

The Association between the Expanded Audit Report and Financial Reporting Quality

Daniel Bens
INSEAD
daniel.bens@insead.edu

Woo-Jin Chang
HEC
chang@hec.fr

Sterling Huang
Singapore Management University
shuang@smu.edu.sg

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Abstract

In this paper we examine the usefulness of changes in the form of the external audit report utilizing a regulatory change in the UK – the adoption of ISA 700 in 2013 – as a quasi-experiment. ISA 700 requires external auditors to disclose (1) materiality levels; and (2) critical areas of heightened audit risk – referred to as Key Audit Matters (KAMs). We predict that the adoption of this new rule in the UK leads to audit reports that are perceived as more useful by stock market participants. Consistent with our predictions, at the time an annual report is filed, we document declines in the bid-ask spread as well as the dispersion in earnings forecasts by security analysts, and these declines are greater during the period with the new audit reporting standard. These declines occur in the UK firms subject to the new regulation, and obtain when we compare the UK firms to other non-adapting firms in the same country via a difference in difference analysis. In addition, we find that financial reporting quality appears to improve in the new regime via: higher ERCs; lower discretionary accruals; a higher perception of earnings quality by an independent financial firm; fewer accounting restatements; and a higher likelihood of a going concern opinion. Overall, this paper utilizes an exogenous shock in the audit environment to identify a perceived value to an expanded audit opinion.

1. Introduction

The standard, one page, boilerplate audit report has become obsolete. The most significant change is that auditors are required to disclose “key audit matters” (KAMs) within the report. The International Auditing and Assurance Standards Board (IAASB) required that this format be used by global firms following IAASB standards beginning in 2016. In the US, the Public Company Accounting Standards Board (PCAOB) has mandated the disclosure of “critical audit matters” (CAMs) for large accelerated filers with fiscal dates ending on or after June 30, 2019.

The IAASB and PCAOB are motivated in part by investors’ complaints about the lack of utility in audit reports as historically written. On the academic side, there are also questions about the value of the boilerplate report. In their review of the literature, Church, Davis and McCracken (2008) state:

As for the auditor’s report, we conclude that it has symbolic value (i.e., it represents the auditor’s work), but that it provides little communicative value (i.e., it conveys little information) (p. 70)

Given the uniform style and language of audit opinions for the past several decades, accompanied by criticism questioning its usefulness as an information tool, we find it natural to ask: does an *expanded* audit report influence the perceived quality of financial reporting?

We address the question using the audit reporting change in the UK as a quasi-experimental setting, since this regime has been at the forefront of the profession’s transition in format of the opinion. In 2013 the UK’s Financial Reporting Council adopted *International Standard on Auditing (UK and Ireland) 700: The Independent Auditor’s Report on Financial Statements* (hereafter ISA 700). ISA 700 requires an expanded audit report, and thus allows us to assess whether a more transparent view of the audit process leads to a change in uncertainty assessments by stock market participants, as well as accounting practices by firms. We now have five years’ worth of data to examine the evolution of auditor/management practice over time.

We examine whether an external auditor’s report that contains more details about audit procedures, including materiality levels, alters financial reporting choices as well as perceptions of those choices by investors and analysts as captured by measures of uncertainty in the stock market. We examine the adoption of ISA 700 in the UK that mandates the audit report to include a point estimate of the materiality used by the auditor as well as the KAMs of focus during the audit.¹

Given the significant regulatory change, several concurrent research studies also address this topic. However, as detailed in Section 3, these studies have produced mixed and conflicting results. These papers examine the information content of the new audit reports (Gutierrez, Minutti-Meza, Tatum, and Vulcheva 2018; Lennox, Schmidt, and Thompson 2019), earnings capitalization into stock prices in a levels analysis (Amiram, Chircop, Landsman, and Peasnell 2017; Lennox et al.), or the effects on financial accounting choices such as accruals and earnings response coefficients (Gutierrez et al.; Reid, Carcello, Li, and Neal 2017). These papers have reached mixed – or even contradictory conclusions in the case of Gutierrez et al. and Reid et al. Because of their different conclusions, and the fact that we now have five years of data, we revisit the investor uncertainty measures. In addition, we focus specifically on mechanisms that might drive changes in investor uncertainty: perceived financial reporting quality captured in traditional empirical measures (e.g., discretionary accruals) as well as in terms of financial statement failures (e.g., restatements; regulator action; scandals in the financial press; and going concern opinions).

We first focus on two measures of uncertainty: (1) the bid-ask spread of a traded shares; and (2) the dispersion in analysts’ forecasts of earnings. We predict that following the adoption of ISA 700, the spread and dispersion estimates around the filing of the annual report should decline to a larger extent than they did around the annual report filings in the pre-ISA 700 era.

¹ Interestingly, only the UK standard includes the materiality disclosure.

Our research design includes both a difference-in-difference approach by comparing UK firms pre- vs. post-adoption to other UK listed firms (mainly AIM-listed) over the same period. We also exploit cross-sectional variation in the UK audit reports by examining the reported materiality thresholds as well as the number of KAMs identified.

Our results suggest that both the bid-ask spread and the dispersion in analysts' earnings forecasts decline around the filing of the annual report for the UK firms vis-à-vis the AIM sample. Interestingly, these results are reversed when the auditor flags an internal control weakness (ICW) as a KAM. In ICW cases, the bid-ask spread and analyst forecast dispersion increase following the filing of the annual report.

We also conduct cross-sectional analyses using only the sample of UK firms in the post-ISA 700 period. Our main focus is to test if the number of KAMs and materiality levels are associated with the uncertainty measures. The evidence does not suggest that the effects of ISA 700 on uncertainty vary with the number of KAMs or materiality level.

While bid-ask spread and analyst forecast dispersion capture uncertainty within the stock market that could be mitigated by investors' enhanced trust through improved audit reports, this association is still an indirect link. Therefore, we examine more direct measures of financial reporting quality and conjecture that if more attention is placed on the various KAMs and the materiality level identified by the auditor, then financial reporting quality – both in terms of perceptions by the market and actual accounting choices by managers – will change. We document an increase in the ERC for adopting firms. We also document a decline in discretionary accruals as well as the propensity for firms to just meet or beat analyst earnings forecasts in the post-ISA 700 period. In addition, we observe an increase in the assessment of earnings quality by a leading data services provider (Thomson Eikon). We also document a decline in earnings restatements, and an increased propensity for the auditors to use additional explanatory language in the opinion itself

– including both going concern alerts as well as emphasis on particular matters. However, in an examination of the post-ISA 700 period only we observe only a weak correlation between accounting scandals in the press or those identified by regulators with information contained in the KAMs. In addition, as with the uncertainty tests, we do not observe a consistent statistical association between the number of KAMs/materiality levels and the reporting quality outcomes.

Overall, we conclude that the expanded audit opinion mandated by ISA 700 is associated with a decline in investor uncertainty and an increase in financial reporting quality. Our results expand on concurrent research and should inform auditors and regulators around the world as they enact new models of auditor-investor communication. In addition, we identify some of the specific financial reporting mechanisms that suggest *why* there is a decline in uncertainty.

The rest of this paper proceeds as follows. We first discuss the institutional background in Section 2 and then in Section 3 detail the relevant literature with a focus on concurrent work. In Section 4 we formally pose our hypotheses and then present our statistical tests in Section 5. Section 6 concludes.

2. Institutional Background

A significant barrier to trade is the uncertainty by uninformed buyers in the quality of goods they wish to purchase; in the extreme, this can cause a market failure due to the fear of purchasing a “lemon” (Akerlof 1970). Yet as Akerlof notes in his seminal paper, institutions arise to mitigate the uncertainty allowing trade to occur.

In the capital markets, trade occurs both with the initial financing of enterprises as well as the subsequent trading of the securities. Early archival research in accounting including Ball and Brown (1968) and Beaver (1968) demonstrated that earnings information released by firms is

correlated with share prices, and thus communicates information from the relatively well informed managers to the relatively less informed investors.

Evidently, then, there are institutional forces that establish credibility in financial reporting. But what are these mechanisms? Several are endogenously determined within the economy, so addressing causal effects is a challenge. In many cases there are mandatory disclosure rules, and hence there will be little cross-sectional variation in the sample. Additionally, these mechanisms are often adopted as a bundle of institutional arrangements. A non-exhaustive list of such forces includes: litigation penalties; reputation risk; board of director oversight; variable compensation; deferred compensation; and, the subject of this paper, the external audit. Identifying the contribution of a particular mechanism requires an identification strategy to mitigate this endogeneity problem.

While external audits follow a well-accepted process in the raising of capital and subsequent communication with investors, the value of the current format has long been questioned. Prior to the financial crisis of 2008, the US Treasury commissioned a committee in 2007 to study the effectiveness of the audit profession (United States Treasury 2008). While that committee recommended an expansion of the audit opinion to include a discussion of KAMs (see recommendation 5 on p. VII: 13), the report to the Treasury notes that similar criticisms of the profession have emanated from different national task forces convening roughly every 10 years beginning in the 1970s (see p. V: 1-2). Similar to the inaction following those past task force recommendations, no substantive changes followed the 2008 report to the Treasury.

In the UK, the Financial Reporting Council (FRC) oversees the audit profession in its role as regulatory overseer of corporate governance. FRC criticism of the audit industry has focused on the lack of competition amongst auditors as detailed in the Oxera report (Oxera 2006). In the wake of the financial crisis, the FRC took a more active role in affecting change in the audit

communication process, with the result that the UK is an “early adopter” of expanded audit reports (Sanderson 2010).

Moreover, there is cross-sectional variation in how these changes are adopted by the external auditor. For example, ISA 700 requires that the auditor discloses its level of materiality used in the audit, but does not mandate what that level ought to be. Moreover, the standard requires the auditor to disclose the operations of the client that presented the greatest “assessed risk of material misstatement” – these are the KAMs. However, there is no minimum or maximum number of KAMs required to be disclosed, and the terms themselves are inherently subjective.

Despite FRC action to enhance audit quality, criticisms of the profession in the UK, and of the effectiveness of the FRC persist to the present. Following several financial scandals in the UK in 2018 (e.g., Carillion; British Home Stores; Patisserie Valerie) the government has proposed abandoning the FRC in favor of a new, stronger, regulator (Marriage 2019).² Thus, whether the FRC has the power to effectively enforce the application of quality audit standards resulting from ISA 700 is a joint hypothesis that might affect whether a change in investor perceptions or firm reporting behavior is empirically observable.

We measure uncertainty first in a general sense, via the bid-ask spread, and then in a manner more explicitly tied to earnings reports via the dispersion in earnings forecasts by securities analysts. In addition, we examine whether the market capitalization of unexpected earnings via the earnings response coefficient (ERC) changes.

In addition to these market based assessments of uncertainty related to earnings reports, we also focus on variation in financial reporting characteristics directly in order to gain a better

² For a full copy of this report see Kingman (2018) at this URL:
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/767387/frc-independent-review-final-report.pdf

understanding of the mechanisms that might be at work. These include: discretionary accruals; the assessment of earnings quality by a financial information provider (Thomson Eikon); the propensity to just meet or beat earnings forecasts; accounting restatements; appearances of the firm in the press for financial scandals; and additional language used in the auditor’s opinion paragraph including both going concern notices as well as emphasis on a specific matter.

We provide two examples of KAMs in Appendices A and B. In addition, we present examples of firm disclosures regarding the relevant items under question in order to provide at least anecdotal evidence that firms respond in ways that might be incrementally useful in reducing investor uncertainty.³ In Appendix A, Oxford Instrument’s auditor flags revenue recognition especially related to the company’s “Nanotechnology Tools Segment.” In the year prior to ISA 700, the firm releases a boilerplate description of revenue recognition. However, in the following year it emphasizes the complexities involved with Nanotechnology revenue recognition, separate from the rest of their business. In Appendix B, British American Tobacco provides in the year before ISA 700 a very generic description of the risks it faces in tax disputes with countries around the world. However, in the year following adoption we observe much more specific discussions including the countries involved, amounts at risk, and a brief discussion of the specific disputes in each country.

The two examples give an idea of the types of uncertainty related to accounting choices that the auditors are identifying in the KAMs. Ultimately, we predict that with information about these specific areas of audit risk as well as how the auditors and firms respond, investors will have less uncertainty about how current financial results map into future cash flows. We discuss these

³ While we collected and analyzed every audit report for this sample, we did not perform such an exercise on firm responses. This would be an interesting analysis, but it is beyond the scope of this study given the high data search and collection costs involved to determine where, exactly, in the annual report firms change disclosures – if at all.

predictions in more detail in Section 4. But first we discuss the other concurrent working papers exploiting this significant regulatory change.

3. Literature Review

Given the watershed event of ISA 700, and the similar audit changes that are currently occurring around the world, it is not surprising that a number of researchers are reviewing the UK evidence in as close to “real time” as one can get in archival research. We believe this is a good thing, as the initial evidence is mixed and requires multiple approaches and analyses. It will likely take time before a more focused picture emerges.

Reid et al. explore some of the relationships that we also examine. They document a decline in abnormal accruals, a lower propensity to just meet or beat analyst forecasts, as well as marginal evidence of an increase in ERCs for UK adopting firms. However, Gutierrez et al. provide conflicting evidence with respect to discretionary accruals when the two years of post-ISA 700 data are separated (see p. 1576 and Table C-2 of their on-line appendix). In addition, Gutierrez et al. reveal that with the expanded two years of pre/post data they are unable to replicate Reid et al.’s results related to propensity to just meet/beat analyst forecasts as well as the shifts in ERCs (see p. 1577 and Tables C-3 and C-4 of the on-line appendix).

In addition to revisiting Reid et al.’s results, Gutierrez et al. also use an event study approach examining both trading volume and cumulative abnormal returns around the annual report filing. They are unable to document a significant change in investor reaction under the new regime.

Amiram et al. use a levels regression with share price as the dependent variable and annual earnings as the major explanatory variable. They examine whether the earnings capitalization rate varies under the new regime while also focusing on the cross-sectional effects of the auditors’ materiality disclosure. Amiram et al. find that when materiality thresholds are low, and thus audit

effort presumed higher, that earnings capitalization rates are *lower* in periods prior to the new regime. The authors conjecture that investors assumed that the current earnings to future cash flow mapping was weaker for these firms. However, the study also finds that the capitalization rates for the low materiality firms *increase* in the new regime. The authors' interpretation is that the previous concerns of the investors are assuaged by the audit effort that is now transparently displayed in the auditor's report.

Lennox et al. also analyze the level of share price and its association with annual earnings. Rather than materiality, they focus on the KAMs disclosed in the audit reports. Consistent with Gutierrez et al., Lennox et al. document insignificant short window market return reactions to the new audit opinions. In long window analyses, similar to Amiram et al., Lennox et al. find that the earnings multiples of the firms with more KAMs are lower in the pre-ISA 700 regime. However, unlike Amiram et al., Lennox et al. do not observe any change in the multiple magnitude following the new disclosures. Lennox et al. interpret their evidence as suggesting that the market already understood the financial reporting risks involved with firms with a high number of KAMs *before* the regulatory change.

Overall, these early studies on the effects of ISA 700 do not paint a clear picture. Reid et al. and Gutierrez et al. reach contradictory conclusions. In levels analyses, Amiram et al. and Lennox et al. agree that investors can perceive riskiness in the earnings as captured by audit emphasis *before* such information is publicly revealed; however, the studies present contradictory evidence regarding how the revelation of the audit information affects the earnings multiples.

Our approach is to take a step away from analyzing the direct price-earnings relation, as well as the information content approach, and instead focus on the more immediate economic concept that we think should receive a primary effect, which is market uncertainty. Specifically, we examine measures that suggest investor disagreement about firms' future prospects – the bid-

ask spread and analyst earnings forecast dispersion. Our prediction, presented more formally in the next section, is that investor disagreement will be alleviated when more information is presented by the auditor about financial reporting risks via the KAMs, as well as the materiality level applied.

In addition, we expand on the early research by exploring the mechanisms that should be associated with any change in perceived uncertainty. Some of these have been examined by the contemporary papers – discretionary accruals, propensity to just meet/beat forecasts, and ERCs. However, we expand this list to include an assessment of earnings quality from a data provider to investors, Thomson Eikon (hereafter “Eikon”), as well as measures of financial statement failure: earnings restatements; scandals covered in the financial press; and going concern opinions as well as opinions that include an emphasis of a matter beyond the KAMs.

Finally, we also expand on concurrent research by lengthening the window of post-ISA 700 years that we study. The new regulation was to be applied to audits on the main UK stock market beginning in 2013. We collect these opinions through 2017 yielding five years of post-adoption data. The papers noted above use only two years of post-adoption data except for Lennox et al. who use a single year. As noted above, Gutierrez et al. document that Reid et al.’s results are sensitive to the two years that are examined.

Our descriptive statistics document significant changes in firm behavior over the five year window. In Table 1 we see that the average number of KAMs identified has fallen steadily, from 3.2 in the year of adoption to 2.1 in 2017. Also, materiality levels fluctuate considerably, from a low of 0.8% of sales to a high of 2.0%. Moreover, while some KAMs are fairly persistent for firms over time (e.g., those risks relating to asset valuations), others are addressed by firms rather quickly and do not seem to recur (e.g., risks related to internal control weaknesses). Given this time series variation in audit opinion content, we believe that this expanded five year window reveals a more complete story vis-à-vis one or two post-adoption years.

4. Hypotheses

We expect that if an expanded audit opinion has an effect in the capital markets that this will most likely be apparent in investors' perception of the persistence of earnings and how they translate into future cash flows. We do not think the opinion disclosures will reveal much information about the cash flows themselves, unlike a going concern opinion where the auditor's disclosures could have a more direct valuation effect (e.g., the auditor's opinion about the inability of a company to meet debt service could cause a revision in equity share price).

Thus, for those papers cited in the previous section that have measured changes in share prices or abnormal trading volume, we believe there must be discount rate effects tied to the uncertainty about the firm's future cash flows. This uncertainty shifts downward when a higher quality financial report is revealed – even if the source of this information is from the auditor rather than the company.

One approach to measuring the effects of this decline in uncertainty would be to examine changes in the cost of capital. Theoretical research models the pricing of this estimation or information risk (Barry and Brown 1985; Lambert, Leuz and Verrecchia 2007). However, such a research design is beset by measurement problems such as estimating the cost of capital or controlling for the multitude of factors that affect share price.⁴ A more direct mode of capturing any ISA 700 effects is to look at specific uncertainty measures.

Leuz and Verrecchia (2000) predict that as companies move from national accounting standards to IFRS, market uncertainty about the firms should decline. Leuz and Verrecchia (2000) use the bid-ask spread as a proxy for uncertainty and they find evidence consistent with their

⁴ See Botosan and Plumlee (2011) and Easton and Monahan (2005) for a discussion of the econometric challenges with estimating the implied cost of capital

prediction. Since that time, many other studies have used this measure when examining the economic consequences of disclosure as well as regulation pertaining to disclosure.⁵

The audit opinion does not represent disclosure by the firm, but rather the outside expert that serves a warranty function over financial reporting. With the expanded audit opinion, we predict that this warranty behaves similar to enhanced firm disclosure and will reduce the general uncertainty surrounding the firm. Formally, our first hypothesis is as follows:

H1: An expanded audit opinion that includes information about areas of increased audit risk as well as materiality will lead to a reduction in the bid-ask spread.

The bid-ask spread captures general uncertainty, and specifically a means of the market maker to protect against informed trading. While the financial statements can be used to alleviate this general uncertainty, they also assist investors in predicting the future cash flows of the firm. Therefore, we also focus on a specific measure that captures uncertainty around these predictions. From an empirical standpoint, an observable measure of such forecasts are generated by securities analysts. Barron, Stanford and Yu (2009) discuss how analyst earnings forecast dispersion are negatively related to stock returns as it captures both information asymmetry as well as uncertainty among market participants (see also Barron, Kim, Lim and Stevens 1998). We predict that with better information from the auditor about audit procedures applied, including materiality levels, analysts forecasting earnings are more likely to converge towards a consensus number, as per our second hypothesis:

H2: An expanded audit opinion that includes information about areas of increased audit risk as well as materiality will lead to a reduction in dispersion of forecasts by security analysts.

⁵ A few examples include Bens, Cheng and Neamtiu (2016); Bischof and Daske (2013); and Daske, Hail, Leuz and Verdi (2008).

Another approach to capturing how investors value quality financial reporting is to directly examine the capitalization of earnings into price via earnings response coefficients (ERCs). An early paper in the empirical audit literature documented higher ERCs when a major audit firm (at the time the “Big 8”) served as auditor (Teoh and Wong 1993). In a recent study, Gipper, Leuz and Maffett (2017) examine the effectiveness of the PCAOB auditor inspection regime by focusing on the change in ERCs over time for the treated firms. As previously noted, concurrent research has provided mixed evidence related to the ERC hypothesis that we formalize below. We revisit the issue with a larger and thus more powerful sample:

H3: An expanded audit opinion that includes information about areas of increased audit risk as well as materiality will be associated with an increased ERC.

As noted above in reference to Leuz and Verrecchia (2000) and several follow on studies (see footnote 4), changes in measures of market uncertainty or disagreement can capture changes in the perceived information content of financial reports. However, any evidence provided this way can still be viewed as indirect measures of the expanded opinion’s value. As the audit is focused on ensuring the integrity of financial reporting, we turn our predictions more directly to this issue. Specifically, we expect the additional communication by auditors will prod management into making higher quality financial reporting decisions. We use two traditional measures of quality in reporting: discretionary accruals (following the estimation model of Dechow and Dichev 2003), and the propensity to just meet or beat an analyst forecast. To complement these traditional measures, we also use an estimation of earnings quality from Eikon, a major provider of financial information to the investing community. Eikon’s proprietary measure takes into account accruals, operating cash flows, and a DuPont analysis of margins vs. asset turns relative to industry peers.

Our formal hypothesis follows:

H4: An expanded audit opinion that includes information about areas of increased audit risk as well as materiality will be negatively associated with discretionary accruals and the propensity to just meet/beat analyst forecasts, and positively associated with an independent assessment of earnings quality.

The financial reporting measures above can also be accused of being indirect, and subject to estimation error during the research design process. Therefore, we use a more direct measure of financial statement failure: does the firm issue a restatement of past earnings? With the enhanced discipline of more audit details revealed, we expect that there will be fewer restatements and formalize this as follows:

H5: An expanded audit opinion that includes information about areas of increased audit risk as well as materiality will be negatively associated with the likelihood of financial restatements.

Finally, we expect that beyond the additional reporting of KAMs and materiality, auditors will face pressure to enhance the information in the actual opinion itself. Specifically, there will be more explanatory information emphasizing particular accounting matters and the probability of going concern opinions will increase as auditors face pressure to make their communication more meaningful. Formally, our hypothesis is:

H6: An expanded audit opinion that includes information about areas of increased audit risk as well as materiality will be positively associated with the likelihood of a going concern opinion and additional language emphasizing an accounting matter.

As we discuss more in the next section when we detail our research design, we test our hypotheses with a difference-in-difference approach by comparing the change in uncertainty measures for UK companies before and after the adoption of ISA 700 to those of other non-adopting firms in UK. But in addition to this approach, the new auditing standard allows us to examine how UK firms vary in the cross-section based upon differences in the auditors' reports. We do not provide formal hypotheses regarding how variation in the number of KAMs or

materiality levels affect our dependent variables because the predictions are ambiguous. For example, do more KAMs signal greater audit risk, and thus an increase in investor uncertainty? Or would more KAMs be interpreted positively by the market as a signal of greater audit effort that should correlate with reduced uncertainty? We leave it to future research to generate signed predictions by formally considering the economic forces at play. To spur such research, we provide descriptive cross-sectional evidence within our sample.

5. Empirical Analyses

5.1. Research Design

5.1.1. Before and After Analysis

Our first analysis focuses on the changes in information environment among treated firms after the adoption of the new regulation. In particular, we examine whether the expanded audit reporting changes the uncertainty surrounding the audited firms by estimating regressions of the following form:

$$\Delta Uncertainty_{i,t} = \alpha_0 + \beta_1 Post_{i,t} + \gamma Controls_{i,t} + FE + \varepsilon_{i,t}, \quad (1)$$

Where i indexes firm and t indexes years. $\Delta Uncertainty_{i,t}$ represents the change in uncertainty in the information environment around the annual report filing date measured by bid-ask spread or analyst forecast dispersion. Change in analyst forecast dispersion (*ForDisp*) is calculated as the change in standard deviation of earnings forecasts made by analysts scaled by ending period stock price immediately before and after the annual report filing date. Change in bid-ask spread (*BA Spread*) is calculated as the difference in the natural log of average daily bid-ask spreads calculated over the 20 days before and after the annual report filing date, where daily bid-ask spread is measured as the difference between daily ending ask and bid scaled by the average of bid and ask.

Post is a binary indicator variable that takes the value of one for all fiscal years after 1 Oct 2013. *Controls_{i,t}* is a vector of control variables and *FE* is fixed effects. We include several controls in our analysis. *Analyst Coverage* is the number of analysts following a firm. *Book to Market* is the book value of equity to the market value of equity. *Size* is the natural logarithm of the book value of total assets. *Return on Assets* is income before extraordinary items scaled by total assets. *Leverage* is the book value of total debt to the book value of total assets. *D (Big 4)* is an indicator variable that takes the value of one if a firm is audited by one of the Big 4 audit firms. A detailed list of variable definitions is provided in Appendix C.

We include different sets of fixed effects so that we can document how the relations are affected by their differential inclusion. Across different models, we add industry, firm or auditor fixed effects to control for time-invariant differences related to these factors. To mitigate the influence of outliers, we winsorize all continuous variables at the first and 99th percentiles. Throughout our analyses, we base our inferences on standard errors clustered at the firm level.

For our analysis of ERCs per H3, we use a short window analysis focusing on the three or five days surrounding the earnings announcement. We use the difference between actual EPS and consensus forecast as our earnings expectations model, and measure abnormal returns as the difference between daily stock return and FTSE100 market index return compounded over the event windows. Our control variables are the same as in model (1). The resulting specification is:

$$CAR_{i,t} = \alpha_0 + \beta_1 Post_{i,t} + \beta_2 Post_{i,t} * UE_{i,t} + \beta_3 UE_{i,t} + \gamma Controls_{i,t} + FE + \varepsilon_{i,t}, \quad (2)$$

For the predictions of H4-H6 which deal with financial reporting outcomes including: discretionary accruals; Eikon's earnings quality measure; propensity to just meet/beat analyst forecasts; and use of going concern or additional emphasis of a matter, we use the following specification that rely on the same controls and fixed effect structures as above:

$$ReportOutcome_{i,t} = \alpha_0 + \beta_1 Post_{i,t} + \gamma Controls_{i,t} + FE + \varepsilon_{i,t}, \quad (3)$$

5.1.2 Differences-in-differences Analysis

One advantage of the before and after analysis is that the effect of the law is identified within a firm and therefore mitigates endogeneity concerns related to omitted variables at the firm level. However, the concern with the analysis is that the change in information uncertainty might be driven by some common time trend or macroeconomic shocks. To provide further support for our causal claims regarding the impact of new regulation, we run an additional test of our main effect hypotheses using a differences-in-differences (DID) model.

DID compares the difference in outcomes (e.g., information uncertainty) before and after the new audit report rules for the group affected by the regulation vs. the difference for the unaffected group. The result is an estimate of the causal effect of ISA 700 on firms' information uncertainty. In particular, we estimate following regression for H1 and H2:

$$\Delta Uncertainty_{i,t} = \alpha_0 + \beta_1 Post_{i,t} * Treated_i + \beta_2 Treated_i + \beta_3 Post_t + \gamma Controls_{i,t} + FE + \varepsilon_{i,t}, \quad (4)$$

We estimate a similar DID model for the financial reporting outcome variables.⁶ In all specifications $Treated_i$ represents treated firms that are affected by ISA 700 regulation. β_1 provides an estimate of the effect of ISA 700 on the treated firms relative to the control group. We expect $\beta_1 < 0$ because an expanded audit opinion that includes information about areas of increased audit risk as well as materiality will reduce investor uncertainty. For the accounting outcome variables we also expect $\beta_1 < 0$ except for Eikon's earnings quality where the effect should be positive. Note that we do not include separate indicators (i.e., main effects) for $Post$, or for $Treated$ when we include year or firm fixed effects, respectively, since neither would be identified in that econometric specification.

⁶ For this version of the paper we have not yet completed DID analysis for the ERC and audit opinion regressions.

In the DID analysis, we took the sample of our treatment firms that are affected by ISA 700, and then identified a matching (control) firm for each treatment firm. Our control sample was a pool of AIM-listed firms in UK.

5.2. *Sample*

Our sample period is from 2008 to 2017 (5 years before and 5 years after the new regulation). We start our sample with ordinary stocks premium listed on the main market of London Stock Exchange as of October 31, 2014. This initial screening results in 758 companies subject to the new regulation. Consistent with the concurrent studies of ISA 700, we further exclude 341 financial firms and 43 utility firms (sic 6000-6999 and sic 4000-4999) and require firms to have a valid SEDOL identifier to extract financial and analyst forecast information from the Thomson Reuters database. We obtain annual reports from Bloomberg, and we manually code expanded audit reports, recording disclosed materiality levels and KAMs for all available years from 2013 to 2017. Our final sample consists of 340 firms.

5.3. *Descriptive Statistics*

Table 1 presents descriptive statistics for our sample. Panel A reports descriptive statistics for firm characteristics. The average firm has a book-to-market ratio of 0.92 and a leverage ratio of 22%. The average firm owns 6.53 in the log of total assets and has return on assets of 1%. 89% of the audited firms uses one of the big 4 auditors, with PricewaterhouseCoopers (PwC) taking 28.9% of the market share, followed by KPMG (25.1%) and Deloitte (22.8%).

Panel B of Table 1 presents descriptive statistics for additional disclosure following ISA-700 implementation. The average number of KAMs disclosed is 2.59 with standard deviation of 1.63, suggesting substantial cross sectional variation in disclosure practice among firms.

We manually code each disclosure of a KAM from the expanded audit report and assign it to one of five areas: revenue related such as risk related to revenue recognition (*Risk-Revenue*); tax

related such as recognition of deferred tax assets or transfer pricing (*Risk-Tax*); internal control weakness such as management overriding internal controls (*Risk-ICW*); risk related to asset recognition such as valuation of tangible and intangible assets (*Risk-Assets*); risk related to liability recognition such as valuation of pension liability (*Risk-Liab*); and finally a miscellaneous category for those remaining risks (*Risk-Other*). We find that 67% of the audit reports named risk related to asset recognition as one of the KAMs, 47% mentioned revenue-related risk, 34% and 26% expressed concerns about liability recognition and tax treatment, respectively, and 11% of the audit reports identified internal control weakness as a key audit risk area.

Since we have a time series of audit opinions under the new regime we also present and discuss the evolution of KAMs over the period. First, there has been an overall drift downward in the number of KAMs consistently across all categories. Second, we see the largest declines in the number of KAMs related to revenue recognition (from an average of 0.656 per firm to 0.364) and internal control weaknesses (ICW – from an average of 0.294 to 0.060). In addition, we tabulate the probability of a firm receiving each KAM type in consecutive years, and find that ICWs are the most likely to be resolved quickly (only 3% persist) while asset related KAMs are most likely to persist (44%). Collectively, these descriptive statistics demonstrate the variability both across firms and time in the prevalence of KAMs – suggesting these are not simple boiler plate language added to the auditor’s report that is static (like the traditional opinions).

All firms disclose a materiality level expressed in British Pounds (£). They differ, however, in the scalar used along with it (e.g., assets; sales; operating income; EBIT; net income; etc.). Therefore we use sales as a common scalar across the sample. For the entire period, the mean materiality as a percentage of sales is 1.1%; however, we observe significant variation in the sample average across the years.

Panel D of Table 1 provides univariate comparisons for treated firms. Both the change in analyst forecast dispersion and bid ask spread around the annual report filing date have declined significantly after the adoption of the new regulation, providing initial support to H1 and H2. We find a significant reduction in discretionary accruals, likelihood of restatement and of meet or beat analyst forecasts, providing support to H4-H5 that expanded audit opinion reporting is positively associated with earnings quality. In addition, we find that auditors are more likely to issue going concern or qualified opinions or using additional paragraph in the audit report to draw users' attention to matters that will affect their use of financial report, providing support to H6

5.4. Empirical Results

5.4.1. Before and After Analysis

We present the results of estimating equation (1) in Table 2. We incorporate different fixed effects across different columns, with column 1 and 2 controlling for industry fixed effects, column 3 and 4 controlling for firm fixed effects and column 5 and 6 controlling for auditor fixed effects.

From column 1 and 2, we find that new audit reporting results in a statistical significant decline in forecast dispersion (t statistic=-2.03) and bid-ask spread (t statistic=-2.10). In column 3 and 4, we include firm fixed effects. This analysis examines changes in information environment after controlling for time invariant features of the firm. The coefficient on *Post* is virtually unchanged for the forecast dispersion regression, with a t statistic of -1.69. The coefficient for the bid-ask spread regression also does not change. With the increase in the adjusted R-squared from 1.3% to 21.4% (forecast dispersion) and from 2.6% to 15.5% (bid-ask spread), this suggests that the firm characteristics explain a great deal of the variance in the uncertainty measures.

In columns 5 and 6, we include auditor fixed effects to mitigate the concerns that changes in information uncertainty might be driven by practices of any particular audit firm. We do not include the *D(Big 4)* dummy because its effect cannot be separately identified in the presence of

auditor fixed effects. We continue to find that both forecast dispersion and bid-ask spread are reduced during the post-adoption period.

Across different specifications, we consistently find that both analyst forecast dispersion and bid-ask spread decline to a greater extent around the annual report filing during the post-adoption period relative to pre-adoption period, providing support to H1 and H2. From an economic magnitude standpoint, the coefficients on the dummy variable *Post* across the regressions appear to be about 9.4% of the sample standard deviation for the respective dependent variables per Table 1, which suggests a reasonable decline. The results suggest that an expanded audit opinion that includes information about areas of increased audit risk as well as materiality reduces investor uncertainty in general as captured by a reduction in the bid-ask spread and in difference of forecasts among equity analysts.

In Panel B we explore which KAMs affect information uncertainty. We no longer include the *Post* Dummy because the KAMs are only available for post-adoption period. The most consistent variable is revenue recognition, suggesting that when this risk is identified and addressed through audit procedures, there is a more significant downward revision in the uncertainty measures. Interestingly, the existence of an ICW risk has the *opposite* effect. The positive coefficient suggests that when auditors flag this condition there is actually an increase in uncertainty surrounding the firm, irrespective to how the auditor alters procedures to address the weakness.

In sum, we reject the null for H1 and H2, and conclude that the expanded audit opinion reduces uncertainty following annual report filings to a greater extent than in the pre-period when audit reports were a traditional boiler plate. However, when auditors flag internal control weaknesses the results are reversed and uncertainty measures increase. Both statistical results, the negative and the positive effects, point to the overall usefulness of the expanded opinion.

Our ERC analyses are presented in Table 3. Consistent with our hypothesis, we observe an increase in the ERC as evidenced by the significant coefficient on *Post*UE*. This result is robust to whether the window is three or five days. However, the main *UE* coefficient signifying the pre-period is only significant in one specification. Moreover, the main effect of *Post* is highly significant across all specifications; we do not have an explanation for this. Thus, these results must be interpreted with caution until further analyses are conducted.

In Table 4 we present the tests analyzing H4-H6 which deal with the change in various measures of earnings quality following ISA 700 adoption. We document statistically significant results consistent with our predictions in all of the specifications with the various fixed effect structures. Specifically, we document that in the Post-ISA 700 period, the level of absolute discretionary accruals falls. Consistent with this, the earnings quality measure developed by Eikon, which is partly based on their proprietary definition of abnormal accruals but also considers cash flow and a DuPont analysis (all industry adjusted per their definition of industry), increases following ISA 700 adoption. In addition, the propensity to just meet or beat analyst forecasts falls in the Post period.

When we turn to what might be termed “financial statement failures”, we observe that the probability of a financial statement restatement declines following ISA 700 adoption.⁷ We also observe an increase in the probability of a firm recording a going concern opinion, as well as any non-standard qualified opinion – which in addition to a going concern notice includes qualified,

⁷ We note that as of May 2019 we are still reviewing the Eikon classifications of “restatement” to remove those instances where the dummy variable is coded as such only due to the mandatory adoption of a new IFRS standard. These restatements do not meet the spirit of what we are analyzing – which is a change in financial reporting quality as measured by the correction of errors or the voluntary adoption of new policies that will potentially violate a temporal consistency assumption of the financial statements.

adverse, and opinions where particular accounting assumptions are flagged as vital (e.g., additional emphasis on an item such as litigation risk).

The results from this sub-section are an important addition to the emerging literature that examines the effect of expanded audit opinions. While one contribution of our paper is simply to add more observations as time has evolved, we also provide insights into the *mechanisms* that might account for any reduced market uncertainty or increased earnings capitalization rates. We find that “earnings quality”, measured in multiple fashions, increases following the new opinion structure – suggesting that firms and auditors respond to the revelation of higher audit risks by improving the underlying quality of financial reporting. Our interpretation is that once such risks are publicly identified by the auditor, firms improve accounting quality so that the likelihood of a downside draw from the distribution of financial reporting failure is reduced.

5.4.2. Differences-in-difference Analysis

To control for any time trend from the effect of the new audit report for U.K firms, we present the results of estimation equations (1) and (3) in Table 5.⁸ Using the matched sample, we find that the coefficients on the interaction variable, *Treated*Post*, remain negative and statistically significant across all five of our six specifications. The lone exception is for the bid-ask spread model. The results provide causal evidence that treated firms experienced an improvement in information environment relative to control firms after the adoption of the ISA 700.

5.4.3. Time Trend Analysis

To more fully utilize our time-series of post-ISA 700 data, we examine our results separating the years by pre-ISA 700 ($t=-1$), the year of adoption ($t=0$), the first post-adoption year ($t=1$), and all years following the first post-adoption year ($t \geq 2$). These analyses are especially

⁸ As of the May 2019 draft we have not completed the DID analysis for ERCs and the audit opinions.

relevant given Gutierrez et al.'s findings that some of the results of Reid et al. are sensitive to the year analyzed.

In Table 6 we present these results.⁹ Focusing on the bid-ask spread and analyst forecast dispersion, we remind the reader that these measures capture the change from the period immediately before to immediately after the filing of the annual report. The sign of the coefficient for the $t=-1$ period is negative, but it does not achieve statistical significance. We do not observe any statistically significant change in analyst forecast dispersion in either the year of adoption or the first post-adoption year. However, for years 2-5 we do observe a significant decline in analyst forecast dispersion following the annual report filing. For the bid-ask spread we also observe a non-result in the year of adoption, though results become significant in year $t=1$ and remain of the same order of magnitude in the following years.

For our earnings quality measures, we also observe a delayed reaction in the discretionary accruals and meet/beat analyses that only appear in year $t=1$, though they do persist in the future years at the same magnitude. For earnings quality per Eikon as well as the probability of restatement, our previously documented effects are apparent in year $t=0$ and they persist in all of the years that follow. In addition, for going concern opinions we see an immediate effect in the year of adoption, though when we look at other non-standard unqualified opinions the effects are delayed until the later years.

Overall, these results suggest a somewhat delayed reaction by the markets in the case of uncertainty, and by the firms in the case of the earnings quality measures. This is not surprising, as the period of adjustment by firms/auditors/investors could conceivably last beyond just the initial

⁹ As of the May 2019 draft we have not completed the time trend analyses for ERCs.

year of adoption due to learning effects. This inconsistency across the early years of adoption also provides an explanation for some of the conflicting results in the earlier studies on this subject.

5.4.4. Cross-sectional Analysis

Our cross-sectional analyses focus on the variation of the content of the expanded audit reports in the post-adoption period. Specifically, we explore whether the number of KAMs (high vs. low) or materiality levels (high vs. low) affect our outcome variables differentially. However, we do not generate signed hypotheses. Even as our evidence demonstrates the post-ISA 700 is associated with less market uncertainty and higher financial reporting quality, it is not obvious how the number of KAMs and materiality levels should be interpreted. For example, we might assume that auditors expend more effort when they identify more KAMs within the audit opinion.¹⁰ As such, one perspective is that the greater the number of KAMs identified will lead to a decline in investor uncertainty as outsiders infer more audit effort.

However, the signal might be interpreted in the opposite manner if investors interpret more identified audit risks as capturing lower financial reporting quality, irrespective of the auditor's effort. In addition, some companies believe that the disclosure about accounting issues by the auditor infringe upon management's disclosure responsibility, and that this could lead to confusion and presumably more disagreement across investors. The Vice President and Controller of ConocoPhillips put it this way when expressing her disagreement with the critical audit matters (CAM) component of the PCAOB proposal:¹¹

[T]he additional disclosures required by the CAM provision would likely result in an onerous lengthy auditor's report that duplicates or conflicts with existing

¹⁰ Gutierrez et al. (2018) find that audit fees are higher when more risks are publicly identified (Table 5, Panel C).

¹¹ The PCAOB uses "critical" while the FRC uses "key" when identifying these specific audit matters. In addition, we note that overall the PCAOB characterizes investors and the large accounting firms as being generally supportive of the proposed changes, while preparers and audit committee members are not (see p. 7 of the proposed auditing standard – PCAOB 2016).

management disclosure and confuses financial statement users already overwhelmed by disclosure (Schwarz 2016).

Given these countervailing arguments, we leave this cross-sectional prediction based on the number of KAMs identified unsigned.

Our additional opportunity for cross-sectional analysis focuses on the materiality thresholds revealed by the auditors. As with KAMs, the predicted relation is unclear. A lower materiality threshold might represent more auditing effort as well as more comprehensive responses by management to enhance financial reporting quality to obtain an unqualified opinion. On the other hand, a low materiality level may reflect a greater level of underlying audit risk assessed by the auditor, which could be perceived negatively by the market and/or manifest in lower reporting quality. Thus we again leave our predictions here unsigned.

To operationalize the cross-sectional tests we use dummy variables in lieu of continuous measures of KAMs and materiality which would imply a strict interactive effect. $D(Low)$ is an indicator that takes the value of one if the number of KAMs (level of materiality) disclosed is in the bottom tercile, and zero otherwise. $D(high)$ is an indicator variable that takes the value of one if the number of KAMs (level of materiality) disclosed is above industry median, and zero otherwise.

In Table 7, we present our results.¹² With respect to KAMs, our results in Panel A suggest more frequent statistical significance on the $Post*D(High\ KAMs)$ variable vs. the $Post*D(Low\ KAMs)$. However, t-tests of difference in coefficients between $Post*D(Low\ KAMs)$ and $Post*D(High\ KAMs)$ are not statistically significant.

¹² As of the May 2019 draft we have not completed the cross-sectional analyses for ERCs and the audit opinions.

Similar mixed results are observed with the materiality variable in Panel B. While $Post*D(High\ Materiality)$ is consistently statistically significant and $Post*D(Low\ Materiality)$ is not, we do not observe a difference in the statistical significance of the coefficients.

Taken together, the effect of expanded audit reporting on the reduction in information uncertainty is more pronounced among firms when there are more KAMs as well as higher materiality levels – *potentially* suggesting that more audit work on lower risk clients is rewarded with less uncertainty and higher financial reporting quality. However, the statistical tests are inconclusive and further more explicit analysis in this area is left for future research.

5.4.5. Negative Press Coverage and Regulator Action

As a final analysis of the potential financial reporting quality effects of expanded audit opinions, we examine the occurrence of financial reporting “breakdowns” that are flagged by either the financial press or the FRC. As in the previous sub-section, this is an exploratory analysis to examine whether the number of KAMs or the materiality levels are associated with these events.¹³ Unlike a US sample, we do not have a machine readable database such as *Audit Analytics* to provide UK data. Thus, we hand collect much of this information and only examine the post-ISA 700 adoption period.

Regarding the financial press notices, we follow the approach of Ferguson, Seow, and Young (2004) who also study UK firms. We do a very broad search of *all* articles that contain the word “accounting” from 2013-17 from *Factiva* under the source, “Major News and Business Sources: UK”. We assigned two RAs to independently conduct this search and perform an initial screening where they only retained articles that referred to financial reporting breakdowns or scandals. One of the authors then combined the two independent searches and removed those

¹³ In the next iteration of the paper we will explore whether different types of KAMs might have differential effects in this setting.

observations that were not specifically financially oriented. This process yielded 40 reporting issues identified by the financial press for 35 firms (some firms experienced different scandals across different years).

We complement this analysis by downloading reports from the FRC website that indicated either “reviews” or “investigations”.¹⁴ The “reviews” are akin to “comment letters” from the SEC in the US; they are correspondence from the FRC to the company about questions in financial reporting that could lead to eventual restatements or significant changes in disclosure policy. Beginning in 2013 the FRC made public the names of the companies under review, though they do not provide the actual correspondence (unlike the SEC with comment letters). “Investigations” are more serious as the FRC is trying to decide if prosecutions should take place against auditors and corporations. Like “reviews”, the publicly available information on “investigations” is sometimes very sparse – especially if the case has not been closed yet; however, the company name and initial date of the investigation as well as the general topic at issue are available.

Table 8 presents our results of the regression where the dependent variable is the occurrence of one of these financial reporting breakdowns (for lack of a better term we use *Scandal* – although that may be an overstatement as to the significance of the event), and the independent variables of interest are based on KAMs and materiality level. We find that higher number of KAMs flagged by auditors is associated with more financial reporting breakdowns, though the statistical significance is marginal.

¹⁴ These are found at <https://www.frc.org.uk/accountants/corporate-reporting-review> and <https://www.frc.org.uk/auditors/enforcement-division>.

6. Conclusion

This paper documents the value of an expanded external audit report. Similar to several other concurrent papers, we utilize an exogenous change in the auditing environment in the UK in 2013 to identify an empirical specification where the nature of the audit is changing, but other economic fundamentals are kept constant with the firm. The concurrent research has reached mixed results regarding the effects of the ISA 700 audit regulation.

Our paper focuses on market uncertainty measures as well as financial reporting quality measures that should influence uncertainty. In addition, we utilize a five-year post-adoption window so that we can conduct more powerful tests than extant research. Our results suggest that when expanded audit opinions contain more information about (1) materiality levels, and (2) specific audit risks (KAMs), then market uncertainty declines as investors learn about this information central to planning the audit. We also document an increase in financial reporting quality measures under the new expanded audit report regime. However, our evidence is inconclusive as to whether the number of KAMs or materiality levels affect either market uncertainty or reporting quality measures.

Due to endogeneity problems and the limited variation in audit reports, in the past it was difficult to measure appreciable benefits from the external audit. Yet we utilize an exogenous shock to the audit environment to identify our regression equation, and thus we can make more causal conclusions about how the audit affects the information environment of the firm. We believe this is important since audits have been commonplace over the past century in developed equity markets, yet estimating their value has been hampered as the audit is but one governance measure that is generally adopted simultaneously with several other mechanisms. Moreover, the form of

communication between auditor and investors is changing significantly, and the evidence we document from the UK provides insight into how this change will be perceived in other markets.

Future research can focus on exploring whether the audit reports actually lead to a change in the price of securities – while this is the focus of the concurrent studies, their inconsistent results suggest that the true story has not yet been told. Moreover, future research might dig deeper into the disclosure patterns that follow the expanded audit opinions.

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Appendix A – Disclosure Change Example I: Oxford Instruments

Original Disclosure in pre-ISA 700 Annual Report

(q) Revenue

Revenue is recognised in the Consolidated Statement of Income when the significant risks and rewards of ownership have transferred to the buyer. Revenue excludes value added tax and similar sales based taxes, represents sales to external customers of products and services and is stated before commissions payable to agents. Revenue from installation is separately recognised on completion of the installation. Revenue from contracts for maintenance and support is recognised on a pro-rata basis over the length of the contract period.

Auditor Disclosure of Risk of Material Misstatement

Revenue recognition in the Nanotechnology Tools segment (Revenue: £180.5m, Adjusted operating profit: £21.2m)

Refer to page 41 (Audit committee report), page 70 (accounting policy) and pages 85 to 114 (financial disclosures)

Risk – There is a risk that revenue is recognised on sales of individual products produced by the Group's Nanotechnology Tools segment before the significant risks and rewards of ownership have passed. This is because these products require considerable technical expertise to manufacture, they can be of individually high value, and customer specifications vary. As such there is a risk that particular terms of sale may not be met and, as a result, revenue may be recognised in the incorrect period. Consequently this is one of the key areas our audit is focused on.

Our response – Our audit procedures in this area included, among others, assessing the effectiveness of internal controls and policies regarding the recognition of revenue such as matching a sample of sales invoices recognised to sales orders and dispatch notes. We also tested, on a sample basis, whether specific revenue transactions around the year end had been recognised in the appropriate period on the basis of the terms of sale within sales contracts or orders with reference to the Group's accounting policies. We considered whether a sample of credit notes issued after the year end should reduce revenue in the period and challenged those that were not recorded by obtaining evidence and rationale for significant reversals.

We also assessed, and discussed with business unit management, the ageing and post year end realisation of accrued income, customer deposits and installation balances with respect to the agreed terms of sale, any of which may indicate the associated revenue has been recognised too soon or too late. In addition we assessed whether there was any evidence of management bias by forming an expectation of the current year revenue profile, with reference to historical trends, and comparing to actual. We also considered the adequacy of the Group's disclosures in respect of revenue and the related estimates and judgements in the financial statements (see section (e) of Accounting Policies).

Updated Disclosure in post-ISA 700 Annual Report

(q) Revenue

Revenue is recognised in the Consolidated Statement of Income when the significant risks and rewards of ownership have transferred to the buyer. In the Industrial Products segment this is generally considered to be on dispatch, as products have a low level of customisation and are manufactured on a routine basis. In the Nanotechnology Tools segment products are generally bespoke and customer contracts more complex. As such, there are a number of conditions which must be satisfied before revenue can be recognised. These can include: legal, contractual ownership; passing internal quality control testing; dispatch from manufacturing sites; installation at customer sites; customer inspection both before and after installation; and/or, ultimately, customer acceptance. Given these conditions, a greater degree of consideration is given as to whether the terms of sale have been met and whether revenue can be recognised for each product. In the Services segment, revenue for maintenance and support is recognised on a pro-rata basis over the length of the contract period. Revenue excludes value added tax and similar sales based taxes and is stated before commissions payable to agents.

Appendix B – Disclosure Change Example II: British American Tobacco

Original Disclosure in pre-ISA 700 Annual Report

Tax litigation

The Group has exposures in respect of the payment or recovery of a number of taxes. The Group is and has been subject to a number of tax audits covering, amongst others, excise tax, value added taxes, sales taxes, corporate taxes, withholding taxes and payroll taxes.

The estimated costs of known tax obligations have been provided in these accounts in accordance with the Group's accounting policies. In some countries, tax law requires that full or part payment of disputed tax assessments be made pending resolution of the dispute. To the extent that such payments exceed the estimated obligation, they would not be recognised as an expense. In some cases disputes are proceeding to litigation.

While the amounts that may be payable or receivable could be material to the results or cash flows of the Group in the period in which they are recognised, the Board does not expect these amounts to have a material effect on the Group's financial condition.

Auditor Disclosure of Risk of Material Misstatement

<u>Area of focus</u>	<u>How the scope of our audit addressed the area of focus</u>
Corporate Tax Exposures The Directors are required to apply significant judgement when determining whether, and how much, to provide in respect of material tax assessments leading to uncertain tax positions in a number of jurisdictions. (Refer to notes 6 and 30 in the notes on the accounts.) We focused on this area due to the significant quantum of gross risk and exposure across the Group, and the inherent complexity and judgement in estimating the amount of provision required.	We held a programme of meetings with the Group's Corporate Tax team and local management to understand the tax strategy and related tax risks, any associated technical tax issues, and the status of any current tax litigation. We assessed the appropriateness of provisions recorded in the financial statements, or the rationale for not recording a provision, having read the latest correspondence between the Group and the various tax authorities, and having obtained written responses from the Group's external legal advisors containing their views on material tax exposures and any related litigation.

Updated Disclosure in post-ISA 700Annual Report

Tax disputes

The Group has exposures in respect of the payment or recovery of a numbers of taxes. The Group is and has been subject to a number of tax audits covering, among others, excise tax, value added taxes, sales taxes, corporate taxes, withholding taxes and payroll taxes.

The estimated costs of known tax obligations have been provided in these accounts in accordance with Group's accounting policies. In some countries, tax law requires that full or part payment of disputed tax assessments be made pending resolution of the dispute. To the extent that such payments exceed the estimated obligation, they would not be recognised as an expense.

The following matters may proceed to litigation:

Brazil

The Brazilian Federal Tax Authority has filed two claims against Souza Cruz seeking to reassess the profits of overseas subsidiaries to corporate income tax and social contribution tax. The first reassessment was for the years 2004–2006 in the sum of R\$476 million (£122 million) to cover tax, interest and penalties. The second reassessment was for the years 2007 and 2008 in the amount of R\$244m (£62 million) to cover tax, interest and penalties.

Souza Cruz appealed both reassessments and the matters are at the second tier administrative appeal process. Regarding the first assessment the Souza Cruz appeal was rejected although the written judgment of that tribunal is still awaited. The appeal against the second assessment was upheld at the second tier tribunal. There is one further administrative appeal level before the matter enters the judicial system.

Souza Cruz has decided not to participate in the tax amnesty programme (REFIS) announced by the Brazilian Government in 2013.

Canada

The Canada Revenue Agency (CRA) has challenged the treatment of dividend income received by Imperial Tobacco Canada Ltd (ITCAN) from its investments in fellow group subsidiaries. The CRA and provincial tax authorities reassessed ITCAN for the years 2002 to 2005 in the sum of CAN\$99 million (£56 million). ITCAN has appealed and paid the sum of CAN\$58 million (£33 million) to enable it to pursue the appeal. The CRA has reassessed ITCAN for the years 2006–2009 in the sum of CAN\$104 million (£59 million) and has accepted a letter of credit in the amount of CAN\$58 million (£33 million) in lieu of payment. The provincial tax authorities are considering reassessments for the years 2006–2009 in the sum of CAN\$53m (£30 million) and whether or not to accept letters of credit for CAN\$32m (£18 million) in lieu of payment. The matter may proceed to litigation although no court date has yet been set.

South Africa

SARS has challenged the debt financing of British American Tobacco South Africa and reassessed the years 2006–2008 in the sum of R600 million (£35 million). BATSA has appealed the assessments and discussions with the authorities are ongoing.

The Group believes that the Group's companies have meritorious defences in law and fact in each of the above matters and intends to pursue each dispute through the judicial system as necessary. The Group does not consider it appropriate to make provision for these amounts assessed nor for any potential further amounts which may be assessed in subsequent years.

While the amounts that may be payable or receivable in relation to tax disputes could be material to the results or cash flows of the Group in the period in which they are recognised, the Board does not expect these amounts to have a material effect on the Group's financial condition.

Appendix C – Variables Definition

Variables	Definition
<i>ForDisp</i>	The change in standard deviation of earnings forecasts made by analysts scaled by ending period stock price before and after the annual report filing date.
<i>BA Spread</i>	The difference in natural log of average daily bid-ask spreads calculated over the 20 days before and after the annual report filing date, where daily bid-ask spread is measured as the difference between daily ending ask and bid scaled by the average of bid and ask.
<i>Abn Acc</i>	Discretionary accrual estimated based on Dechow and Dichev (2003) model.
<i>Earnings Q</i>	Earnings Quality measure from Eikon
<i>Restate</i>	An indicator takes value of one if a financial statement is restated and zero otherwise.
<i>GoingConcern</i>	An indicator takes value of one if a going concern opinion is issued, and zero otherwise.
<i>NotCleanOpinion</i>	An indicator takes value of one if a qualified opinion or an adverse opinion or additional paragraphs are used in audit report, and zero otherwise.
<i>Post</i>	An indicator takes value of one for all fiscal year after 1 October 2012 and zero otherwise.
<i>UE</i>	Actual EPS minus consensus EPS
<i>CAR[x,y]</i>	Cumulative abnormal return over event window [x,y] where t=0 is the day of earnings announcement. Abnormal return is calculated as the difference between daily stock return and FTSE100 index return.
<i>Analyst Coverage</i>	Number of analysts following a firm.
<i>Book-to-Market</i>	Book value of equity to market value of equity.
<i>Log Assets</i>	Log of total assets.
<i>ROA</i>	Operating income before tax and depreciation over beginning total assets.
<i>Leverage</i>	Current debt plus long term debt over total assets.
<i>D(Big4)</i>	An indicator takes value of one if the firm is audited by Big 4 audit firms and zero otherwise.
<i>D(Risk-Revenue)</i>	An indicator takes value of one if one of the disclosed risk factors is related to revenue accounts or recognitions and zero otherwise.
<i>D(Risk-Tax)</i>	An indicator takes value of one if one of the disclosed risk factors is related to tax accounts or treatments and zero otherwise.
<i>D(Risk-ICW)</i>	An indicator takes value of one if one of the disclosed risk factors is related to concerns about internal controls and zero otherwise.
<i>D(Risk-Assets)</i>	An indicator takes value of one if one of the disclosed risk factors is related to assets accounts and zero otherwise.
<i>D(Risk-Liab)</i>	An indicator takes value of one if one of the disclosed risk factors is related to liability accounts and zero otherwise.
<i>Year(t=-1)</i>	An indicator takes value of one if year is 2012 and zero otherwise.
<i>Year(t=0)</i>	An indicator takes value of one if year is 2013 and zero otherwise.

<i>Year(t=1)</i>	An indicator takes value of one if year is 2014 and zero otherwise.
<i>Year(t>=2)</i>	An indicator takes value of one if year is 2015 and beyond and zero otherwise.
<i>D(Low KAMs)</i>	An indicator takes value of one if number of key audit matters disclosed in audit report is below industry median and zero otherwise.
<i>D(High KAMs)</i>	An indicator takes value of one if number of key audit matters disclosed in audit report is above industry median and zero otherwise.
<i>D(Low Materiality)</i>	An indicator takes value of one if the materiality level disclosed in audit report, scaled by total sales is below industry median and zero otherwise.
<i>D(High Materiality)</i>	An indicator takes value of one if the materiality level disclosed in audit report, scaled by total sales is above industry median and zero otherwise.

Table 1 Summary Statistics

The sample period is from 2008 to 2017. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C.

Panel A Summary Statistics						
	N	Mean	Median	Std	P25	P75
<i>ForDisp</i>	1286	0.00	0.00	0.01	0.00	0.00
<i>BA Spread</i>	1916	-0.01	-0.01	0.35	-0.22	0.20
<i>Abn Acc</i>	2168	-0.01	0.00	0.05	-0.03	0.02
<i>Earnings Q</i>	1892	3.81	4.10	0.85	3.50	4.42
<i>Restate</i>	1987	0.17	0.00	0.37	0.00	0.00
<i>GoingConcern</i>	2168	0.01	0.00	0.12	0.00	0.00
<i>NotCleanOpinion</i>	2168	0.08	0.00	0.27	0.00	0.00
<i>Meet/Beat</i>	2032	0.23	0.00	0.42	0.00	0.00
<i>Analyst Coverage</i>	1800	0.02	0.02	0.07	-0.02	0.06
<i>Book-to-Market</i>	3198	0.92	0.00	1.16	0.00	2.20
<i>Size</i>	3198	6.53	6.53	2.02	5.28	7.85
<i>ROA</i>	3198	0.01	0.05	0.36	0.01	0.08
<i>Leverage</i>	3198	0.22	0.18	0.31	0.04	0.30
<i>D(Big 4)</i>	3198	0.89	1.00	0.32	1.00	1.00

Panel B Post-ISA 700 KAM Disclosure					
	Mean	Median	Std	P25	P75
<i>Num(KAM)</i>	2.592	3.000	1.628	2.000	4.000
<i>Num(Risk-Revenue)</i>	0.465	0.000	0.560	0.000	1.000
<i>Num(Risk-Tax)</i>	0.268	0.000	0.460	0.000	1.000
<i>Num(Risk-ICW)</i>	0.115	0.000	0.324	0.000	0.000
<i>Num(Risk-Assets)</i>	1.034	1.000	0.889	0.000	2.000
<i>Num(Risk-Liab)</i>	0.397	0.000	0.599	0.000	1.000
<i>Num(Risk-Other)</i>	0.314	0.000	0.576	0.000	1.000
<i>Materiality</i>	0.011	0.006	0.049	0.003	0.009
<i>D(Risk-Revenue)</i>	0.466	0.000	0.499	0.000	1.000
<i>D(Risk-Tax)</i>	0.261	0.000	0.439	0.000	1.000
<i>D(Risk-ICW)</i>	0.114	0.000	0.317	0.000	0.000
<i>D(Risk-Assets)</i>	0.670	1.000	0.470	0.000	1.000
<i>D(Risk-Liab)</i>	0.342	0.000	0.475	0.000	1.000
<i>D(Risk-Other)</i>	0.277	0.000	0.448	0.000	1.000

Panel C Evolution of KAM Disclosure					
	2013	2014	2015	2016	2017
<i>Num(KAM)</i>	3.223	2.668	2.447	2.322	2.125
<i>Num(Risk-Revenue)</i>	0.656	0.436	0.419	0.414	0.364
<i>Num(Risk-Tax)</i>	0.326	0.267	0.257	0.253	0.223
<i>Num(Risk-ICW)</i>	0.294	0.094	0.056	0.051	0.060
<i>Num(Risk-Assets)</i>	1.156	1.114	1.018	0.934	0.886
<i>Num(Risk-Liab)</i>	0.426	0.414	0.387	0.392	0.348
<i>Num(Risk-Other)</i>	0.365	0.342	0.310	0.278	0.245
<i>Materiality</i>	2.00%	1.20%	1.11%	0.81%	1.49%
<i>D(Risk-Revenue)</i>	0.638	0.440	0.415	0.425	0.386
<i>D(Risk-Tax)</i>	0.316	0.261	0.254	0.245	0.212
<i>D(Risk-ICW)</i>	0.294	0.094	0.056	0.048	0.054
<i>D(Risk-Assets)</i>	0.716	0.700	0.669	0.634	0.603
<i>D(Risk-Liab)</i>	0.355	0.355	0.338	0.344	0.304
<i>D(Risk-Other)</i>	0.309	0.306	0.264	0.249	0.245

	Mean
<i>D(Risk-Revenue) for 2 consecutive years</i>	0.276
<i>D(Risk-Tax) for 2 consecutive years</i>	0.156
<i>D(Risk-ICW) for 2 consecutive years</i>	0.030
<i>D(Risk-Assets) for 2 consecutive years</i>	0.440
<i>D(Risk-Liab) for 2 consecutive years</i>	0.220
<i>D(Risk-Other) for 2 consecutive years</i>	0.117

Panel D Univariate Analysis				
	Pre	Post	Post-Pre	P-value
<i>ForDisp</i>	0.000	-0.001	-0.001	0.030
<i>BA Spread</i>	0.007	-0.030	-0.037	0.020
<i>Abn Acc</i>	-0.005	-0.011	-0.007	0.004
<i>Earnings Q</i>	3.746	3.870	0.125	0.001
<i>Restate</i>	0.223	0.115	-0.108	0.000
<i>GoingConcern</i>	0.006	0.020	0.014	0.009
<i>NotCleanOpinion</i>	0.039	0.106	0.067	0.000
<i>Meet/Beat</i>	0.252	0.200	-0.052	0.005
<i>Analyst Coverage</i>	0.013	0.032	0.020	0.000
<i>Book-to-Market</i>	0.951	0.886	-0.065	0.111
<i>Size</i>	6.411	6.643	0.232	0.001
<i>ROA</i>	0.028	0.000	-0.029	0.022
<i>Leverage</i>	0.210	0.229	0.018	0.098
<i>D(Big 4)</i>	0.875	0.900	0.025	0.024

Table 2 Uncertainty and ISA 700 Disclosure

The sample period is from 2008 to 2017. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C. Constants are included but not reported in all regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at firm level.

Panel A Uncertainty and ISA 700 Disclosure						
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>ForDisp</i>	<i>BA Spread</i>	<i>ForDisp</i>	<i>BA Spread</i>	<i>ForDisp</i>	<i>BA Spread</i>
<i>Post</i>	-0.001** (-2.03)	-0.036** (-2.10)	-0.001* (-1.69)	-0.036** (-2.10)	-0.001* (-1.84)	-0.036** (-2.07)
<i>Analyst Coverage</i>	-0.000 (-0.25)	-0.005 (-0.49)	0.000 (0.02)	-0.002 (-0.11)	-0.000 (-0.31)	0.005 (0.47)
<i>Size</i>	-0.000 (-0.62)	0.001 (0.20)	-0.001 (-1.01)	0.028 (0.90)	-0.000 (-0.85)	-0.004 (-0.65)
<i>ROA</i>	0.005 (1.02)	0.013 (0.82)	0.010* (1.67)	0.029** (2.58)	0.004 (0.94)	0.016 (1.07)
<i>Leverage</i>	0.003 (1.17)	0.000 (1.05)	0.007 (1.62)	0.000*** (2.92)	0.002 (1.39)	0.000 (1.13)
<i>D(Big 4)</i>	0.001 (1.19)	0.029 (1.02)	0.001 (0.89)	0.006 (0.11)		
Observations	1,286	1,916	1,286	1,916	1,286	1,916
R-squared	0.013	0.026	0.214	0.155	0.010	0.006
Fixed Effects	Industry	Industry	Firm	Firm	Auditor	Auditor
Panel B Which KAMs Affect Uncertainty						
	(1)	(2)	(3)	(4)	(5)	(6)
	<i>ForDisp</i>	<i>BA Spread</i>	<i>ForDisp</i>	<i>BA Spread</i>	<i>ForDisp</i>	<i>BA Spread</i>
<i>D(Risk-Revenue)</i>	-0.000 (-1.00)	-0.050** (-2.57)	-0.001 (-0.85)	-0.050* (-1.96)	-0.000 (-1.54)	-0.058*** (-3.10)
<i>D(Risk-Tax)</i>	0.000 (0.12)	-0.019 (-0.76)	-0.001 (-0.95)	-0.020 (-0.55)	0.000 (0.17)	-0.015 (-0.62)
<i>D(Risk-ICW)</i>	0.000 (0.14)	0.075** (2.16)	0.002* (1.93)	0.094** (2.28)	0.001 (1.60)	0.081** (2.35)
<i>D(Risk-Assets)</i>	-0.000 (-0.62)	-0.023 (-1.12)	0.001 (1.00)	-0.028 (-1.09)	-0.000 (-0.52)	-0.014 (-0.70)
<i>D(Risk-Liab)</i>	-0.000 (-0.23)	0.024 (1.13)	-0.001 (-0.50)	0.030 (1.00)	-0.000 (-0.41)	0.018 (0.83)
<i>D(Risk-Other)</i>	-0.000 (-0.29)	0.019 (0.88)	0.001 (0.98)	0.004 (0.16)	-0.000 (-0.38)	0.014 (0.65)
<i>Analyst Coverage</i>	-0.000 (-0.07)	-0.004 (-0.38)	0.001 (0.26)	-0.000 (-0.02)	-0.000 (-0.16)	0.006 (0.52)
<i>Size</i>	-0.000 (-0.88)	0.002 (0.25)	-0.002 (-1.52)	0.030 (0.93)	-0.000 (-1.09)	-0.005 (-0.69)
<i>ROA</i>	0.005 (1.05)	0.009 (0.59)	0.011* (1.77)	0.025** (2.10)	0.004 (0.95)	0.013 (0.88)
<i>Leverage</i>	0.003 (1.23)	0.000 (0.68)	0.007 (1.49)	0.000** (2.43)	0.003 (1.48)	0.000 (0.80)
<i>D(Big 4)</i>	0.001 (1.01)	0.025 (0.90)	0.001 (0.81)	0.017 (0.33)		
Observations	1,286	1,916	1,286	1,916	1,286	1,916
R-squared	0.010	0.030	0.216	0.158	0.007	0.010
Fixed Effects	Industry	Industry	Firm	Firm	Auditor	Auditor

Table 3 ERC and ISA 700 Disclosure

The sample period is from 2008 to 2017. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C. Constants are included but not reported in all regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at firm level.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>CAR</i> [-1,1]	<i>CAR</i> [-1,1]	<i>CAR</i> [-1,1]	<i>CAR</i> [-2,2]	<i>CAR</i> [-2,2]	<i>CAR</i> [-2,2]
<i>Post</i>	0.022*** (6.42)	0.024*** (6.55)	0.021*** (6.14)	0.022*** (5.79)	0.024*** (5.84)	0.022*** (5.66)
<i>Post*UE</i>	0.069** (2.25)	0.085*** (2.67)	0.069** (2.18)	0.062** (2.08)	0.081*** (2.81)	0.063** (1.99)
<i>UE</i>	0.001 (1.50)	0.000 (0.11)	0.001 (1.13)	0.003* (1.82)	0.001 (0.82)	0.002 (1.61)
<i>Analyst Coverage</i>	-0.002 (-0.81)	-0.001 (-0.29)	-0.002 (-0.90)	-0.002 (-0.94)	-0.002 (-0.62)	-0.002 (-0.90)
<i>Size</i>	-0.003** (-2.07)	-0.020*** (-3.34)	-0.004** (-2.55)	-0.003* (-1.85)	-0.020*** (-3.13)	-0.004** (-2.44)
<i>ROA</i>	0.035* (1.89)	0.012 (0.56)	0.040** (2.16)	0.033 (1.64)	0.012 (0.53)	0.041** (2.03)
<i>Leverage</i>	0.010 (0.80)	0.019 (0.74)	0.011 (1.03)	-0.000 (-0.02)	0.002 (0.06)	0.004 (0.34)
<i>D(Big 4)</i>	0.001 (0.19)	0.007 (0.58)		0.008 (1.17)	0.008 (0.62)	
Observations	1,769	1,769	1,769	1,768	1,768	1,768
R-squared	0.057	0.174	0.051	0.057	0.189	0.046
Fixed Effects	Industry	Firm	Auditor	Industry	Firm	Auditor

Table 4 Earnings Quality and ISA 700 Disclosure

The sample period is from 2008 to 2017. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C. Constants are included but not reported in all regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at firm level.

Panel A Earnings Quality									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>Abn Acc</i>	<i>Earnings Q</i>	<i>Meet/Beat</i>	<i>Abn Acc</i>	<i>Earnings Q</i>	<i>Meet/Beat</i>	<i>Abn Acc</i>	<i>Earnings Q</i>	<i>Meet/Beat</i>
<i>Post</i>	-0.006*** (-2.60)	0.148*** (3.20)	-0.051*** (-2.62)	-0.006** (-2.33)	0.127*** (2.87)	-0.046** (-2.48)	-0.006*** (-2.95)	0.142*** (3.02)	-0.052*** (-2.71)
<i>Analyst Coverage</i>	0.001 (1.14)	0.105*** (3.11)	0.006 (0.45)	0.002 (0.80)	-0.006 (-0.22)	0.027* (1.78)	0.001 (0.72)	0.122*** (3.41)	0.012 (0.86)
<i>Size</i>	0.001 (0.64)	-0.010 (-0.30)	0.007 (0.76)	0.006 (0.79)	-0.184** (-2.21)	0.036 (1.04)	0.002 (1.54)	-0.060** (-2.07)	-0.001 (-0.09)
<i>ROA</i>	0.013** (2.33)	0.134 (0.98)	-0.001 (-0.11)	0.013*** (2.67)	-0.033 (-0.72)	0.010 (0.80)	0.014** (2.52)	0.183 (1.06)	0.001 (0.09)
<i>Leverage</i>	-0.000 (-0.27)	0.000 (0.45)	-0.000 (-0.50)	0.000*** (4.30)	-0.000 (-0.84)	0.000 (1.23)	0.000 (0.01)	0.001 (0.61)	-0.000 (-0.54)
<i>D(Big 4)</i>	-0.011 (-1.34)	0.114 (1.28)	-0.007 (-0.15)	-0.010 (-0.44)	0.166 (1.21)	-0.108 (-1.30)			
Observations	2,168	1,892	2,032	2,168	1,892	2,032	2,168	1,892	2,032
R-squared	0.135	0.098	0.030	0.451	0.367	0.234	0.107	0.043	0.009
Fixed Effects	Industry	Industry	Industry	Firm	Firm	Firm	Auditor	Auditor	Auditor

Table 4, Continued

Panel B Financial Statement Failures									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	<i>Restate</i>	<i>Going Concern</i>	<i>NotClean Opinion</i>	<i>Restate</i>	<i>Going Concern</i>	<i>NotClean Opinion</i>	<i>Restate</i>	<i>Going Concern</i>	<i>NotClean Opinion</i>
<i>Post</i>	-0.114*** (-6.77)	0.013** (2.47)	0.060*** (5.26)	-0.142*** (-7.91)	0.017*** (2.74)	0.060*** (4.55)	-0.117*** (-6.99)	0.013** (2.55)	0.065*** (5.63)
<i>Analyst Coverage</i>	-0.007 (-0.68)	0.003 (1.04)	-0.009 (-1.24)	-0.017 (-1.24)	-0.008** (-2.39)	0.001 (0.11)	-0.014 (-1.46)	0.004 (1.16)	-0.006 (-0.82)
<i>Size</i>	0.026*** (3.35)	-0.004 (-1.32)	0.006 (1.04)	0.141*** (4.58)	-0.037** (-2.31)	0.087* (1.71)	0.031*** (4.27)	-0.002 (-0.91)	0.010** (1.97)
<i>ROA</i>	-0.003 (-0.20)	-0.004 (-0.77)	-0.017 (-1.36)	-0.006 (-0.25)	0.004 (1.44)	-0.010* (-1.66)	-0.006 (-0.32)	-0.002 (-0.40)	-0.015 (-1.28)
<i>Leverage</i>	0.000 (0.43)	0.000*** (8.22)	0.000** (2.40)	0.000 (0.85)	0.000*** (3.84)	-0.000 (-0.21)	0.000 (0.40)	0.000*** (8.23)	0.000** (2.10)
<i>D(Big 4)</i>	0.001 (0.03)	0.016 (1.60)	-0.091** (-2.44)	0.058 (1.03)	-0.002 (-0.82)	-0.417*** (-4.15)			
Observations	1,987	2,168	2,168	1,987	2,168	2,168	1,987	2,168	2,168
R-squared	0.056	0.104	0.091	0.185	0.512	0.389	0.037	0.061	0.062
Fixed Effects	Industry	Industry	Industry	Firm	Firm	Firm	Auditor	Auditor	Auditor

Table 5 Differences-in-Differences

The sample period is from 2008 to 2016. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C. Constants are included but not reported in all regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at firm level.

	(1)	(2)	(3)	(4)	(5)	(6)
	<i>ForDisp</i>	<i>BA Spread</i>	<i>Abn Acc</i>	<i>Earnings Q</i>	<i>Meet/Beat</i>	<i>Restate</i>
<i>Treat*Post</i>	-0.002** (-2.03)	0.017 (0.34)	-0.012*** (-2.70)	0.228** (2.37)	-0.089* (-1.85)	-0.254*** (-3.37)
<i>Analyst Coverage</i>	0.000 (0.21)	0.001 (0.06)	0.002 (0.74)	-0.009 (-0.33)	0.026* (1.86)	-0.001 (-0.06)
<i>Size</i>	-0.001 (-0.51)	0.035 (1.19)	-0.003 (-0.46)	-0.129 (-1.50)	0.050 (1.47)	0.084*** (2.98)
<i>ROA</i>	0.011* (1.72)	0.033*** (2.92)	0.000 (1.09)	-0.032 (-0.62)	0.016 (1.12)	0.004 (0.22)
<i>Leverage</i>	0.008* (1.76)	0.000*** (3.36)	0.000** (2.22)	-0.000 (-0.62)	0.000 (1.53)	0.000 (0.97)
<i>D(Big 4)</i>	0.003 (1.39)	0.036 (0.59)	-0.023** (-1.98)	0.131 (0.93)	-0.059 (-0.83)	-0.030 (-0.40)
Observations	1,216	1,854	4,878	1,832	1,967	1,930
R-squared	0.233	0.179	0.331	0.388	0.265	0.280
Fixed Effects	Firm+Year	Firm+Year	Firm+Year	Firm+Year	Firm+Year	Firm+Year

Table 6 Time Trend

The sample period is from 2008 to 2017. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C. Constants are included but not reported in all regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at firm level.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>ForDisp</i>	<i>BA Spread</i>	<i>Abn Acc</i>	<i>Earnings Q</i>	<i>Meet/Beat</i>	<i>Restate</i>	<i>Going Concern</i>	<i>NotClean Opinion</i>
<i>year(t=-1)</i>	-0.000 (-0.51)	-0.047 (-1.01)	0.002 (0.37)	0.120 (0.96)	0.062 (0.89)	0.235 (1.00)	-0.005 (-1.06)	0.050 (1.53)
<i>year(t=0)</i>	-0.000 (-0.50)	0.011 (0.40)	-0.002 (-0.62)	0.152*** (2.69)	-0.008 (-0.26)	-0.106*** (-4.02)	0.013* (1.81)	0.013 (1.00)
<i>year(t=1)</i>	-0.001 (-1.37)	-0.046* (-1.91)	-0.007** (-2.19)	0.205*** (3.33)	-0.052* (-1.89)	-0.130*** (-5.54)	0.007 (1.09)	0.007 (0.61)
<i>year(t>=2)</i>	-0.002** (-2.37)	-0.051** (-2.50)	-0.006** (-2.31)	0.132** (2.57)	-0.059** (-2.51)	-0.095*** (-4.98)	0.011* (1.94)	0.010*** (6.15)
<i>Analyst Coverage</i>	-0.000 (-0.16)	-0.005 (-0.44)	0.001 (1.18)	0.106*** (3.13)	0.007 (0.48)	-0.008 (-0.76)	0.003 (0.94)	-0.013* (-1.89)
<i>Size</i>	-0.000 (-0.70)	0.001 (0.17)	0.001 (0.65)	-0.010 (-0.30)	0.007 (0.74)	0.026*** (3.36)	-0.004 (-1.36)	0.005 (1.02)
<i>ROA</i>	0.005 (1.03)	0.014 (0.91)	0.013** (2.32)	0.135 (0.99)	-0.001 (-0.08)	-0.004 (-0.24)	-0.022 (-0.56)	-0.002 (-0.04)
<i>Leverage</i>	0.003 (1.19)	0.000 (1.03)	-0.000 (-0.30)	0.000 (0.46)	-0.000 (-0.58)	0.000 (0.41)	0.090 (1.60)	0.205*** (5.18)
<i>D(Big 4)</i>	0.001 (1.16)	0.028 (0.99)	-0.011 (-1.35)	0.114 (1.27)	-0.007 (-0.15)	0.002 (0.06)	0.018** (2.02)	-0.083** (-2.42)
Observations	1,286	1,916	2,168	1,892	2,032	1,987	2,168	2,168
R-squared	0.014	0.029	0.136	0.099	0.032	0.064	0.130	0.147
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry
Test <i>year(t=0)=year(t=1)</i>								
p-value	0.049	0.064	0.164	0.368	0.225	0.431	0.446	0.686
Test <i>year(t=0)=year(t>=2)</i>								
p-value	0.007	0.022	0.181	0.729	0.121	0.684	0.819	0.000
Test <i>year(t=1)=year(t>=2)</i>								
p-value	0.209	0.843	0.761	0.147	0.830	0.126	0.490	0.000

Table 7 Cross-sectional Analyses

The sample period is from 2008 to 2017. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C. Constants are included but not reported in all regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at firm level.

	Panel A Number of KAMs							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>ForDisp</i>	<i>BA Spread</i>	<i>Abn Acc</i>	<i>Earnings Q</i>	<i>Meet/Beat</i>	<i>Restate</i>	<i>Going Conern</i>	<i>NotClean Opinion</i>
<i>Post*D(Low KAMs)</i>	-0.006 (-1.29)	-0.041 (-0.62)	-0.007 (-1.25)	0.056 (0.33)	-0.102 (-1.57)	-0.075* (-1.79)	-0.007 (-1.00)	0.070*** (2.81)
<i>Post*D(High KAMs)</i>	-0.001* (-1.79)	-0.036** (-2.08)	-0.005** (-2.57)	0.153*** (3.27)	-0.047** (-2.44)	-0.116*** (-6.65)	0.014*** (2.66)	0.055*** (4.70)
<i>Analyst Coverage</i>	-0.000 (-0.33)	-0.005 (-0.50)	0.001 (1.10)	0.104*** (3.10)	0.006 (0.40)	-0.006 (-0.64)	0.002 (0.66)	-0.010 (-1.46)
<i>Size</i>	-0.000 (-0.63)	0.001 (0.19)	0.001 (0.63)	-0.011 (-0.33)	0.006 (0.69)	0.026*** (3.37)	-0.004 (-1.44)	0.006 (1.19)
<i>ROA</i>	0.005 (0.88)	0.013 (0.81)	0.013** (2.32)	0.131 (0.98)	-0.003 (-0.24)	-0.002 (-0.13)	-0.023 (-0.61)	0.000 (0.00)
<i>Leverage</i>	0.002 (1.07)	0.000 (1.04)	-0.000 (-0.28)	0.000 (0.43)	-0.000 (-0.64)	0.000 (0.53)	0.088 (1.59)	0.209*** (5.17)
<i>D(Big 4)</i>	0.001 (1.25)	0.029 (1.00)	-0.010 (-1.34)	0.117 (1.31)	-0.005 (-0.10)	-0.001 (-0.03)	0.019** (2.12)	-0.086** (-2.53)
Observations	1,286	1,916	2,168	1,892	2,032	1,987	2,168	2,168
R-squared	0.016	0.026	0.135	0.098	0.031	0.056	0.132	0.130
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry

Table 7 Continued

	Panel B Materiality Threshold							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	<i>ForDisp</i>	<i>BA Spread</i>	<i>Abn Acc</i>	<i>Earnings Q</i>	<i>Meet/Beat</i>	<i>Restate</i>	<i>Going Concern</i>	<i>NotClean Opinion</i>
<i>Post*D(Low Materiality)</i>	-0.001 (-1.35)	-0.011 (-0.43)	-0.003 (-0.80)	0.147** (2.55)	-0.026 (-1.00)	-0.132*** (-6.16)	0.010* (1.74)	0.033** (2.48)
<i>Post*D(High Materiality)</i>	-0.001** (-2.03)	-0.046** (-2.50)	-0.007*** (-3.18)	0.148*** (2.92)	-0.060*** (-2.80)	-0.108*** (-5.81)	0.011** (2.09)	0.070*** (4.98)
<i>Analyst Coverage</i>	-0.000 (-0.25)	-0.005 (-0.44)	0.002 (1.32)	0.105*** (3.12)	0.007 (0.49)	-0.007 (-0.72)	0.003 (0.93)	-0.012* (-1.77)
<i>Size</i>	-0.000 (-0.62)	0.002 (0.24)	0.001 (0.69)	-0.010 (-0.30)	0.007 (0.80)	0.025*** (3.31)	-0.004 (-1.35)	0.005 (1.05)
<i>ROA</i>	0.005 (1.02)	0.014 (0.90)	0.013** (2.33)	0.134 (0.98)	-0.000 (-0.00)	-0.004 (-0.25)	-0.022 (-0.57)	-0.003 (-0.08)
<i>Leverage</i>	0.003 (1.18)	0.000 (1.09)	-0.000 (-0.27)	0.000 (0.45)	-0.000 (-0.44)	0.000 (0.40)	0.090 (1.60)	0.206*** (5.06)
<i>D(Big 4)</i>	0.001 (1.18)	0.028 (0.99)	-0.011 (-1.37)	0.114 (1.28)	-0.008 (-0.17)	0.001 (0.05)	0.018** (2.04)	-0.084** (-2.48)
Observations	1,286	1,916	2,168	1,892	2,032	1,987	2,168	2,168
R-squared	0.013	0.027	0.136	0.098	0.031	0.056	0.130	0.132
Fixed Effects	Industry	Industry	Industry	Industry	Industry	Industry	Industry	Industry

Table 8 Negative Press Coverage and Regulator Action

The sample period is from 2013 to 2017. We exclude financial and utility industries (sic 4000-4999 and sic 6000-6999). All variables are defined in Appendix C. Constants are included but not reported in all regressions. T-statistics are presented beneath the coefficients within parentheses. *, ** and *** denote significance level at 10%, 5% and 1% respectively. Standard errors are corrected for heteroscedasticity and are clustered at firm level.

	(1) <i>Scandal</i>	(2) <i>Scandal</i>
<i>D(High KAMs)</i>	0.014* (1.76)	
<i>D(High Materiality)</i>		-0.013 (-1.45)
<i>Analyst Coverage</i>	-0.006 (-1.42)	-0.005 (-0.98)
<i>Size</i>	0.011*** (3.37)	0.012*** (3.59)
<i>ROA</i>	-0.014 (-1.29)	-0.013 (-1.16)
<i>Leverage</i>	-0.004 (-0.32)	-0.002 (-0.13)
<i>D(Big 4)</i>	-0.016 (-0.95)	-0.017 (-1.02)
Observations	1,592	1,592
R-squared	0.044	0.044
Fixed Effects	Industry	Industry