Public Scrutiny and Earnings Management

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Abstract

Samuels, Taylor, and Verrecchia (2020, *Journal of Accounting and Economics*) find that the effect of public scrutiny on corporate misreporting is not linear but displays an inverted U-shape relation due to two countervailing forces: monitoring and valuation. This study extends Samuels et al. (2020) to examine how public scrutiny influences a much more pervasive reporting practice among firms, namely earnings management. Using a sample of 65,875 U.S. firm-year observations, quadratic regressions, supplemented by piecewise estimations and the Lind-and-Mehlum U-tests, reveal a pronounced U-shaped relationship, which contrasts with the inverted U pattern observed in misreporting. That is, public scrutiny helps curb accrual-based earnings management up to the third quantile of public scrutiny, beyond which further scrutiny amplifies manipulation. Results are robust to entropy balancing, Oster tests, alternative scrutiny measures based on EDGAR downloads, and three abnormal-accrual models. We further employ a difference-in-differences design, exploiting the 2003 SEC EDGAR dissemination mandate, and find that scrutiny reduces earnings management among firms subject to very low scrutiny ex ante, yet increases it for those already exposed to very high scrutiny, reinforcing causal inferences. In addition, we find real-activity based earnings management largely mirrors the U-shape relation. Collectively, the evidence demonstrates that public scrutiny is a double-edged sword. While moderate monitoring can enhance reporting quality, excessive attention and the valuation effect it entails may pressure managers to exploit permissible accounting flexibility, thereby eroding earnings quality. Reconciling our findings with those of Samuels et al. (2020), misreporting is not simply an extreme form of earnings management, in the case of public scrutiny, they could be substitutes. These findings contribute to the theory of external governance, reconcile prior mixed results, and inform regulators and investors seeking an optimal balance between transparency and unintended distortions in financial reporting.

Keywords: Earnings management; accrual management; real activities management; public scrutiny; unintended consequences.

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1. Introduction

Management is an important source of financial information to investors. The voluminous earnings management literature demonstrates that managers misrepresent, typically positively, the firm's financial information in the hope of skewing the firm's stock market valuation upward (Fan et al., 2025). Managers' decision to manage earnings depends in part on the cost-benefit tradeoff facing the manager (Huang et al., 2017; McAnally et al., 2008). Our objective is to assess whether the ex-ante level of public scrutiny (i.e., the level of public scrutiny prior to earnings management) alters the cost-benefit tradeoff facing managers and influence their subsequent decision to manage earnings.

Public scrutiny refers to the attention, examination, and oversight that a firm's financial activities, performance, and disclosures receive from various stakeholders, including financial analysts (Irani et al., 2016; Yu, 2008), institutional investors (Chung et al., 2002; Garel et al., 2021; Hadani et al., 2011; Kim et al., 2016; Lel, 2019), and media professionals (Chahine et al., 2015; Chen et al., 2021). According to Samuels et al. (2020), public scrutiny has the potential to affect the cost-benefit tradeoff facing the manager through two countervailing forces – 'monitoring' and 'valuation'. The 'monitoring' force is grounded in the belief that greater public scrutiny increases the probability of identifying misrepresentations (e.g., Ferri et al., 2018), thus reduces managers motive to mispresent. In contrast, the 'valuation' force asserts that greater public scrutiny increases the weight that investors place on financial information in valuing the firm. Specifically, the responsiveness of stock prices to each unit of reported earnings, known as the earnings response coefficient (ERC), is greater in environments with robust scrutiny (e.g., Collins and Kothari, 1989; Teoh and Wong, 1993). A larger ERC indicates a heightened valuation benefit from inflated earnings, potentially increasing the motivation for misrepresentation. While Samuels et al. (2020) outline the impact of public

scrutiny on managers' inclination to misrepresent financial information, it worth considering that their study may not fully account for the various methods managers employ to misrepresent. This potentially restricts the applicability of their findings to specific methods of misrepresentation. In light of this, our paper aims to delve deeper into the relationship between public scrutiny and managers' decisions of earnings management. By exploring this aspect, we intend to provide a more nuanced understanding of the intricate interplay between public scrutiny and different modes of financial misrepresentation.

Our hypothesis posits that there exists a U-shaped relationship between the level of public scrutiny and the use of earnings management by companies. We propose that increases in public scrutiny strengthen governance: enhanced monitoring and accountability deter earnings management, validating the traditional view that transparency and oversight improve reporting quality (Chahine et al., 2015; Chen et al., 2021; Chung et al., 2002; Garel et al., 2021; Hadani et al., 2011; Irani et al., 2016; Kim et al., 2016; Lel, 2019; Yu, 2008). However, beyond an optimal point, excessive scrutiny becomes a double-edged sword. The intense focus on short-term earnings and the high stakes attached to financial results create powerful incentives for managers to game the numbers to meet market expectations (even as detection risks remain high) (Bhandari et al., 2023; Burns et al., 2010; Chan & Liu, 2022; Chen, 2010). This results in a rising propensity for earnings management at high scrutiny levels, driven by valuation pressures (Huang et al., 2017; McAnally et al., 2008) and psychological strains (Choshen-Hillel et al., 2020; Hobson & Stirnkorb, 2020). The outcome is a non-linear relationship: earnings management is most subdued at intermediate levels of scrutiny, and higher at the low and high extremes.

By examining all listed US firms with the required data from 2000 to 2022, we document a U-shaped relationship between public scrutiny and earnings management. Initially,

incremental increases in scrutiny effectively constrain earnings management by enhancing monitoring and detection risks, aligning with traditional oversight perspectives. However, beyond a critical threshold—empirically identified at approximately the 73rd percentile of public scrutiny—intensifying scrutiny paradoxically prompts an increase in earnings management. At these elevated scrutiny levels, managers face amplified market pressures to sustain positive perceptions and performance metrics, consequently adopting more aggressive yet subtler accrual strategies that remain within the flexible boundaries of accounting standards.

To address potential endogeneity concerns, we employed several econometric strategies. First, a difference-in-differences (DID) approach utilizing a regulatory shock—the mandatory EDGAR filing requirement for managerial equity transactions—provided clear evidence supporting the causal influence of scrutiny on earnings management. Specifically, firms initially facing low scrutiny reduced earnings management following enhanced disclosure requirements, whereas firms under high scrutiny increased earnings management significantly. Second, entropy balancing methods were applied to ensure robustness by reweighting the control group, effectively mitigating selection bias and enhancing causal inference. Third, we conducted the Oster (2019) test for omitted variable bias, confirming that our findings are robust to substantial potential confounders. Collectively, these methods highlight the reliability of our conclusion that public scrutiny has a genuine, causal effect on earnings management behaviors.

Our findings remain robust across alternative measures of public scrutiny, including EDGAR download activity, and various methods for estimating abnormal accruals. Additionally, we demonstrate that real activity earnings management exhibits similar U-shaped patterns under scrutiny, reinforcing the complex interplay between external monitoring pressures and managerial incentives.

This study makes several contributions. First, while Samuels et al. (2020) use small event-based samples that identify the most extreme cases of financial accounting misreporting, using a large sample of firms and based on specific events, our results are potentially more widely generalizable. Different from misreporting that involves explicit violations and higher penalties, earnings management typically occurs within GAAP boundaries. Our findings document that at low scrutiny, earnings management practices are commonplace due to minimal oversight. Intermediate scrutiny levels reduce earnings management but may increase explicit misreporting, as firms attempt to capitalize on significant valuation gains. High scrutiny environments severely deter misreporting due to stringent detection and penalties, yet paradoxically reintroduce earnings management as firms seek less conspicuous methods to manage market expectations.

Second, this study extends the research by Samuels et al. (2020) by explaining the role of public scrutiny in non-misreporting-related earnings management practices. Our study documents a non-linear relation between earnings management and public scrutiny and provides a potential reconciliation to prior contradictory findings (Chahine et al., 2015; Chen et al., 2021; Chung et al., 2002; Garel et al., 2021; Hadani et al., 2011; Irani et al., 2016; Kim et al., 2016; Lel, 2019; Yu, 2008). One key message this study delivers is that in 27% of sampled firms, managers tend to increase the use of earnings management in response to public scrutiny. Managers appear to be more opportunistic with the less costly means of earnings management under the public spotlight, which is unintended.

Third, this study contributes to earnings management literature by adding to the line of research on the incentives and the modes of earnings management. Prior studies find managers are more likely to use REM under regulatory scrutiny (Cohen, Dey & Lys 2008; Cunningham et al. 2020). This study attempts to provide evidence that real activity manipulation largely

mirrors the U-shape except for that through manipulating inventory changes. It indicates that the level of public scrutiny, which can be another incentive for earnings management, influences managers' choices of mode of earnings management.

2. Literature Review and Hypotheses Development

2.1. The institutional background of public scrutiny

Much of the extant literature delves into the analysis of monitoring force, wherein the prevailing understanding is that intensified public scrutiny has the effect of mitigating the occurrence of misreporting. This concept is rooted in the notion that when a company's financial activities are subjected to increased attention and oversight from various stakeholders, such as financial analysts (Irani et al., 2016; Yu, 2008), institutional investors (Chung et al., 2002; Garel et al., 2021; Hadani et al., 2011; Kim et al., 2016; Lel, 2019), and media professionals (Chahine et al., 2015; Chen et al., 2021), the likelihood of detecting and preventing instances of inaccurate or fraudulent financial reporting is elevated. As a consequence, the potential costs of engaging in misreporting become more significant. This leads to a decrease in the overall occurrence of misreporting, as the elevated vigilance and monitoring present in such an environment enhance the likelihood of detecting and rectifying such behaviors.

However, the concept of monitoring force alone is not exhaustive. More recent research delves into the valuation force, which suggests that intensified public scrutiny can actually increase the occurrence of misreporting (Bhandari et al., 2023; Burns et al., 2010; Chan & Liu, 2022; Chen, 2010). The rationale behind this is that intensified public scrutiny amplifies the significance investors assign to accounting disclosures when assessing the firm's value. In other words, the reaction of stock prices to each unit of reported earnings, known as the earnings

response coefficient (ERC), tends to be more pronounced in situations characterized by elevated levels of public scrutiny (e.g., Collins and Kothari, 1989; Teoh and Wong, 1993). A higher ERC implies a greater valuation advantage derived from inflated earnings. With a heightened expected benefit, it is intuitively inferred that the likelihood of misreporting would increase (e.g., Fischer and Verrecchia, 2000; Ferri et al., 2018).

Based on the two streams of studies, Samuels et al. (2020) highlight the dual effects arising from public scrutiny, specifically the valuation effect and the monitoring effect. Within a certain range, the expected benefits of misreporting are comparatively modest, thus reducing the incentive to engage in earnings management. However, in another range, intensified public scrutiny can heighten valuation incentives due to increased market sensitivity to reported earnings, potentially increasing the prevalence of misreporting. Consequently, the relationship between public scrutiny and misreporting is nuanced and influenced by the interplay of these dual effects.

2.2. Public scrutiny and earnings management

We propose a U-shaped relationship between the level of public scrutiny and the extent of earnings management. Initially, as the level of public scrutiny increases from low to moderate, earnings management is likely to decrease significantly. Managers, acting as agents, may have incentives to pursue personal objectives that deviate from shareholders' interests when information asymmetry exists (Bergstresser & Philippon, 2006; Cheng & Warfield, 2005). Enhanced scrutiny from external stakeholders such as financial analysts, institutional investors, and media outlets mitigates this asymmetry by increasing transparency and the probability of detecting managerial misreporting. Under increased scrutiny, managers face higher expected costs associated with earnings management, including regulatory sanctions, reputational damage, and career consequences (Cohen & Zarowin, 2008; Das et al., 2011;

Johnson et al., 2012). Consequently, managers become more cautious, leading to higher-quality financial reporting. Empirical studies consistently support this monitoring effect, demonstrating that heightened analyst coverage (Irani et al., 2016; Yu, 2008), institutional holding (Chung et al., 2002; Garel et al., 2021; Hadani et al., 2011; Kim et al., 2016; Lel, 2019) and media attention (Chahine et al., 2015; Chen et al., 2021) generally correspond to lower abnormal accruals.

However, this effect has its limits. We propose that once the level of public scrutiny surpasses a certain threshold, the relationship reverses, resulting in an increase in earnings management despite high detection risks. This shift occurs due to intense valuation pressure associated with high scrutiny environments. Under intense public scrutiny, earnings reports become disproportionately influential in investor and market perceptions of firm value, significantly elevating the stakes of meeting or exceeding market expectations (Huang et al., 2017; McAnally et al., 2008). Earnings figures are key signals to the market regarding firm performance and future prospects. Missing earnings benchmarks in such high-scrutiny contexts often triggers substantial negative market reactions, severe reputational consequences, and heightened managerial turnover risks (Skinner & Sloan, 2002). Managers, therefore, may perceive the immediate costs of failing to meet these expectations as outweighing the longer-term risks associated with potential detection of misreporting. This creates strong incentives for managers to manage earnings aggressively, often adopting subtle or sophisticated forms of manipulation such as earnings management.

Moreover, behavioral finance perspectives suggest that managerial decisions under conditions of high scrutiny may deviate from purely rational economic calculations (Hobson & Stirnkorb, 2020). Managers experiencing excessive psychological pressures, fear of public embarrassment, cognitive overload from intense scrutiny, and irrational market expectations

may engage in earnings management as a defensive measure (Choshen-Hillel et al., 2020). Such behavioral biases and pressures reinforce the prevalence of earnings manipulation under very high levels of scrutiny, contributing further to the U-shaped relationship.

H1: As the level of public scrutiny rises, the extent of earnings management decreases at first, but as the level of public scrutiny passes a certain threshold, the extent of earnings management increases.

3. Methodology

3.1 Variable Measurement

In line with Samuels et al. (2020), the level of public scrutiny is measured by three dimensions: analyst following, institutional investor following and media coverage. These three proxies are commonly used in the literature and each of them captures one aspect of investors' perspective on earnings management. Prior literature has shown that each of these proxies is related to curbing or promoting earnings management (e.g., Brown & Higgins, 2005; Chahine et al., 2015; Hadadi et al., 2011; Yu, 2008). Analyst following is calculated using the number of analysts with one-year ahead earnings forecasts on I/B/E/S as of the end of the year. Institutional investor following is computed using the number of institutional owners listed on Thomson Reuters as of the end of the year. Media coverage is the number of news releases about the firm on RavenPack News Analytics over the year.

These three variables are standardized to have a mean of zero and a standard deviation of one. Samuels et al. (2020) use the first principal component from factor analysis to calculate the weight of each component. Table 1 shows the output of the factor analysis which includes three components, with the primary component (Comp1) explaining 68.0% of the variation.

The correlation coefficients between *Scrutiny* and its components are shown in the following equation.

$$Public\ Scrutiny = 0.609 * Analyst\ following + 0.574 * Institutional\ investor\ following + 0.548 * Media\ coverage \quad (1)$$

[Insert Table 1 here]

The Jones (1991) model is used to estimate discretionary accruals as a proxy for earnings management. The dependent variable, AEM_{t+1}, equals the value of residual estimated from the Model (2) as follows.

$$Accruals_t/Asset_{t-1} = \beta_0 + \beta_1 1/Asset_{t-1} + \beta_2(\Delta Sales_t)/Asset_{t-1} + \beta_3 P_t/Asset_{t-1} + \varepsilon_t \quad (2)$$

where $Accruals_t$ denotes total accruals in year t, $Asset_{t-1}$ denotes lagged total assets, $\Delta Sales_t$ denotes the change in sales, and P_t denotes the net property, plant, and equipment. Subscripts i refers to firm, subscript t refers to year. The model is estimated within each industry-year with at least 20 observations.

3.2. Empirical model

We test our hypothesis for non-linearity of the scrutiny effect by estimating a polynomial regression. The model includes both a linear term and a quadratic term. Specifically, if the effect of scrutiny indeed follows a U-shape, we expect the coefficient on the quadratic term (β_2) in Equation (2) to be significant and negative.

$$AEM_{t+1} = \beta_0 + \beta_1 Scrutiny_t + \beta_2 Scrutiny_t^2 + \beta_x Controls + \varepsilon_t \quad (3)$$

Control variables include a set of variables that may influence earnings management, such as operational complexity and managerial discretion, pressures from debt and capital markets, and strategic behavior and lifecycle effects. First, operational complexity and managerial discretion affect the degree to which firms have opportunities and flexibility in managing earnings. We control $Size_{t-1}$ (firm size) because larger firms tend to have more sophisticated internal controls and greater external scrutiny, which can limit earnings manipulation. Additionally, PPE_{t-1} (fixed asset ratio) and $Intangibles_{t-1}$ (intangible asset ratio) account for differences in asset composition. Firms with a higher proportion of fixed assets typically have more stable operations and lower earnings volatility, reducing the need for earnings management. In contrast, firms with substantial intangible assets, such as R&D-intensive firms, often face greater estimation uncertainty and reporting discretion, which may create more room for earnings manipulation. $SalesGrowth_{t-1}$, which captures revenue expansion, is also included since firms with high or volatile growth may engage in earnings smoothing to maintain a consistent performance trajectory.

Second, we consider pressures from debt and capital markets, which create incentives for firms to manage earnings to meet external expectations. $Leverage_{t-1}$, measured as total liabilities to total assets, controls for firms' reliance on debt financing, as highly leveraged firms may manipulate earnings to comply with debt covenants. $InterestCov_{t-1}$, the interest coverage ratio, reflects a firm's ability to meet its debt obligations, with lower coverage potentially leading to greater earnings management to maintain creditworthiness. $Financing_{t-1}$, which measures external financing activities, is included to capture the tendency of firms raising capital to present stronger financial performance through earnings management. In addition, MtB_{t-1}, the market-to-book ratio, accounts for market expectations, as high-growth firms may face greater pressure to sustain earnings momentum. $StkReturns_{t-1}$, the buy-and-hold stock return, is incorporated to control for stock price performance, as firms experiencing

declines may engage in earnings management to reassure investors. ROA_{t-1}, a measure of profitability, is included because firms with lower returns may have stronger incentives to manipulate earnings to meet performance benchmarks.

Finally, strategic behavior and lifecycle effects are key determinants of firms' financial reporting choices. $Acquisition_{t-1}$, an indicator for significant acquisition activity, accounts for distortions in reported earnings due to business combinations, as acquisitions often introduce purchase price allocation adjustments and restructuring charges that affect reported earnings. $FirmAge_{t-1}$, measuring the number of years since a firm's inclusion in CRSP, captures lifecycle effects, as younger firms often experience greater earnings volatility and may engage in more aggressive earnings management to establish credibility with investors.

4. Sample and Data

4.1 Sample Selection

This study collects data for all US-listed firms from 2000 to 2022. The sample begins in 2000 when RavenPack News Analytics began to cover the news media data required to compute the measure of public scrutiny (Samuels et al., 2020). We collect analyst following data from I/B/E/S, institutional holding data from the Thomson Reuter 13.F database and media coverage data from RavenPack News Analytics. The data for calculating earnings management and control variables are collected from Compustat.

Following prior literature on the measurement of earnings management (e.g., Roychowdhury 2016; Cunningham et al. 2020), financial industries (SIC 6000–6999) and regulated industries (SIC 4400–4999) are removed from the sample, and observations with less than 20 industry-year data are dropped from the sample where the industry is defined by 2-

digit SIC. The final sample is the compilation of all available data from the various databases, including 65,875 firm-year observations.

4.2 Descriptive Statistics and Correlations

Table 3 shows the descriptive statistics for the variables used in the Model (3). All continuous variables are winsorized at their 1st and 99th percentiles. The mean value of the independent variable (Scrutinyt) is equal to zero because it is standardized (Samuels et al., 2020). The statistics are comparable to Samuels et al. (2020).

[Insert Table 2 here]

Table 4 presents correlation matrix. The correlation coefficient between public scrutiny and earnings management is negative, suggesting a negative relationship between in general, which is consistent with the monitoring effects well documented in the literature (e.g., Chen et al., 2021; Garel et al., 2021; Irani et al., 2016; Lel, 2019). Almost all correlation coefficients between variables are below 0.5, which supports limited concerns of multicollinearity issues.

[Insert Table 3 here]

5. Empirical Results

5.1 Main Results

Table 4 presents the results of the OLS regression analysis examining the relationship between public scrutiny and earnings management. The model incorporates both linear term $Scrutiny_{t-1}$ and quadratic term $Scrutiny^2_{t-1}$ to capture potential non-linear effects of public scrutiny on earnings management practices. As shown in Table 4, the coefficient on $Scrutiny_{t-1}$ is consistently negative and highly significant across all model specifications (p-value < 0.01),

while the coefficient on $Scrutiny^2_{t-1}$ is consistently positive and significant (p-value < 0.01). Specifically, in the most fully specified model with year and industry fixed effects (Column 4), the linear coefficient is -0.019, and the quadratic coefficient is 0.082, both statistically significant at the 1% level. These findings robustly support the hypothesized nonlinear relationship.

In terms of economic significance, the U-shaped relationship implies that at lower levels of public scrutiny, incremental increases in scrutiny effectively reduce earnings management, aligning with the monitoring hypothesis. Firms initially constrained by limited external oversight respond positively to additional monitoring, reducing accrual-based manipulations. However, as scrutiny continues to intensify and surpasses a critical threshold, further increases in scrutiny correspond to a renewed rise in abnormal accruals. Specifically, the positive coefficient on the quadratic term indicates that at high scrutiny levels, the incremental benefits from meeting or beating market expectations via accrual manipulations outweigh the incremental costs associated with higher detection risks. Thus, extremely high public scrutiny inadvertently pressures managers to adopt more aggressive accrual practices to maintain favorable market perceptions and performance metrics.

Notably, these findings contrast with those of Samuels et al. (2020), who document a U-shaped rather than an inverse-U-shaped relationship between public scrutiny and misreporting. The divergence between our findings and those of Samuels et al. (2020) can be attributed primarily to the fundamental distinction between earnings management and misreporting. Earnings management generally refers to managerial actions within the flexible boundaries of GAAP, such as discretionary accruals, whereas misreporting typically involves explicit violations of accounting standards with significant penalties if detected. At low scrutiny levels, managers commonly engage in earnings management to achieve internal targets or modest

market expectations due to relatively low detection risks, whereas explicit misreporting is unnecessary given limited market valuation benefits. As public scrutiny moves from low to moderate, earnings management declines because increased monitoring enhances detection risks, outweighing incremental benefits and deterring manipulation. Conversely, at this intermediate scrutiny level, explicit misreporting increases due to heightened valuation incentives, as managers anticipate significant market rewards from manipulated earnings figures. Thus, the transition from low to moderate scrutiny exhibits a decrease in earnings management and an increase in explicit misreporting, reflecting fundamentally distinct cost-benefit dynamics for these two practices. At high scrutiny levels, however, explicit misreporting declines sharply because intensified monitoring substantially raises the likelihood of detection and severe sanctions. Managers who face extremely high public scrutiny find it overly costly and risky to engage in explicit misreporting. Nevertheless, the external pressure to meet heightened market expectations remains strong, prompting some managers to revert to subtler earnings management methods within accounting standards to manage reported earnings without triggering regulatory investigations. Consequently, earnings management reemerges slightly under intense scrutiny conditions, whereas explicit misreporting significantly diminishes.

Regarding control variables, $Size_{t-1}$ is negatively associated with abnormal accruals, suggesting that larger firms, often subject to stronger institutional monitoring, exhibit lower earnings management. $Leverage_{t-1}$ also exhibits a negative and significant relationship with abnormal accruals, implying that debt covenants may serve as additional constraints on opportunistic reporting behavior. Conversely, firms with higher return on assets (ROA_{t-1}) and greater financing needs ($Financing_{t-1}$) tend to engage in more aggressive earnings management, consistent with prior literature highlighting performance-driven incentives to manipulate earnings.

[Insert Table 4 here]

5.2 Endogeneity

5.2.1 Piecewise-linear regression

We further employ a two-step approach to identify the threshold at which the relationship changes direction. First, we set the threshold at 0, which corresponds to the sample mean of public scrutiny. This allows for an initial evaluation of whether earnings management patterns exhibit a structural break at the average level of scrutiny.

Panel A of Table 5 presents the results using this benchmark. The coefficient estimates indicate a significant negative relationship between scrutiny and earnings management when scrutiny is below the threshold ($Scrutiny_{t-1} < 0$), suggesting that increased scrutiny initially constrains earnings management. However, when scrutiny surpasses the threshold ($Scrutiny_{t-1} \geq 0$), the coefficient turns positive and remains statistically significant, implying that firms engage in more aggressive earnings management as scrutiny continues to rise. The *p*-values for the difference between the two coefficients are consistently 0.000 across all specifications, supporting a statistically significant shift in the relationship.

To formally determine the optimal turning point, we implement the approach proposed by Lind and Mehlum (2010), which is specifically designed to test for U-shaped relationships by identifying the inflection point. The results, reported in Panel B, indicate an estimated threshold (τ^*) of 0.116, corresponding to the 73rd percentile of public scrutiny within our sample. This refined threshold yields consistent patterns: the relationship between scrutiny and earnings management remains significantly negative below the turning point, whereas it becomes significantly positive beyond it. The statistical significance of the *p*-values again supports the existence of a U-shaped association.

[Insert Table 5 here]

5.2.2 Regulatory shock

Following Samuels et al. (2020), this study adopts a DID design to investigate how mandatory public disclosure influences managerial behavior in financial reporting. Specifically, the treated group includes firms that were affected by the regulatory mandate requiring mandatory filing of managers' equity transactions (Form 4) electronically on EDGAR, which serves as a shock to public scrutiny by increasing the accessibility and visibility of insider trading information to public. $Treat_{t-1}$ equals one if a firm never voluntarily filed Form 4s electronically before the regulatory change, and zero otherwise. The indicator $Post_{t-1}$ refers to fiscal years ending after June 30, 2003, the effective date when this mandatory electronic filing was implemented.

The analysis examines how firms' initial levels of public scrutiny affect their response to increased transparency post-regulation by interacting the DID variable ($Treat_{t-1} \times Post_{t-1}$) with indicators for quartiles based on firms' ex ante scrutiny levels.[1] The findings indicate a significant negative treatment effect for firms in the lowest scrutiny quartile (β = -0.030), implying that enhanced scrutiny reduces earnings management among firms initially facing the lowest scrutiny. Conversely, firms in higher pre-scrutiny quartiles experience significant positive incremental treatment effects (Quartile 2: $\beta = 0.050$, Quartile 3: $\beta = 0.048$, Quartile 4: $\beta = 0.060$), resulting in overall positive effects in these quartiles.

Using this research design and regulatory shock provides an identification strategy to address endogeneity concerns inherent in our analyses. The exogenous nature of the mandatory

[1] Following Samuels et al. (2020), we compute firms' average public scrutiny levels before the regulatory change. Since media data is only available from 2000, media coverage is excluded from the computation of public scrutiny levels prior to that year.

EDGAR filing requirement allows for a cleaner test of causality, reducing the risk that the observed relationship between public scrutiny and earnings management is driven by omitted variables or reverse causality. Additionally, by leveraging variation in pre-existing scrutiny levels across firms, we isolate how increased scrutiny differentially affects earnings management behavior, offering further validation of the U-shaped relationship. The findings indicate that while enhanced scrutiny constrains earnings management in firms with initially low scrutiny, it amplifies earnings management incentives for those under high scrutiny. This pattern reinforces the theoretical prediction that public scrutiny exerts countervailing forces—monitoring effects that deter misreporting at low levels and valuation pressures that elevate earnings management at high levels—ultimately supporting the U-shaped relationship between scrutiny and earnings management.

[Insert Table 6 here]

5.2.3 Entropy balancing method

We further employ the entropy balance method, with the treatment variable defined as scrutiny levels greater than or equal to 0.116, a threshold identified using the approach of Lind and Mehlum (2010) in Section 5.2.1.[2] The entropy balance method is particularly effective in addressing endogeneity concerns by reweighting the control group to match the treatment group across key covariates, ensuring that differences in outcomes can be more credibly attributed to scrutiny rather than pre-existing firm characteristics. This method improves causal inference by mitigating selection bias and balancing the covariate distributions without discarding observations.

[2] The results remain consistent if we use sample mean of public scrutiny (i.e., 0) to define the treatment indicator.

The regression results presented in Table 7 remain consistent with the main findings. Columns (2) through (4) show a significant U-shaped relationship between scrutiny and earnings management, with the linear term for scrutiny ($Scrutiny_{t-1}$) being negative and significant, while the quadratic term ($Scrutiny^2_{t-1}$) is positive and significant.[3] These results reinforce the earlier conclusion that moderate levels of scrutiny reduce earnings management, but excessive scrutiny may induce firms to engage in more aggressive earnings management behaviors.

Overall, the robustness of the results after applying entropy balancing strengthens the credibility of the main findings, suggesting that the observed relationship between public scrutiny and earnings management is not merely driven by endogeneity or sample imbalances but reflects a genuine economic effect.

[Insert Table 7 here]

5.2.4 Oster (2019) test

In this section, we employ the Oster (2019) test to assess the robustness of our findings against potential omitted variable bias. The test is particularly useful in this context because it extends the conventional sensitivity analysis by leveraging changes in R-squared values between uncontrolled and controlled regressions. This method allows for an estimation of the degree to which unobserved confounders would need to impact the results in order to nullify the observed effect.

[3] In Column (1), where no controls are included, neither $Scrutiny_{t-1}$ nor $Scrutiny^2_{t-1}$ is statistically significant. This is likely due to omitted variable bias, as failing to control for firm characteristics, industry, and year effects leads to greater residual variation, reducing the precision of the estimated coefficients. Once controls are introduced in Column (2) and beyond, the results become highly significant and align closely with the primary findings.

The untabulated results of the Oster test yield an estimated treatment effect that remains stable at 0.071, closely aligning with the coefficient of 0.082 for $Scrutiny^2_{t-1}$, as reported in Column (4) of Table 4. Given that the maximum R-squared is set at 0.692,[4] the bound estimate (delta) of 5.132 indicates that omitted variable bias would have to be exceptionally large—far exceeding what is typically observed in empirical research (equivalent to 5.132 times the explanatory power of observed covariates)—to overturn the main results.

Taken together, these results suggest that our main findings are unlikely to be driven by omitted variable bias. The stability of the estimated effect, combined with the large delta bound, indicates that unobserved confounders would need to be significantly more influential than observed controls to meaningfully alter the conclusions. This enhances the credibility of the results and supports the argument that the estimated relationship is not merely an artifact of unaccounted-for factors.

5.3 Additional Tests and Robustness Checks

5.3.1 Alternative measure of public scrutiny: EDGAR downloads

EDGAR downloads refer to the number of times a firm's filings are accessed through the SEC's EDGAR system. This system is the primary platform through which companies submit mandatory financial disclosures, including 10-Ks, 10-Qs, 8-Ks, and other regulatory filings, which are then made publicly available to investors, analysts, regulators, and other stakeholders. In this study, EDGAR downloads are measured as the total number of times a firm's filings are downloaded within a given year. This metric serves as an alternative measure of public scrutiny because it captures the intensity of external attention directed at a firm's financial disclosures.

[4] As suggested by Oster (2019), the maximum R-squared is set at 1.3 times the R-squared value of our baseline model, which is 0.532, as reported in Column (4) of Table 4.

Unlike traditional proxies such as analyst following, which focus on specific actors, EDGAR downloads reflect broader market interest in a firm's filings, encompassing a wider range of stakeholders, including retail investors, academic researchers, journalists, and regulatory bodies.

We conduct this analysis to assess the robustness of our main findings, and the results presented in Table 8 further support the presence of a U-shaped relationship between public scrutiny and earnings management. The coefficient on $EDGAR_{t-1}$ is negative and highly significant across all specifications, indicating that at lower levels of public scrutiny, an increase in EDGAR downloads is associated with a reduction in earnings management. This suggests that initial increases in scrutiny exert a disciplining effect, constraining managerial discretion in financial reporting. However, the positive and significant coefficient on $EDGAR^2_{t-1}$ supports the existence of a non-linear relationship. As scrutiny intensifies beyond a certain threshold, the effect reverses, and firms begin to engage in greater earnings management. This pattern is consistent with the argument that excessive scrutiny may impose undue pressure on managers, prompting them to resort to earnings management strategies to meet expectations or mitigate perceived risks associated with heightened public attention.

By capturing the level of attention firms receive from diverse external audiences, EDGAR downloads provide an alternative measure of public scrutiny that goes beyond conventional proxies. The consistency of our findings across this alternative specification reinforces the validity of our main results, further supporting the argument that public scrutiny serves as both a constraint and an inducement for earnings management, depending on its intensity.

[Insert Table 8 here]

5.3.2 Alternative measure of earnings management

In order to check robustness of our main findings, we employ alternative models to estimate abnormal accruals. First, we measure abnormal accruals by estimating the residuals of modified Jones model (MJ_AEM_t; Dechow et al. 1995) as follows:

$$Accruals_t/Asset_{t-1} = \beta_0 + \beta_1 1/Asset_{t-1} + \beta_2(\Delta Sales_t + \Delta Rec_t)/Asset_{t-1} + \beta_3 P_t/Asset_{t-1} + \varepsilon_t \quad (4)$$

where $Asset_{t-1}$ denotes the total assets in year t, $\Delta Sales_t$ denotes the changes in sales from year $t-1$ to year t. ΔRec_t denotes the changes in receivables from year $t-1$ to year t; P_t denotes property, plant and equipment in year t. Second, we adopt the model developed by Dechow and Dichev (2002) to measure abnormal accruals (DD_AEM_t):

$$Accruals_t/Asset_{t-1} = \beta_0 + \beta_1 \Delta Sales_t/Asset_{t-1} + \beta_2 P_t/Asset_{t-1} + \beta_3 CFO_{t-1}/Asset_{t-1} + \beta_4 CFO_t/Asset_{t-1} + \beta_5 CFO_{t+1}/Asset_{t-1} + \varepsilon_t \quad (5)$$

where CFO_t denotes cash flow from operation in year t. Last, we follow Kothari et al. (2005) to measure abnormal accruals (K_AEM_t) by estimating the residuals of the following model:

$$Accruals_t/Asset_{t-1} = \beta_0 + \beta_1 1/Asset_{t-1} + \beta_2 \Delta Sales_t/Asset_{t-1} + \beta_3 P_t/Asset_{t-1} + \beta_3 IB_t/Asset_{t-1} + \varepsilon_t \quad (6)$$

where IB_t denotes income before extraordinary items in year t. All models are estimated within each industry-year with at least 20 observations. The results, presented in Table 9, reinforce the robustness of our findings. Throughout Columns (1)–(3), the coefficients on

$Scrutiny_{t-1}$ remain significantly negative, while those on $Scrutiny^2_{t-1}$ are significantly positive, mirroring the U-shaped pattern observed in our main analyses. This consistency across different model specifications used to estimate abnormal accruals suggests that the observed relationship between public scrutiny and earnings management is not driven by model-specific biases or estimation techniques.

[Insert Table 9 here]

5.3.3 Real Earnings Management

In this section, we investigate how public scrutiny affects real activity earnings management. Following Roychowdhury (2006), we examine five proxies for real activity earnings management. First, we examine abnormal production costs, which is measured as the residuals estimated with the model:

$$Prod_t/Asset_{t-1} = \beta_0 + \beta_1 (1/Asset_{t-1}) + \beta_2 (Sales_t/Asset_{t-1}) + \beta_3(\Delta Sales_t/Asset_{t-1}) + \beta_4(\Delta Sales_{t-1}/Asset_{t-1}) + \varepsilon_t \quad (7)$$

where $Prod_t$ denotes the sum of the cost of goods sold in year t and the change in inventory from year t-1 to year t. Second, we examine abnormal discretionary expenditures, which is measured as the residuals estimated with the model:

$$DISEXP_t/Asset_{t-1} = \beta_0 + \beta_1(1/Asset_{t-1}) + \beta_2(Sales_{t-1}/Asset_{t-1}) + \varepsilon_t \quad (8)$$

where $DISEXP_t$ denotes the discretionary expenditures in year t, including research and development expense, advertising expense, and selling, general, and administrative expenses.

Third, we examine abnormal cash flow from operation, which is measured as the residuals estimated with the model:

$$CFO_t/Asset_{t-1} = \beta_0 + \beta_1(1/Asset_{t-1}) + \beta_1 (Sales_t/Asset_{t-1}) + \beta_2 (\Delta Sales_t/Asset_{t-1}) + \varepsilon_t \quad (9)$$

Additionally, we further examine the two components of abnormal production costs, including abnormal cost of goods sold and abnormal change in inventory. The models we use are as follows:

$$COGS_t/Asset_{t-1} = \beta_0 + \beta_1(1/ Asset_{t-1}) + \beta_1 (Sales_t / Asset_{t-1}) + \varepsilon_t \quad (10)$$

$$AB\_\Delta INV_t/Asset_{t-1} = \beta_0 + \beta_1(1/Asset_{t-1}) + \beta_1(\Delta Sales_t /Asset_{t-1}) + \beta_2(\Delta Sales_{t-1}/Asset_{t-1}) + \varepsilon_t \quad (11)$$

As reported in Table 10, the results indicate that real activity earnings management generally follows a U-shaped pattern in response to public scrutiny, aligning with accruals-based earnings management. Specifically, the coefficients on $Scrutiny_{t-1}$ are significantly negative across AB_PROD_t, AB_DISEXP_t, AB_CFO_t, and AB_COGS_t, while the coefficients on $Scrutiny^2_{t-1}$ are significantly positive, suggesting that firms initially reduce real activity earnings management as scrutiny intensifies but increase it again at higher levels of scrutiny. However, an interesting deviation emerges in the case of abnormal inventory changes ($AB\_\Delta INV_t$), which exhibits an inverse U-shaped pattern. Unlike other real activity earnings management proxies, the coefficient on $Scrutiny_{t-1}$ is insignificant, while the coefficient on $Scrutiny^2_{t-1}$ is significantly negative. This suggests that firms initially increase inventory

manipulation under moderate levels of scrutiny but reduce it when scrutiny becomes more intense.

This discrepancy may be attributed to the unique characteristics of inventory management as a channel for earnings manipulation, as well as the cost-benefit trade-offs firms face under varying levels of public scrutiny. Unlike discretionary expenditures, abnormal production costs and abnormal cash flow from operation, which require more immediate and observable operational adjustments, inventory management provides firms with a relatively flexible and less directly observable tool for earnings management. By overproducing goods and deferring cost recognition, firms can temporarily inflate reported earnings without making drastic changes to expenditures. This flexibility allows firms to engage in earnings smoothing more discreetly, making it a preferred choice when scrutiny begins to increase. At lower levels of scrutiny, firms might not engage in substantial inventory-based earnings management due to the availability of alternative tools. However, as scrutiny intensifies, firms may shift towards inventory manipulation because it is less immediately noticeable than drastic cuts in discretionary expenditures or aggressive production shifts. This explains why $AB\_\Delta INV_t$ initially increases with scrutiny.

However, under heightened scrutiny, the costs and risks associated with excessive inventory accumulation become more pronounced, leading to a decline in $AB\_\Delta INV_t$. Unlike other real activity earnings management tools, inventory overproduction creates financial and operational risks, such as increased storage costs, potential obsolescence, and liquidity constraints. When scrutiny becomes more intense, firms may find that the cost of maintaining abnormal inventory levels outweighs the short-term benefits of earnings management. Moreover, heightened scrutiny increases the likelihood of external monitoring by auditors, regulators, and financial analysts, making inventory manipulation more detectable. Unlike

discretionary expenditures, which can be justified through strategic investment decisions, and production cost adjustments, which can be explained by temporary shifts in demand, significant and persistent deviations in inventory levels can raise red flags, prompting further investigation. Under intense scrutiny, firms may prefer to scale back inventory manipulation to avoid the risk of regulatory penalties or reputational damage.

Another factor contributing to the inverse U-shaped pattern in $AB\_\Delta INV_t$ may be the differential timing and reversibility of real activity earnings management tools. Inventory changes represent a more persistent form of earnings management compared to discretionary expenditure cuts, which have an immediate income statement impact. While firms can quickly adjust discretionary spending in response to scrutiny, reversing excessive inventory accumulation requires time and can be costly. As a result, firms may initially increase inventory management at moderate scrutiny levels but later scale it back when heightened scrutiny forces them to unwind prior manipulations. Additionally, inventory adjustments interact with other real activity earnings management strategies in complex ways. Firms that have already overproduced inventory to inflate earnings in prior periods may find it unsustainable to continue doing so under higher scrutiny. Instead, they may shift towards other forms of real activity earnings management that are easier to justify or conceal. This strategic substitution effect may contribute to the decline in $AB\_\Delta INV_t$ at high scrutiny levels.

The inverse U-shaped response of $AB\_\Delta INV_t$ to public scrutiny higlights the nuanced trade-offs firms face when selecting earnings management tools. While inventory adjustments provide a flexible and relatively inconspicuous method of managing earnings under moderate scrutiny, their costs and detectability increase at high scrutiny levels, leading firms to scale back their use. This contrasts with other real activity earnings management strategies, such as discretionary expenditure cuts and production cost adjustments, which follow a standard U-

shaped pattern due to their more immediate financial statement impact and differing cost structures. The findings suggest that scrutiny does not simply deter earnings management in a uniform manner but instead influences the choice and timing of manipulation strategies in a more dynamic and context-dependent way.

[Insert Table 10 here]

6. Conclusion

In summary, this study provides robust empirical evidence that the relationship between public scrutiny and earnings management is non-linear and exhibits a U-shaped pattern. At low levels of scrutiny, increased external monitoring disciplines managerial behavior and curbs both accrual-based and real activity earnings management. However, beyond a certain threshold, heightened scrutiny induces firms to engage in more aggressive earnings management, driven by intensified market pressure and valuation concerns. This nuanced dynamic is consistently observed across various empirical strategies, including quadratic modeling, piecewise regressions, difference-in-differences design, entropy balancing, and alternative measures of both scrutiny and earnings management. By distinguishing between monitoring and pressure effects, and demonstrating their dominance across different scrutiny regimes, the findings contribute to a more refined understanding of how public oversight influences corporate financial reporting practices.

Appendix 1. Variable Definitions

Variable	Definition
AEM_t	The abnormal accruals in year *t*.
Scrutiny	The score of public scrutiny in year *t-1*.
$Size_{t-1}$	The natural logarithm of total assets in year *t-1*.
PPE_{t-1}	The fixed asset ratio in year *t-1*. The ratio is measured as property, plant and equipment / total assets.
$Intangibles_{t-1}$	The intangible asset ratio in year *t-1*. The ratio is measured as (research and development expense + advertising expense) / sales.
$Leverage_{t-1}$	The leverage ratio in year *t-1*. The ratio is measured as total liabilities / total assets.
$InterestCov_{t-1}$	The interest coverage in year *t-1*. The coverage is measured as interest expense / net income.
MtB_{t-1}	The market-to-book ratio of in year *t-1*. The ratio is measured as (annual closing stock price × common shares outstanding – total liabilities) / total assets.
$StkReturn_{t-1}$	The buy-and-hold stock return in year *t-1*. The return is measured as (annual closing stock price in year *t-1* – annual closing stock price in year *t-2*) / annual closing stock price in year *t-2*.
ROA_{t-1}	The return-on-assets ratio in year *t-1*. The ratio is measured as income before extraordinary items / total assets.
$SalesGrowth_{t-1}$	The sales growth in year *t*-1. The growth is measured as (sales in year *t-1* – sales in year *t-2*) / sales in year *t-2*.
$Financing_{t-1}$	The financing level in year *t-1*. The level is measured as (long-term debt issuance + common shares issued) / total assets.
$Acquisition_{t-1}$	Equals one if the ratio of acquisition expense to sales is not below 0.2, and zero otherwise.
$FirmAge_{t-1}$	The firm age in year *t-1*. The age is measured as the number of years since the firm is included in CRSP.

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Table 1 Principal component output: Measuring public scrutiny

Factor	Eigenvalue	Proportion of the variation explained	Cumulative Proportion of the variation explained
Comp1	2.039	0.680	0.680
Comp2	0.579	0.193	0.873
Comp3	0.382	0.127	1.000

Variables	1st Principal Component Weights	2nd Principal Component Weights	3rd Principal Component Weights
Analyst	0.609	−0.133	−0.782
Institutions	0.574	−0.607	0.550
Media	0.548	0.784	0.293

Notes: The table presents the principal component output. We measure public scrutiny using the first principal component from a factor analysis of analyst following (*Analyst*), institutional investor following (*Institutions*), and media coverage (*Media*). All variables are normalized prior to the factor analysis.

Table 2 Descriptive statistics

Variable	Mean	S.D.	Q1	Median	Q3
AEM_t	0.066	0.240	−0.076	0.031	0.190
$Scrutiny_{t-1}$	0.000	0.338	−0.236	−0.060	0.128
$Size_{t-1}$	6.417	2.142	4.838	6.414	7.902
PPE_{t-1}	0.256	0.230	0.080	0.177	0.366
$Intangibles_{t-1}$	0.113	0.312	0.000	0.024	0.106
$Leverage_{t-1}$	0.215	0.209	0.021	0.176	0.333
$InterestCov_{t-1}$	0.147	1.300	−0.021	0.030	0.236
MtB_{t-1}	2.014	1.532	1.111	1.524	2.306
$StkReturns_{t-1}$	0.152	0.782	−0.273	0.017	0.339
ROA_{t-1}	−0.027	0.221	−0.038	0.032	0.075
$SalesGrowth_{t-1}$	0.147	0.428	−0.031	0.074	0.215
$Financing_{t-1}$	0.326	0.500	0.076	0.165	0.352
$Acquisition_{t-1}$	0.097	0.296	0.000	0.000	0.000
$FirmAge_{t-1}$	2.704	0.822	2.079	2.773	3.332

Notes: This table presents descriptive statistics for the variables used in the analysis. Definitions for all variables can be found in Appendix A. The sample consists of 65,875 firm-year observations. All continuous variables have been winsorized at the 1% level.

Table 3 Correlation Matrix

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]
AEM	1.000													
$Scrutiny_{t}$	**−0.099**	1.000												
$Size_{t-1}$	**−0.016**	**0.652**	1.000											
MtB_{t-1}	**−0.157**	**0.172**	**−0.080**	1.000										
$Leverage_{t-1}$	**0.124**	**0.095**	**0.283**	**−0.070**	1.000									
ROA_{t-1}	**0.036**	**0.211**	**0.375**	**−0.088**	**−0.047**	1.000								
$StkReturns_{t-1}$	**−0.013**	**−0.030**	**−0.063**	**0.239**	**−0.029**	**0.079**	1.000							
PPE_{t-1}	**0.669**	**−0.018**	**0.168**	**−0.194**	**0.271**	**0.085**	**−0.018**	1.000						
$Intangibles_{t-1}$	**−0.131**	**−0.045**	**−0.208**	**0.244**	**−0.068**	**−0.505**	**−0.015**	**−0.204**	1.000					
$Financing_{t-1}$	**0.067**	**−0.233**	**−0.422**	**0.236**	**0.047**	**−0.518**	0.001	**−0.061**	**0.301**	1.000				
$Acquisition_{t-1}$	**−0.094**	**0.112**	**0.136**	0.007	**0.089**	**0.028**	**−0.016**	**−0.061**	0.000	**−0.018**	1.000			
$InterestCov_{t-1}$	**0.034**	**0.017**	**0.056**	**−0.045**	**0.058**	**0.070**	**0.011**	**0.038**	**−0.041**	**−0.027**	0.007	1.000		
$SalesGrowth_{t-1}$	**−0.071**	−0.004	**−0.052**	**0.178**	**−0.017**	**−0.025**	**0.081**	**−0.017**	**0.124**	**0.073**	**0.103**	0.000	1.000	
$FirmAge_{t-1}$	**0.069**	**0.218**	**0.300**	**−0.110**	**0.029**	**0.239**	**−0.005**	**0.026**	**−0.164**	**−0.160**	**−0.011**	**0.015**	**−0.192**	1.000

Notes: This table presents the Pearson correlation matrix. Definitions for all variables are provided in Appendix A. Correlation coefficients in bold are significant at the 5% level.

Table 4 Public scrutiny and earnings management

Dependent variable	AEM_t			
	(1)	(2)	(3)	(4)
$Scrutiny_{t-1}$	-0.102***	-0.026***	-0.030***	-0.019***
	(0.011)	(0.006)	(0.007)	(0.007)
$Scrutiny^2_{t-1}$	0.110***	0.086***	0.086***	0.082***
	(0.016)	(0.007)	(0.007)	(0.007)
$Size_{t-1}$		-0.013***	-0.013***	-0.014***
		(0.001)	(0.001)	(0.001)
PPE_{t-1}		0.734***	0.735***	0.701***
		(0.005)	(0.005)	(0.007)
$Intangibles_{t-1}$		0.005	0.005	-0.005
		(0.006)	(0.006)	(0.006)
$Leverage_{t-1}$		-0.029***	-0.032***	-0.040***
		(0.005)	(0.005)	(0.006)
$InterestCov_{t-1}$		0.002***	0.002***	0.002***
		(0.000)	(0.000)	(0.000)
MtB_{t-1}		-0.007***	-0.006***	-0.006***
		(0.001)	(0.001)	(0.001)
$StkReturns_{t-1}$		-0.000	0.004***	0.003***
		(0.001)	(0.001)	(0.001)
ROA_{t-1}		0.069***	0.071***	0.068***
		(0.009)	(0.009)	(0.009)
$SalesGrowth_{t-1}$		-0.025***	-0.027***	-0.029***
		(0.003)	(0.003)	(0.003)
$Financing_{t-1}$		0.052***	0.052***	0.052***
		(0.004)	(0.004)	(0.004)
$Acquisition_{t-1}$		-0.035***	-0.035***	-0.035***
		(0.003)	(0.003)	(0.003)
$FirmAge_{t-1}$		0.020***	0.020***	0.017***
		(0.001)	(0.001)	(0.001)
Year fixed effect	No	No	Yes	Yes
Industry fixed effect	No	No	No	Yes
Observations	65,875	65,875	65,875	65,875
R-squared	0.009	0.519	0.524	0.532

Notes: This table presents results of hypothesis testing. All variables are as defined in Appendix I. Standard errors are clustered by firm and appear in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 5 Piecewise-linear regression: The threshold of U shape.

Panel A				
Dependent variable	AEM_t			
	OLS threshold (τ) τ = 0			
	(1)	(2)	(3)	(4)
$Scrutiny_{t-1} < \tau$	-0.233***	-0.123***	-0.136***	-0.122***
	(0.019)	(0.010)	(0.011)	(0.011)
$Scrutiny_{t-1} \geq \tau$	0.025**	0.066***	0.062***	0.069***
	(0.013)	(0.005)	(0.005)	(0.005)
p-value: $\beta_1 - \beta_2 = 0$	0.000***	0.000***	0.000***	0.000***
Controls	Yes	Yes	Yes	Yes
Year fixed effect	No	No	Yes	Yes
Industry fixed effect	No	No	No	Yes
Observations	65,875	65,875	65,875	65,875
R-squared	0.012	0.521	0.525	0.533
Panel B				
Dependent variable	AEM_t			
	Lind and Mehlum (2010) optimal threshold (τ*) τ* = 0.116			
	(1)	(2)	(3)	(4)
$Scrutiny_{t-1} < \tau^*$	-0.206***	-0.100***	-0.110***	-0.096***
	(0.008)	(0.009)	(0.010)	(0.010)
$Scrutiny_{t-1} \geq \tau^*$	0.014***	0.058***	0.055***	0.062***
	(0.005)	(0.005)	(0.005)	(0.005)
p-value: $\beta_1 - \beta_2 = 0$	0.000***	0.000***	0.000***	0.000***
Controls	Yes	Yes	Yes	Yes
Year fixed effect	No	No	Yes	Yes
Industry fixed effect	No	No	No	Yes
Observations	65,875	65,875	65,875	65,875
R-squared	0.012	0.520	0.525	0.533

Notes: This table presents results of piecewise-linear regression. Panel A presents the results based on scrutiny threshold defined as sample mean. Panel B presents the results based on scrutiny threshold identified by the method of Lind and Mehlum (2010). All variables are as defined in Appendix I. Standard errors are clustered by firm and appear in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 6 Difference-in-difference design: A regulatory shock and heterogeneous effects of ex ante public scrutiny

Dependent variable	AEM_t	
	Marginal treatment effects	Total treatment effects
	(1)	(2)
Post × *Treated*	-0.030***	
	(0.008)	
Quartile 1: β_1		-0.030***
		p-value = 0.008
Post × *Treated* × *Pre_Scrutiny _Q2*	0.050***	
	(0.009)	
Quartile 2: $\beta_1 + \beta_2$		0.020***
		p-value = 0.000
Post × *Treated* × *Pre_Scrutiny _Q3*	0.048***	
	(0.013)	
Quartile 3: $\beta_1 + \beta_3$		0.018***
		p-value = 0.000
Post × *Treated* × *Pre_Scrutiny _Q4*	0.060***	
	(0.015)	
Quartile 4: $\beta_1 + \beta_4$		0.030***
		p-value = 0.000
Main effects and controls	Yes	
Year fixed effects	Yes	
Industry fixed effects	Yes	
Observations	65,875	
R-squared	0.532	

Notes: This table presents results of a difference-in-difference design for the effects of a regulatory shock. All variables are as defined in Appendix I. Standard errors are clustered by firm and appear in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 7 Entropy balanced regression

Dependent variable	AEM_t			
	(1)	(2)	(3)	(4)
$Scrutiny_{t-1}$	-0.019	-0.027***	-0.039***	-0.041***
	(0.019)	(0.007)	(0.007)	(0.007)
$Scrutiny^2_{t-1}$	0.003	0.019***	0.023***	0.029***
	(0.022)	(0.007)	(0.007)	(0.006)
Control	No	Yes	Yes	Yes
Year fixed effect	No	No	Yes	Yes
Industry fixed effect	No	No	No	Yes
Observations	65,875	65,875	65,875	65,875
R-squared	0.001	0.686	0.692	0.701

Notes: This table presents results of hypothesis testing based on an entropy balanced sample. All variables are as defined in Appendix I. Standard errors are clustered by firm and appear in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 8 Alternative measure of public scrutiny: EDGAR downloads

Dependent variable	AEM_t			
	(1)	(2)	(3)	(4)
$EDGAR_{t-1}$	-0.036***	-0.028***	-0.027***	-0.019***
	(0.006)	(0.003)	(0.005)	(0.005)
$EDGAR^2_{t-1}$	0.010***	0.012***	0.011***	0.010***
	(0.002)	(0.001)	(0.001)	(0.001)
Controls	No	Yes	Yes	Yes
Year fixed effect	No	No	Yes	Yes
Industry fixed effect	No	No	No	Yes
Observations	65,875	65,875	65,875	65,875
R-squared	0.001	0.518	0.522	0.531

Notes: This table presents results of hypothesis testing when employing EDGAR downloads as an alternative measure of public scrutiny. All variables are as defined in Appendix I. Standard errors are clustered by firm and appear in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 9 Alternative measure of earnings management

Dependent variable	MJ_AEM_t	DD_AEM_t	K_AEM_t
	(1)	(2)	(3)
$Scrutiny_{t-1}$	-0.012**	-0.035***	-0.067***
	(0.006)	(0.005)	(0.006)
$Scrutiny^2_{t-1}$	0.036***	0.027***	0.032***
	(0.005)	(0.004)	(0.006)
Controls	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
Observations	65,875	58,183	65,875
R-squared	0.500	0.342	0.408

Notes: This table presents results of hypothesis testing when using alternative models to estimate abnormal accruals. All variables are as defined in Appendix I. Standard errors are clustered by firm and appear in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 10 Public scrutiny and real activity earnings management

Dependent variable	AB_PROD_t	AB_DISEXP_t	AB_CFO_t	AB_COGS_t	$AB\_\Delta INV_t$
	(1)	(2)	(3)	(4)	(5)
$Scrutiny_{t-1}$	-0.124***	-0.160***	-0.068***	-0.141***	0.001
	(0.014)	(0.014)	(0.007)	(0.014)	(0.001)
$Scrutiny^2_{t-1}$	0.098***	0.087***	0.016**	0.047***	-0.012***
	(0.014)	(0.013)	(0.007)	(0.013)	(0.001)
Controls	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes	Yes
Observations	64,553	64,553	64,553	64,553	64,553
R-squared	0.304	0.552	0.372	0.323	0.084

Notes: This table presents results of the relationship between public scrutiny and real activity manipulation. All variables are as defined in Appendix I. Standard errors are clustered by firm and appear in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.