style-type: none"> Allowance for credit losses Allowance for loan losses Loss adjustment expenses Reserves for losses Oil and Gas Accounting <ul style="list-style-type: none"> Full Cost Oil and Gas Reserve Estimate Successful Efforts Post Retirement/Pension <ul style="list-style-type: none"> Accrued pension cost Employee benefit plans Pension Pension and Post-Employment Benefits Pension costs Post Retirement Post-Employment Post-Retirement Rebates <ul style="list-style-type: none"> Cash rebates Promotional allowance Sales Rebates Receivables <ul style="list-style-type: none"> Accounts receivable Allowance For Collection Losses Allowance for Doubtful Accounts Allowance for Receivables Allowance for Uncollectible Accounts Bad Debt Bad Debt Expense Bad Debt Risk Collectibility Pool of receivables 	<ul style="list-style-type: none"> Regulation <ul style="list-style-type: none"> Rate regulation Regulatory accounting Restructuring <ul style="list-style-type: none"> Restructuring Allowance Restructuring Charges Retirement <ul style="list-style-type: none"> Asset retirement obligations Returns <ul style="list-style-type: none"> Allowance for returns Returns and Allowances Revenue Reserves Sales Returns Revenue Recognition <ul style="list-style-type: none"> Revenue Revenue Recognition Software <ul style="list-style-type: none"> Capitalized software development costs Software development costs SPE, VIE <ul style="list-style-type: none"> Special purpose entity Variable interest entity Warranties <ul style="list-style-type: none"> Product Warranty Product Warranty Reserves Warranties Warranty Cost
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Table 11. Probit Estimation of *Ex Ante* Litigation Risk (N = 2702)

$$\Pr(\textit{Litigation} = 1)$$

$$= G(\alpha + \beta_1 MVE_i + \beta_2 Beta_i + \beta_3 Return_i + \beta_4 Skewness_i + \beta_5 Turnover_i + \beta_6 Leverage_i + \beta_7 Financing_i)$$

	<u>Coefficient Estimates</u>	<u>p-value</u>
Intercept	-3.191	(0.00)
<i>MVE</i>	0.000	(0.00)
<i>Beta</i>	0.286	(0.00)
<i>Return</i>	0.040	(0.65)
<i>Skewness</i>	0.124	(0.05)
<i>Turnover</i>	1.075	(0.00)
<i>Leverage</i>	0.018	(0.75)
<i>Financing</i>	0.607	(0.01)

Variable definitions: *Litigation*=1 if the Securities Class Action Clearinghouse listed the firm as a defendant in a class action lawsuit in either 2001 or 2002 and 0 otherwise. The model is estimated with 187 “sued” firms and 2570 firms that were not involved in a suit. *MVE* is the market value of equity, determined on the first day of 2001, *Beta* is the slope coefficient from a model regressing daily returns on the equal weighted market index in the calendar year 2001, *Skewness* is the skewness of daily raw returns in calendar year 2001, *Turnover* is $[1 - (1 - Turn)^{252}]$ where *Turn* is the average of daily trading volume divided by shares outstanding and 252 is the number of trading days in 2001, *Leverage* is measured as Debt/Equity at the beginning of 2001, and *Financing* is a dummy variable equal to 1 if the firm issued debt or equity in 2001-2002.