

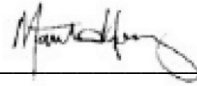


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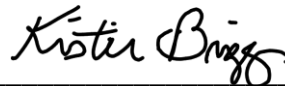
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Matthew Hoag, Ph.D., Chair



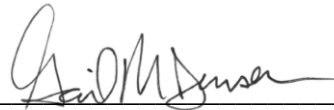
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THE IMPACT OF MEETING ANALYST EARNINGS EXPECTATIONS ON THE  
MARKET RESPONSE TO THE ANNOUNCEMENT OF INTERNAL CONTROL  
WEAKNESSES

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By  
ANDREW S. WEINBERGER

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A DISSERTATION

Submitted to the faculty of the Graduate School of the Creighton University in Partial  
Fulfillment of the Requirements for the degree of Doctor of Business Administration

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Omaha, NE  
(April 20, 2021)

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## **Abstract**

In this study, I examine the impact of meeting analyst earning expectations on the market response to material weakness disclosures identified under Sections 302 and 404 of the Sarbanes-Oxley Act of 2002. Utilizing a sample period spanning 15 years, I find that the market response to material weakness disclosures is significantly influenced by earnings outcomes. The market response to 404 material weakness disclosures for firms that missed earnings is 1.7% lower than firms that met or beat earnings expectations, while the market response to 302 material weakness disclosures is 2.1% lower for firms that missed earnings. I find evidence that new material weaknesses disclosed under SOX 404 are associated with more negative market response compared to repeating material weaknesses, however no such difference exists for material weaknesses disclosed under SOX 302. I also find that the number of material weaknesses disclosed under SOX 302 and 404 is on the rise over the past decade.

*Keywords:* Sarbanes-Oxley Section 404, Sarbanes-Oxley Section 302, Material Weakness, Market Reaction, Uncertainty, Earnings

## Acknowledgements

I dedicate this dissertation to my beautiful wife Amanda who has supported me unconditionally throughout my DBA Journey. When I came to you three years ago with the crazy idea of leaving a successful career in industry behind to pursue a doctorate degree, you encouraged me to follow my dreams without hesitation. I would not be here today without you by my side. I love you! To my always smiling daughter Avery, you are still too little to understand why I was not always available for bedtime and to participate in activities. That changes today! I cannot wait to share my experience with you when you are older. I hope I inspire you to pursue your dreams and passions in life! I would like to thank my parents, siblings, and friends for their support as well as their understanding as I have missed a few important life milestones over the last few years due to school obligations.

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## Chapter 1: Introduction

The Securities and Exchange Commission (SEC) enacted the Sarbanes-Oxley Act (SOX) on July 30, 2002 to help restore public confidence in the U.S. equity markets after several costly and high publicity corporate and accounting scandals. These scandals precipitated the collapse of several companies, costing investors billions of dollars and negatively impacted public perception of the accounting profession. Title III of the law, which focuses on corporate responsibility, requires top management to assume responsibility for financial reporting completeness and accuracy. Two sections of SOX, 302 and 404, are specifically intended to inform investors about weaknesses in a company's system of internal controls that may increase the likelihood of financial statement errors. Under section 302, management is required to disclose all significant deficiencies and material weaknesses to the auditor and audit committee, along with any significant changes to the company's internal controls, on a quarterly basis. Section 404 requires (1) management to take responsibility for maintaining an effective internal control system, and (2) together with the external auditor, to annually report on internal control adequacy (PCAOB, 2004). Two decades later, there is continued debate and considerable interest surrounding the Act's costs and benefits.

Although SOX provisions were designed to increase financial reporting quality, the resistance to SOX was evident even before the Act was passed into law. The stock market reacted positively to news of SOX implementation delays and negatively to news that implementation milestones were advancing (Iliev, 2010). Firms subject to SOX 404(b) requirements experienced significantly lower buy and hold returns over the two-year period beginning with announcement of SOX, as well as significantly lower returns

over the SOX implementation period (Iliev, 2010). Survey results from Financial Executives International (FEI) suggest that SOX compliance is a financial burden on firms, as the average cost of compliance surpassed \$4M once audit fees and internal labor cost increases were considered (FEI, 2005). This is significant considering the median firm size subject to SOX in 2014 was \$110M with negative earnings (Iliev, 2010). More recently, a 2016 survey by Proviti found that external audit fees increased for a majority of accelerated and large accelerated filers as more hours were spent on SOX compliance compared to prior years. In addition, the average annual internal cost of SOX compliance was approximately \$900K for accelerated filers and \$1.3M for large accelerated filers (Proviti, 2016). More than half of the companies surveyed subjected to SOX 404(b) requirements reported that their external audit fees increased from prior year as well (Proviti, 2016).

Over the past few years, the calls to roll-back key SOX provisions have been gaining momentum. On February 2, 2017, Jeb Hensarling, the chairman of the Financial Services Committee, proposed amending the SOX 404(b) threshold from \$75 million to \$500 million as part of the Financial Choice Act (Hensarling, 2017). Under the proposal only large-accelerated filers would be subject to SOX 404(b). The amendment received pushback from lawmakers and practitioners and was ultimately excluded from the final legislation passed by the House of Representatives on June 8<sup>th</sup> (Hensarling, 2017). More recently, on June 28, 2018 the Securities and Exchange Commission (SEC) voted to amend the “smaller reporting company” (SRC) definition to expand the number of companies subject to scaled back disclosures (SEC, 2018). While the amendment did not modify accelerated filer definitions, thus requiring SRCs with \$75 million or more of

public float to maintain compliance SOX 404(b), it laid the groundwork for future changes. SEC Chairman Jay Clayton noted in the press release that he has directed his staff “to formulate recommendations to the Commission for possible additional changes to the “accelerated filer” definition that, if adopted, would have the effect of reducing the number of companies that qualify as accelerated filers in order to promote capital formation by reducing compliance costs for those companies, while maintaining appropriate investor protections” (SEC, 2018).

On May 9, 2019 proposed amendments were made to the “accelerated filer” and “large accelerated filer” definitions included in rule 12b-2 that would eliminate the requirement of 404(b) for public companies with revenues of less than \$100 million (SEC, 2019). Commenters in favor of the proposal referenced the limited market reaction to the disclosure of internal control issues as noted in Hammersley et al. (2008) as an indication that investors do change their long-term value assessment of an issuer based on these disclosures. In addition, companies who would be no longer required to comply with 404(b) have the option to do so based on their own internal decisions and directive of their audit committees and other stakeholders. Commenters against the proposal noted that high costs of compliance with 404(b) are outdated and economically insignificant as the calculated savings is less than 0.1% of the average market value of impacted firms (Barth et al., 2019; Honigsberg & Rajgopal, 2019) and that this change as well as future changes will reduce investor confidence in financial reporting overall (Lee, 2020). The SEC issued a final ruling on March 12, 2020 and passed the amendment with an effective date of April 27, 2020 (SEC, 2020), prompting calls for additional research into the implications of this specific ruling as well as continued research into the costs and

benefits of SOX provisions that may inform future policy changes. This study is motivated by that call. SOX 302 and 404 are specifically intended to inform the marketplace of control weaknesses that may increase financial statement errors. However, the effectiveness of any current and future legislation is predicated on investors giving the proper attention to ICW disclosures.

This dissertation makes several important contributions. This is the first study to investigate how preceding earnings announcements impact the market response to internal control weakness (ICW) disclosures. There are potential competing hypotheses that call for resolution. On one hand, earnings results may increase the attention placed on ICW announcements, thus attenuating the overall market reaction to the disclosure. Conversely, earnings results may diminish the attention placed on ICW announcements, thus heightening the risk of a future financial crisis as key disclosures regarding financial statement reporting quality are overshadowed. Collectively, results provide insights as to whether ICW disclosures are providing the intended benefits and warranting the costs.

Prior literature in accounting and finance suggest that the release of new information is not viewed in a bubble, rather prior events create expectations and influence how new information is framed. Prior research has investigated earnings announcements and ICW's independently but never together. As ICW information is disclosed to the market for the first time in financial filings, after earnings announcements (EAs) have occurred, it is reasonable to expect that earnings results will play a role in market reaction to the disclosures. Extant literature on ICW disclosures supports that ICWs are an uncertainty increasing event while prior literature on earnings announcements shows that meeting (missing) earning expectations decreases (increase)

uncertainty surrounding the firm (Kasznik & McNichols, 2002; Skinner & Sloan, 2002; Myers et al., 2007; Fischer et al., 2014). In addition, findings suggest that market participants largely consider financial statement filings as “formalities” to be ignored as key metrics are increasingly being added to EAs (Francis et al., 2002; Collins et al., 2009; You & Zhang, 2009). As such, the juxtaposition of ICW disclosures in the context of earnings announcements identifies if and how preceding earnings news impacts the market reaction to ICW disclosures. Do ICW disclosures remain important to market participants?

Mean and cumulative abnormal returns estimated from various models indicate that the negative abnormal returns experienced by firms announcing material weaknesses is significantly different for firms who met or beat earnings compared to firms that missed earnings. Returns for disclosures of firms that met or beat earnings are significant and positive, while returns for firms that missed earnings are significant negative. In addition, multivariate results show that the market reaction to the disclosure of SOX 404 and 302 material weaknesses is significantly more negative for firms that miss earnings expectations compared to firms that met or beat earnings after controlling for material weakness and firm characteristics. The overall market response to the 404 material weakness disclosures for firms that missed earnings is 1.7% lower than firms that met or beat earnings expectations in the (0,0) window and 2.1% lower in the (0,1) window. Firms that missed earnings and disclose 302 material weaknesses experience a negative reaction of 2.1% and 2.3% lower in the (0,0) and (0,1) windows respectively compared to firms who met or beat earnings. In addition to analyzing how earnings meets and misses impact the market reaction, this study utilizes a variety of variables to capture uncertainty



surrounding earnings such as earnings surprises, past consistency, and peer earning reporting.

This dissertation also informs regulators and lawmakers about the information value of ICW disclosure by offering updated insights into the market reaction. This study determines if the market reaction to the announcement of internal control weaknesses (ICWs) remains negative by utilizing a sample period spanning 15 years (Gupta & Nayar, 2007; Beneish et al., 2008; Hammersley et al., 2008; Y. Kim & Park, 2009). Prior findings require an update given the constantly evolving economic and information environment. To the researcher's knowledge, this time span would be the largest utilized to date. Differing from prior research, the sample utilized in this study is limited to firms that are covered by analysts, and as such have published earnings expectations. These firms are generally larger in size, making it more likely they would still be required to comply with SOX provisions if laws are changed in the future. Results indicate that the market reaction to SOX 404 material weaknesses disclosures is negative for newly disclosed MWs but not for repeating MWs. Abnormal returns for new and repeating 302 MW disclosures are not significant. Descriptive analyses demonstrate that the number of firms reporting both types of material weaknesses is on the rise.

The remainder of this proposal is organized as follows: Chapter 2 provides a literature review of internal control weaknesses and earnings announcements followed by the development of hypotheses in Chapter 3. After presenting the research methodology in Chapter 4, the data and sample selection are described in Chapter 5. Chapter 6 presents the empirical results followed by concluding remarks, limitations and future research opportunities in Chapter 7.

## **Chapter 2: Literature Review**

This research investigates the impact that meeting analyst earning expectations has on the market response to the announcement of ICWs. First, this chapter presents a brief overview of relevant key sox provisions and distinguishing factors between SOX 302 and 404. Next, a comprehensive review of both internal controls and earning announcement literatures is presented. Hypotheses are presented.

### **Sox Provisions**

SOX 302 and 404 are two key sections of the SOX Act intended to enhance the accuracy and reliability of companies' financial statements and disclosures. Although SOX 302 and 404 are interconnected at the objective level, the requirements of each section are different. The primary focus of SOX 302 is to ensure that controls are in place to promote the accuracy and reliability of all public disclosures. On a quarterly basis, Management certifies that there have been no changes made to disclosure controls and fraud has not occurred (PCAOB, 2004). Compliance with SOX 302 is a quick exercise that does not include testing of the controls in place. Managers might rely on their own internal audit departments testing to gain comfort necessary to certify, however this is not required. Management is responsible for assessing the severity of all issues found, however only those issues deemed material weaknesses are required to be disclosed outside the firm.

Different to SOX 302, the focus of SOX 404 is limited to the subset of disclosure controls focused on financial reporting only. On an annual basis, management certifies that appropriate controls exist to both detect and prevent errors or fraud that could result

in material misstatements (PCAOB, 2004). Compliance with SOX 404 is a much more arduous process as it requires the design and operating effectiveness of all financial reporting controls be adequately tested on an ongoing basis. All control issues are classified by severity and all material weaknesses must be disclosed in the 10-K. Auditing Standard (AS) No. 2, superseded by AS No. 5 in 2007, requires that the external auditor attests to the effectiveness of the company's internal controls based on their own independent evaluation, providing an additional layer of credibility to financial statement users.

Accounting researchers have explored internal controls disclosures made under SOX 302 and 404 from a variety of different angles including (1) characteristics and determinants of companies reporting internal control weaknesses; (2) the immediate and long-term stock market responses to these disclosures; (3) outcomes of reporting internal control issues; and (4) control deficiency remediation likelihood and related impacts.

### **Likelihood of reporting ICWs**

Prior to discussing the initial market reaction and subsequent impacts of disclosing ICWs, it is necessary to review the vast literature stream devoted to identifying the determinants and characteristics of firms that report ICWs. Prior research has identified several themes including but not limited to executive leadership characteristics, governance structure, and operational and financial traits that predict whether a firm is likely to report an ICW in the future. Bakarich and Baranek (2020) point to a firm's prior history of disclosing MWs as a great predictor of whether they will report a MW, finding firms with prior MWs have a 40% likelihood of being a repeat offender. The following determinants and characteristics create general expectations in the market for whether a

firm will report an ICW or not. Many of the characteristics outlined below are controlled for in the regression models to test the hypotheses.

### *Executive Leadership*

Studies that have explored executive leadership traits have found that age, tenure, financial expertise, and connections of top executives play a crucial role in a firm's internal control environment (Bhandari et al., 2018; Chen et al., 2018; Oradi et al., 2020). Chen et al. (2018) found a negative association between CEO age/tenure and the disclosure of MWs and ICW persistence. Bhandari et al. (2018) investigated the relationship between CEO connections and reporting ICWs under SOX 302 and 404, suggesting that CEO's with a stronger network are concerned about their reputation among corporate peers, and thus are more likely to maintain effective internal controls. They found that CEOs with larger connections are less likely to report MWs and the probability of reporting an ICW decreased by 1.6% for each additional CEO connection.

Other studies found evidence that executive traits such as individualism and power distance derived from national culture is positively associated with MWs and negatively associated with disclosing MWs. Uncertainty avoidance is negatively related to the existence of MWs (Kanagaretnam et al., 2016; Caban-Garcia et al., 2017). In addition to leadership traits, executives with high-equity incentives are less likely to have MWs (Balsam et al., 2014). This is in line with Liu and Liu's (2017) finding that CEOs with equity incentives are likely to support remediation efforts.

### *Firm Governance*

A number of studies have investigated the association between firm governance and likelihood of reporting an ICW by exploring characteristics of the board of directors and audit committee (Krishnan & Visvanathan, 2007; Hoitash et al., 2008; Naiker & Sharma, 2009; H. Chen et al., 2018; Cheng et al., 2019; Lisic et al., 2019). Chen et al. (2018) confirmed previous results of Hoitash et al. (2008) that board independence and financial expertise are negative associated with ICWs. Krishnan and Visvanathan (2007) found similar results related to financial expertise on the audit committee. However, Lisic et al. (2019) found the opposite relationship between accounting expertise on the audit committee and ICWs. They suggested that audit committee members with accounting expertise promoted audit quality, and as such were more likely to have an adverse control opinion by the external auditor. They also found that audit committee accounting expertise was negatively associated with auditor dismissal, moderated by the influence of the CFO (Lisic et al., 2019). Krishnan and Visvanathan (2007) reported that auditor turnover is associated with reporting ICWs. Bedard and Graham (2011) found evidence that many controls issues identified by external auditors during SOX 404 testing are not identified in company-driven SOX 302 certifications. Further, the authors found that the 302 deficiencies that were reported are more likely identified in the fourth quarter when the external auditors are on-site. Finally, they also found that management often downplays the severity of internal control issues, leading to the external auditor overriding management's classification. This finding is further supporting by Hermanson and Ye (2009) who provide evidence that investors do not receive reliable information about controls from SOX 302 reporting from management. The researchers found that only 27% of firms disclosed internal control issues in SOX 302 quarterly reports prior to

disclosing issues in the annual SOX 404 report. This suggests that management might have overlooked or sat on information related to poor controls. Internal control issues were disclosed when external auditors were involved as required by SOX 404.

Cheng et al. (2019) found that audit committee members that have recently served on an outside board of directors of a company with MWs decreases the likelihood that the firm will have an ICW under 404, suggesting that their outside experience brings in control related knowledge. Findings by Naiker and Sharma (2009) demonstrate that the presence of former audit partners on the audit committee had similar impact. Their results called into question whether the one year “cooling off” period mandated by Section 206 of the SOX act is beneficial as audit partners who are affiliated with the firm’s external auditor have a significantly negative association between both entity wide and account level ICWs. Audit partners unaffiliated with the firm’s external auditor were only associated with entity level controls, suggesting that previous client knowledge is important. Tang and Xu (2010) find evidence that the makeup of the firm’s institutional ownership plays a role in whether the firm has ICWs under SOX 302 and 404. Firms with transient institutional ownership are more likely to have ICWs than firms with more dedicated institutional ownership due to lack of monitoring incentives.

#### *Resource Availability and Operational Complexity*

Several studies have found a negative association between firm size and likelihood of having ICWs (Ashbaugh-Skaife et al., 2007; J. Doyle et al., 2007b; Hogan & Wilkins, 2008; Calderon et al., 2012; Lai et al., 2017; Ragothaman & Cornelsen, 2017; H. Chen et al., 2018) suggesting that larger firms have financial resources to invest in a

more robust control environment compared to smaller firms. Other studies found that firms that invest in personnel with control knowledge are likely to report ICW's (Choi et al., 2013; Guo et al., 2016). Rice and Weber (2012) found that larger firms are less likely to disclose a MW under SOX 404 compared to smaller firms, however the researchers questioned whether larger firms report less ICWs because they are better able to hide them.

Other studies demonstrate that growing firms and those with complex operations are more likely to have ICWs (Ge & McVay, 2005; Ashbaugh-Skaife et al., 2007; Krishnan & Visvanathan, 2007; Lawrence et al., 2018). For example, Ashbaugh-Skaife et al. (2007) found that firms with a higher number of business segments, an internal sales presence, undergo restructuring, and participate in M&A activities are more likely to have ICWs. Highly levered firms are more likely to have ICWs than firms with better financial health (J. Doyle et al., 2007a; Lai et al., 2017), whereas profitable firms are less likely to have ICWs (Hogan & Wilkins, 2008; Ragothaman & Cornelsen, 2017; H. Chen et al., 2018). This suggests that firms face a potential struggle as they grow their operations, however as they increase in size, they are better able to acquire appropriate resources to shore-up gaps in the control environment. Collectively, there is support in the literature that firm size, growth, profitability, organizational complexity, and auditor characteristics impact the likelihood that a firm will disclose ICWs. Now that there is an understanding of who will report ICWs, its equally important to understand the immediate and long-term ramifications of disclosing ICWs on the firm.

## **Internal Controls and Uncertainty**

### *Immediate Market Reaction*

Prior studies that have investigated the relationship between stock market returns and the announcement of ICW find evidence to support that the announcement of ICWs increases uncertainty in the marketplace. The stock market response to the announcement of ICWs is negative (Gupta & Nayar, 2007; Beneish et al., 2008; Hammersley et al., 2008; Y. Kim & Park, 2009), demonstrating the release of information with negative sentiment increases uncertainty. Beneish et al. (2008) found that firms that disclose ICWs under SOX 302 face announcement abnormal returns of -1.8% across the (-1,1) window, however disclosures under SOX 404 were not significant. The researchers suggest that SOX 302 disclosures are more informative for smaller firms as they are not subject to more rigorous SOX 404 requirements. Findings by Gupta and Nayar (2007) suggest the negative response could be as high as -3.1% across the (0,1) window for disclosures under either SOX 302 or 404.

There is evidence in the literature that the severity, type, and information released within the announcement moderate the negative market response (Hammersley et al., 2008; Y. Kim & Park, 2009), demonstrating that characteristics of the ICW can either enhance or attenuate uncertainty. Material weaknesses (MWs) are associated with greater uncertainty than significant deficiencies (SDs), and entity level weaknesses are associated with greater uncertainty than account level weaknesses (Hammersley et al., 2008; Y. Kim & Park, 2009). Disclosures that are less vague, for example include action plans to address the disclosed control issue, are also associated with less uncertainty (Hammersley et al., 2008; Y. Kim & Park, 2009).



Many studies suggest the negative market reaction to the disclosure of ICWs is due to increased uncertainty regarding the quality and reliability of the firm's financial statements. Research that has investigated the impacts of ICWs on earnings quality support these concerns are justified. Studies have found a negative relationship between ICWs and earnings quality both empirically (J. Doyle et al., 2007a, 2007b; Ogneva et al., 2007; Ashbaugh-Skaife et al., 2008; Epps & Guthrie, 2010; Järvinen & Myllymäki, 2016) and through behavioral measures (J. Doyle et al., 2007a; L. He & Thornton, 2013). Firms with ICWs have significantly larger abnormal accruals (Ashbaugh-Skaife et al., 2008) and have been found to manipulate earnings to a greater amount than firms without ICWs (Epps & Guthrie, 2010; Järvinen & Myllymäki, 2016). A 2013 study found that investors perceive the financial statements of firms that disclose MWs as less reliable compared to firms that do not disclose MWs (He & Thornton, 2013). There is evidence in the literature that the negative relationship between ICWs and earnings quality is driven by company level weaknesses rather than account specific weaknesses (Doyle et al. 2007b; He & Thornton, 2013). In addition, there is support that tax MWs impact earnings quality more than non-tax related MWs (Koester et al., 2015; Gleason et al., 2017). In addition to the initial negative market response to the announcement, disclosure of ICWs has other negative short- and long-term impacts for firms related to debt and equity financing, audit fees and performance.

#### *Short and Long Term Implications*

Existing research across public and private debt markets has found that firms that report ICWs face increased debt costs such as increased credit spreads and higher loan

rates (Costello & Wittenberg-Moerman, 2011; Dhaliwal et al., 2011; Kim et al., 2011; Hammersley et al., 2012). One study found that firms disclosing ICWs pay an average of 21 basis points more than non-disclosing firms (J. B. Kim et al., 2011). This is not surprising as lenders demand increased return from clients that are deemed riskier. Because reporting ICWs creates uncertainty regarding the accuracy and reliability of financial statements, lenders substitute financial covenants and ratio-based performance metrics with tighter non-price terms (Costello & Wittenberg-Moerman, 2011; Kim et al., 2011). Firms that report ICWs are also associated with debt rating downgrades. Utilizing Standard and Poor's debt rating which assigns a value between 2 and 27 for highest rating and lowest rating respectively, firms that reported an ICW had an average debt rating of 13.49 whereas matched control firms without an ICW had an average rating of 11.82 (El-Gazzar et al., 2011).

The impacts of ICWs on cost of equity is not as clear, as several studies report conflicting results (Ogneva et al., 2007; Ashbaugh-Skaife et al., 2009; Gordon & Wilford, 2012). Ogneva et al. (2007) found an insignificant association between ICWs and cost of equity, however findings by Ashbaugh-Skaife et al. (2009) suggest that a firm's cost of equity changes between 50-150 basis points after disclosing a MWs under 404. Ashbaugh-Skaife et al. (2009) also found that firms that were not expected to report an ICW and did, faced a greater increase in cost of equity compared to firms that were expected to report an ICW, demonstrating that reporting unexpected negative information increases uncertainty. In both cost of debt and equity literatures, there is support that company level ICWs are associated with more uncertainty than accounting specific

ICWs, as increased costs and related penalties are associated with company level ICWs rather than account specific ICWs (Gordon & Wilford, 2012; Kim et al., 2011).

Several studies have found a positive association between ICWs and audit fees; Firms that report ICWs pay higher audit fees than firms who have do not (Raghunandan & Rama, 2006; Beneish et al., 2008; Hogan & Wilkins, 2008; Hoitash et al., 2008; Munsif et al., 2011; Hammersley et al., 2012; Albring et al., 2018; J. E. Lee & Smith, 2018). In a study of firms in the manufacturing industry, Raghunandan and Rama (2006) found that firms disclosing a MW paid 43% higher audit fees than firms that made no such disclosure. Although audit fees gradually decline after remediation, it can take three to four years before they return to normal levels (Munsif et al., 2011). Simab and Koloukhi (2018) is one of the only studies to date that found no relationship between ICW and audit fees, however their study investigated a small sample of firms on the Tehran stock exchange between 2013-2015.

The association between audit fees and ICW severity is mixed. While some studies find evidence of a positive association between audit fees and severity (Hogan & Wilkins, 2008; Hoitash et al., 2008; J. E. Lee & Smith, 2018), other studies report that the level of weakness (e.g. company level or account level) does not cause a statistically significant difference in fees (Raghunandan & Rama, 2006). There is also evidence that that the association between audit fees and ICWs is stronger for ICWs reported under SOX 302 compared to ICWs reported under 404 (Hoitash et al., 2008). Studies that have explored the relationship between ICWs and firm performance have found that firms experience a decline in sales growth (Su et al., 2014), weaker financial performance as

indicated by declining ratios such as ROA (Lai et al., 2017), and decreasing inventory turnover coupled with increased inventory impairments (Feng et al., 2015).

The literature suggests that the uncertainty associated with the firm's controls over financial reporting has significant impact on the firm's ability to both appropriately value acquisition targets (Caplan et al., 2018) and integrate the acquisition into the business (Darrough et al., 2018; Harp & Barnes, 2018). As such, it is not surprising that Darrough et al. (2018) found that firms with ICWs receive a more negative market reaction to acquisition news than firms without such disclosures. Caplan et al. (2018) found that firms recorded larger Goodwill impairments for acquisitions made in years they disclosed a section 404 MW compared to firms without a MW, suggesting that ICWs inhibit the firm's ability to make wise investments. There is also evidence that firms with ICWs experience lower acquisition related future performance in the short term (Darrough et al., 2018), with increased likelihood of becoming a long term drag on performance if the ICWs are related to valuation, monitoring and integration processes (Harp & Barnes, 2018). Post ICW announcement, firms significantly reduce their overall investment in M&A and might miss out on profitable investment opportunities (Sun, 2016).

There are several other negative impacts of ICWs on firms. Disclosure of MWs under SOX 404 is positively associated with turnover of the board of directors, audit committee and top executives for talent with improved experience, qualifications and accounting knowledge (C. Li et al., 2010; Johnstone et al., 2011; Yazawa, 2015). Turnover of key management positions is a sign of firm instability thus increasing uncertainty. Yazawa (2015) found that firms without MW disclosures have longer senior

management tenure, fewer outsiders, and lower audit fees suggesting an incentive to not to disclose IC related issues. Other studies have found that the presence of ICWs is negatively associated with audit timeliness (Ettredge et al., 2006)) and negatively impacts both analyst and management forecast accuracy (Li et al., 2012; Xu & Tang, 2012). Forecast accuracy is especially prevalent when firms report IT MWs related to data processing (C. Li et al., 2012). There is also positive association between reporting entity level MWs under 302 and future stock price crash risk (Lobo & Zhou, 2006). Given the negatives short and long term impacts of ICWs on the firm, it is in the firm's best interest to resolve ICW as timely as possible.

### **Internal Controls Weakness Remediation and Uncertainty**

Just as there is research devoted to understanding the characteristics and likelihood of disclosing ICWs, it should come as no surprise that there is a growing segment of research dedicated to investigating the overall likelihood and outcomes of ICW remediation. The literature suggests that ICW remediation is an uncertainty decreasing event, as firms that successfully remediate ICWs have been able to reverse some of the negative consequences associated with having an ICW. Munsif et al. (2011) found that remediating firms have lower audit fees compared to non-remediating firms. Although audit fees remain 33% higher than firms who did not report a MW for subsequent years, they eventually reduce to normal levels (Munsif et al., 2011). Feng et al. (2015) identified a positive relationship between remediation and several performance metrics including inventory turnover, sales, gross profit, and cash cycles. Sun (2016) found that post remediation, firms will increase their investment back to pre-weakness levels.

Caplan et al. (2018) found that remediation of MWs reported under 404 led to improved Goodwill impairments, suggesting that fixing the control weakness was associated with better valuation.

While firms appear to be incentivized to fix their ICWs, there are several factors that impact remediation timeliness. Firms with a higher quantity of weaknesses and those with entity level weaknesses are less likely to remediate compared to firms with a single weakness or an account specific weakness (Goh, 2009; Johnstone et al., 2011; Hammersley et al., 2012; Graham & Bedard, 2013, 2015). In addition, tax and IT related ICWs take significantly longer to remediate than other types of ICWs (Klamm et al., 2012; L. Graham & Bedard, 2015). Firms with smaller audit committees and complex business structures are more likely to report the same material weaknesses year after year (Hammersley et al., 2012; Klamm et al., 2012). Graham and Bedard (2013) found that remediation is negatively associated with discovery by external auditors, substantive testing, and financial misstatements.

The literature also has identified factors that have a positive influence on remediation timeliness (Johnstone et al., 2011; Klamm et al., 2012; Liu & Liu, 2017). Klamm et al. (2012) found that firm remediation speed is positively associated with high levels of auditor expertise and financial resources. Johnstone et al. (2011) found that remediation is positively associated with audit committee turnover, hiring a CFO with accounting expertise, and increasing independence on the board and audit committee. Liu and Liu (2017) found evidence to support that CEO equity incentives are an important driver of remediation efforts. They also reported that CEO's with risk-based compensation are less likely to remediate as that may impact risk taking ability (Liu &

Liu, 2017). Keune and Keune (2018) paint a more favorable picture of firm management and suggest that in response to MWs, management will voluntarily change accounting principles and improve reporting quality and assist remediation efforts.

Collectively, the consensus in the literature is that the announcement of ICWs increases uncertainty surrounding the firm and overall quality and reliability of the firm's financial statements. Firms experience an immediate negative market reaction to the initial disclosure of ICWs followed by longer term implications. More severe ICWs are associated with greater uncertainty and thus increase the negative market reaction. In addition, the literature provides support for a decreased negative market reaction to repeating ICWs as remediation likelihood is negatively associated with ICW severity. Finally, the market has general expectations of which firms are more likely to report ICWs based on their size, operational complexity, and auditor characteristics. A deviation from the expectations increases uncertainty around the firm.

## **Earnings Announcement**

### *Market Reaction*

Earnings announcements (EA) are one of the most important disclosure events held by public companies as they often mark the first time a firm disseminates financial results to the public. Prior research had found that the information content of EAs have significantly increased over time as management utilizes EAs to provide enhanced insights into the financial statements and related disclosures (Francis et al., 2002; Collins et al., 2009). Therefore, it is not surprising that the market reactions to EAs are consistently higher than reactions to subsequently issued financial filings and other firm

announcements (Li & Ramesh, 2009; You & Zhang, 2009; Beyer et al., 2010; Basu et al., 2013). One study found that the proportion of variation of firms annual stock market return explained by four quarterly EA returns is 11% higher than the proportion of variation explained by 10-K and 10-Q filings and other firm announcements (Basu et al., 2013). You and Zhang (2009) suggest that investors consider financial statement filings as a “formality” and largely ignore 10-K and 10-Q filings as key metrics such as earnings per share (EPS), revenue growth, and other important financial measures are included within EAs. This is consistent with a recent study that found that the average publicly traded firm had their 10-K requested only 28 times on the filings date or the day after from EDGAR (Loughran & McDonald, 2017).

The overall timeliness and increased information content of EAs does not come without increased risk. EAs are taking place much earlier in the audit cycle and it has become common practice for firms to share financial results before their financial statement audits are completed (Schroeder, 2016). From 2001 to 2011 the percentage of firms that reported their earnings after the completion of their financial statement audit dropped from 72% to 5% (Schroeder, 2016). This trend is concerning given that Schroeder (2016) found a positive relationship between audit completion and information content of EAs. Results suggest that there is increased risk unverified and or incorrect financial figures being shared during EAs. In addition, other relevant information such as ICW disclosures, are often not complete at the time of EAs. Previous findings that financial filings are ignored are concerning as these findings suggest the new information included within those filings is overlooked or discounted.



### *Scheduling*

Prior research has found that management moves scheduled EAs based on the firm's results, providing further evidence of the importance of meeting expectations to market participants. Firms with bad news are likely to delay their EAs to a busier day or until after market, when market attention is lowest whereas firms with good news move their EAs to put themselves in the spotlight (Hirshleifer et al., 2009; Lim & Teoh, 2010). Other studies found evidence that firms reporting bad news move their EAs to Friday where they are less likely to receive attention before the upcoming weekend (Damodaran, 1989; Dellavigna & Pollet, 2009).

There is disagreement in the literature as to whether bad news such as missed earnings will lead to announcement delays or if bad news will prompt management to accelerate EAs. In a study of 846 chief financial officers, Chen and Mohan (1994) found that roughly one third of CFO's would change their earnings announcement date if they were reporting bad news. This is consistent with numerous other studies that found that firms are likely to delay EAs if they contain bad news (Trueman, 1990; Bagnoli et al., 2002; Abad et al., 2009; J. T. Doyle & Magilke, 2009; Kothari et al., 2009). Trueman (1990) suggests that bad news might lead management to partake in timely earnings management or to observe competitor announcements and adjust own announcements accordingly to negative reaction. Graham et al. (2005) found that 78% of 400 executives surveyed would sacrifice long-term company value to meet or beat earnings expectations. Opposing research suggests that managers are more likely to accelerate the announcement of bad news to avoid sudden decreases in stock price, reduce litigation risk, and protect the firm from reputation damage associated with withholding

information accusations (Bowen et al., 1992; Skinner, 1994; Donelson et al., 2012). Taken as a whole, prior research demonstrates that EAs command the attention of market participants.

### **Earnings Announcements and Uncertainty**

EAs are generally considered uncertainty reducing events as private information about the firm is released to the public (Patell & Wolfson, 1979, 1981; Brown & Han, 1992; Isakov & Pérignon, 2001; W. He et al., 2019). In general, empirical studies support that overall uncertainty decreases post earnings, evidenced by decreased option price volatility (Daley et al., 1988; Isakov & Pérignon, 2001) and increased convergence in analyst's future earnings forecasts (Brown & Han, 1992). However, the literature that explores uncertainty is in the context of meeting analyst forecasts suggests that EAs may be an uncertainty increasing event in certain scenarios (Brown & Han, 1992; Lu & Ray, 2016; Neururer et al., 2016).

The literature that explores the relationship between earnings results, as measured by the firm's ability to meet analyst expectations, and uncertainty has found that meeting analyst expectations reduces uncertainty whereas missing expectations increases uncertainty. Firms that consistently meet analyst expectations continue to decrease uncertainty and are found to be associated with higher value premiums and higher realized earnings compared to less consistent firms (Barth et al., 1999; Kasznik & McNichols, 2002; Skinner & Sloan, 2002; Myers et al., 2007; Fischer et al., 2014). In addition, firms that continue to extend their streak of meeting expectations are associated with less uncertainty and less risk as the streak continues. Prior research also

demonstrates that the incremental market reward for firms with consecutive earnings meets is less than that experienced by firms who failed to meet expectations in the prior periods (Kasznik & McNichols, 2002), suggesting that the market expectation increases as the string of consecutive beats gets longer. The uncertainty associated with consecutive beating firms is lower, explaining the diminished market reward. Just as firms are rewarded for strings of consecutive beats, they experience a significant reduction in market premiums if they were to miss an analyst forecasts (Fischer et al., 2014; Kasznik & McNichols, 2002; Myers et al., 2007).

Findings suggest that the relationship between earnings and uncertainty is far more complex than whether a firm meet or missed analyst expectations. The magnitude of the meet or miss, commonly referred to as the “surprise”, as well as the direction, have been found to significantly increases uncertainty (Brown & Han, 1992; Lu & Ray, 2016; Neururer et al., 2016). Neururer et al. (2016) indicate that the earnings surprises are a signal that deviates from expectations, and as such creates uncertainty. The researchers found evidence that firms who reported an earnings surprise experience a less pronounced decrease in options volatility after quarterly EAs compared to firms without surprises (Neururer et al., 2016), demonstrating that the surprise attenuates the decrease in uncertainty. In addition, firms with earnings surprises are associated with decreased convergence amongst analyst forecasts of future earnings (Brown & Han, 1992), suggesting that the uncertainty introduced by the surprise makes it more difficult for analysts to come to an agreement. Results from Peng et al. (2020) suggest that the sentiment of the earnings surprise moderates uncertainty, finding that positive earnings surprises were associated with lower uncertainty, as measured by option implied

volatility, than negative earnings surprises. This is a slightly different result from Lu and Ray (2016) that found that good news does not increase or decrease short-term uncertainty, rather only bad news increases uncertainty.

Taken as a whole, the literature highlights that EAs are one of if not the most important disclosure events made by firms. The information content of EAs continues to increase over time as key metrics and disclosures are being shared with market participants. In fact, research supports that EAs are making other financial filings appear less important to the typical investor.

Collectively, prior research suggests that EAs decrease uncertainty surrounding the firm as private information becomes public. However, EAs may increase uncertainty if firms deviate from expectations such as break consistency trends or report larger than expected deviations from estimates, known as surprises.

### **Chapter 3: Hypothesis Development**

#### **Hypothesis Development**

##### *Earnings Announcement Impact on Market Reaction to ICWs*

The information content of EAs has significantly increased over time. Market participants are provided deeper insights into firm financial statements and disclosures like never before (Francis et al., 2002; Collins et al., 2009). However, it is doubtful that disclosures related to ICWs would be discussed during an EA. EAs are taking place much earlier in the audit cycle, often times before financial statement audits are completed (Schroeder, 2016), making it unlikely that ICW disclosures are completed. In addition, informing the public of potential financial statement issues while providing a first look at

results is counterintuitive. It is commonplace for market participants to first learn about ICWs through financial statement filings.

Disclosing ICWs increases the uncertainty surrounding the firm as market participants are informed of possible accuracy and reliability issues with the firm's financial statements. This is evidenced by the negative abnormal returns faced by firms around the announcement date of the disclosure (Gupta & Nayar, 2007; Beneish et al., 2008; Hammersley et al., 2008; Y. Kim & Park, 2009), as well as other long-term negative impacts such as increased cost of capital (Kim et al., 2011; Gordon & Wilford, 2012), diminished earnings quality (Doyle et al., 2007; He & Thornton, 2013), and increased audit fees (Hogan & Wilkins, 2008; Hoitash et al., 2008; J. E. Lee & Smith, 2018). Meeting analyst expectations decreases the uncertainty level surrounding the firm; Firms that consistently meet analyst expectations are associated with higher value premiums and realized earnings (Barth et al., 1999; Kasznik & McNichols, 2002; Skinner & Sloan, 2002; Myers et al., 2007; Fischer et al., 2014). Just as meeting expectations can decrease uncertainty, the opposite is also true. Firms that miss analyst forecasts increase uncertainty and experience a significant reduction in market premiums (Kasznik & McNichols, 2002; Myers et al., 2007; Fischer et al., 2014). Given this established relationship between earnings and uncertainty, and that it is common practice for firms release their earnings prior to their financial statement filing, the uncertainty level established immediately post earnings should influence how the market responds to the announcement of an ICW.

Holding all else equal, firms that meet earnings expectations should have a lower uncertainty level going into the ICW disclosure relative to firms that missed earnings.

The lower uncertainty level might attenuate the negative market reaction as the firm has built up goodwill due to their demonstrated ability to meet expectations. The higher uncertainty level for firms that missed earnings expectations might amplify the negative market reaction as the firm is compiling bad news on top of bad news. On the other hand, firms that announce an ICW after an earnings meet might experience a more severe negative market reaction to the ICW as there is increased skepticism about the quality of reported earnings and whether expectations were met due to earnings management or error. The disclosure of the ICW in this case would be considered new information not in line with expectations, thus increasing uncertainty. Firms that missed earnings have already signaled the market that problems exist. As such, the announcement of an ICW might not be as great as a shock. Hypothesis one predicts that the stock market response to the announcement of ICWs will be significantly different for firms who meet earnings compared to firms that missed earnings, however no direction is offered given the two conflicting possible outcomes.

*H1: The negative abnormal returns experienced by firms announcing ICWs will be significantly different for firms who report an earnings meet or beat compared to firms who reported an earnings miss.*

## Chapter 4: Methodology

The impact of meeting earnings expectations on the market response to the announcement of internal control weaknesses is being evaluated utilizing event study methodology. After providing an explanation of event study methodology's relevance to this study, the full statistical model to test the hypotheses is presented.

The purpose of an event study is to quantify the impact of an event, in this study the disclosure of an internal control material weakness, on the stock returns of a company. Utilizing individual stock and market return data from a period prior to the event date, commonly referred to as the estimation window, a company's stock return is correlated with the return of a reference market to calculate an expected daily return for the stock. The difference between the actual return of a company's stock and the expected return of the company's stock is known as the abnormal return. Abnormal returns, a daily measurement, are summarized to calculate the cumulative abnormal return, which represents the aggregate change over an event window. The event being studied has an impact on a firm's stock if the actual return of the stock is significantly different than the expected return, determined by comparing the  $t$  statistic for abnormal returns to the total population return  $Z$  statistic. Statistical significance is present only if absolute value of the  $t$  statistic is greater than the population  $Z$  statistic and the difference is statistically significant. However, if  $t$  statistic is lower than population  $Z$  statistic, there is not a determinable difference and the event is considered inconsequential.

Fama et al. (1969) were the first to utilize event study methodology to investigate the stock market response to the announcement of stock splits. This methodology is common in accounting and finance research, and has already been utilized in the

literature to investigate the stock market return to the announcement of ICWs (Gupta & Nayar, 2007; Beneish et al., 2008; Hammersley et al., 2008; Y. Kim & Park, 2009).

Following preceding literature, event study methodology is appropriate for use in this study.

The event date is the day that each individual firm disclosed ICW information in their annual (10-K) or quarterly (10-Q) financial filings. As firms choose when they file their financials, selecting a single event date would be inappropriate. Rather, an event date is specified for each individual observation. For each observation, the researcher determined the time of day that the financial filing was filed and made available. For filings released prior to stock market open, or during regular trading hours of 9:30 am and 4:00 pm (EST), the event date is the filing date. For filings made after hours, or on a day that the stock market is closed, the event date is the next day the stock market was open. Prior literature has utilized a 2-day (Gupta & Nayar, 2007) and a 3-day (Beneish et al., 2008; Hammersley et al., 2008; Y. Kim & Park, 2009) event window to investigate the market response to ICW disclosures. This study employs both 1-day and 2-day windows to ensure the observed results are not sensitive to alternate event study window specifications. Specifically, the following event windows are specified and analyzed in this study: (-1,0), (0,0), (0,1), and (-1,1).

This study estimates a market model to calculate abnormal returns within the identified event windows. The market model is one of the most common models utilized in event study research (MacKinlay, 1997). Two other models, namely the Fama-French 3 Factor Model and Fama-French 4 Factor Model, are also utilized for robustness purposes to verify results are consistent with different models for estimating abnormal



returns. The study adopts an estimation window of 255 trading days ending 46 days prior to the event date. Returns data necessary for estimating abnormal returns is compiled from the Center for Research in Security Prices (CRSP) database and the CRSP value-weighted index serves as a proxy for market returns (Gupta & Nayar, 2007; York et al., 2012; Bonaimé et al., 2014).

#### *Abnormal Return Calculations*

The regression equation for the expected returns based on the estimation period is calculated as:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}.$$

The regression equation for abnormal returns is calculated as:

$$AR_{it} = R_{it} - (\alpha_i + \beta_i R_{mt}) + \varepsilon_{it},$$

where  $R_{it}$  is the return of stock  $i$  for period  $t$ ,  $\alpha_i$  is the intercept term,  $\beta_i$  is the measure of sensitivity of  $R_{it}$  on the reference market,  $R_{mt}$  is the return on the CRSP value weighted market portfolio for period  $t$ , and  $\varepsilon_{it}$  is the residual error term on security  $i$  for period  $t$ .

The resulting abnormal returns are the dependent variable in the regression models to test the main hypotheses. Eventus Software is utilized to calculate abnormal returns, cumulative abnormal returns, and related significance. Eventus software made available by Cowan Research, LC (Cowan Research, 2007) and is extensively utilized across industry and academia (Halperin & Lusk, 2013).

After calculating abnormal returns, the researcher utilized the following OLS regression model to test the hypotheses:

$$AR_{it} = \beta_0 + \beta_1(MISS)_{it} + \beta_2(ICW\ CONTROLS)_{it} + \beta_3(FIRM\ CONTROLS)_{it} + \varepsilon_{it}.$$

where AR is the abnormal return derived from the market model. The primary variable of interest in this study is MISS, which is a binary variable equal to 1 if the firms actual EPS is less than the mean consensus EPS in IBES, and 0 otherwise, representing a firm that met or beat earnings. H1 predicts that the MISS variable will be significant. Given the opposing possibilities, a case can be made for the sign of the coefficient to be either positive or negative.

ICW CONTROLS a number of severity measures that have been found in the literature to moderate the negative market response to disclosure of ICWs (Hammersley et al., 2008; Y. Kim & Park, 2009). The first severity variable is the ICW\_LEVEL, which is a binary variable equal to 1 if any of the ICWs reported by the firm are company level and 0 otherwise (Doyle et al., 2007b; Mitra et al., 2013; Jaggi et al., 2015). Firms with more than three account level ICWs are coded “1” as well as that indicates there is a more pervasive problem (Doyle et al., 2007b). The second severity variable is ICW\_COUNT, which is a continuous variable that represents the number of ICWs being reported in the period. The third severity variable is REPEAT, which is a binary variable coded as 1 if the ICW is being reported for the first time and 0 otherwise. Prior research has found that remediation of ICWs is not immediate (Goh, 2009; Hammersley et al., 2012; Johnstone et al., 2011; Graham & Bedard, 2013, 2015) and as such, the market response to a first time ICW should be different to a previously communicated issue. FIRM CONTROLS are a variety of control variables that have been shown in prior literature to predict the likelihood of whether a firm will report an ICW. FIRM CONTROLS include variables such as firm size, performance, operational complexity, and external auditor characteristics. ICW\_LAG is a continuous variable that represents

the number of days between a firm's earnings announcement and the corresponding 10-K / 10-Q filing. Prior literature has shown that firms are likely to delay their EAs if they contain bad news (Trueman, 1990; Bagnoli et al., 2002; Abad et al., 2009; J. T. Doyle & Magilke, 2009; Kothari et al., 2009) and take steps to limit the attention to their earnings by moving EAs to busier days, after market, or to a Friday (Damodaran, 1989; Dellavigna & Pollet, 2009; Hirshleifer et al., 2009; Lim & Teoh, 2010). Given that earning announcements receive far greater market attention than firm financial filings (Li & Ramesh, 2009; You & Zhang, 2009; Beyer et al., 2010; Basu et al., 2013), it is possible that the timing of financial statement filings in relation to the timing of EAs may also play a role on markets reaction to ICW disclosures. The *ICW\_LAG* variable is constructed with consideration given to the time of day of the earnings announcement and the financial filing. For example, if the earnings announcement is made prior to market open and the financial filing is made after hours on the same day, this would reflect a 1-day lag. See Appendix A for a table of the control variables and related calculations based on the literature.

Next, the following OLS regression model is estimated to determine if other characteristics of earnings impacted the results:

$$AR_{it} = \beta_0 + \beta_1(EARNINGS\ UNCERTAINTY)_{it} + \beta_2(ICW\ CONTROLS)_{it} + \beta_3(FIRM\ CONTROLS)_{it} + \varepsilon_{it}.$$

*EARNINGS UNCERTAINTY* includes several measures for earnings including *SURPRISE*, *REPORT AFTER PEERS* and *PRIOR EARNINGS*. *SURPRISE* is a binary variable that equals 0 if the absolute value of the actual EPS less the mean consensus EPS is less than 2 cents, and 1 otherwise (Bissessur & Veenman, 2016). Following similar

logic, the researcher constructed binary variables to distinguish between positive and negative surprises as prior literature has found that the sentiment of earnings surprise matters (Peng et al., 2020; Lu & Ray, 2016). POSITIVE SURPRISE is a binary variable that equals 1 if the actual EPS less the mean consensus EPS is greater than 2 cents, and 0 otherwise. NEGATIVE SURPRISE is a binary variable that equals 1 if the Actual EPS less the mean consensus EPS is less than negative 2 cents, and 0 otherwise. REPORT AFTER PEERS is a binary variable that equals 1 if the number of days it takes the firm to announce earnings is higher than the average of its peer group, and 0 otherwise. Analysts and market participants use peer performance as a benchmark when setting expectations (De Franco et al., 2015). As such, the uncertainty surrounding firms should be lower for firms that report earnings after its peers compared to that of firms that are first to report as peer performance is not yet available. Finally, PRIOR EARNINGS is a binary variable that equals 1 if the firm's earnings history is less consistent than its peers, and 0 otherwise. Earnings history consistency is calculated as the standard deviation of the prior 6 earnings results, calculated as the difference between the actual EPS and estimated EPS divided by the estimated EPS.

## **Chapter 5: Data and Sample**

This chapter provides details about the data sources utilized as well as a breakdown of sample construction. All data utilized in the analysis is current as of November 2020.

## **Data Sources**

SOX 302 and 404 disclosure information as well as external auditor data are retrieved from the Audit Analytics Database. Audit Analytics includes data for thousands of publicly traded companies back to 2001 and has been cited by hundreds of scholarly articles (Audit Analytics, 2020). The internal controls database includes data on SOX 404 disclosures made by management and the external auditor. The disclosure control database contains data on SOX 302 disclosures made on quarterly basis, required for all SEC registrants.

Data to support the creation of earnings-related variables and analyst forecast variables is obtained from the Institutional Brokers' Estimate System (IBES). The database reports analyst forecast information for various metrics such as earnings per share and revenue as well as well as filed results. Data to support the creation of company-level controls will be obtained from Compustat – Capital IQ database published by Standard and Poor's. The database provides historical security information including but not limited to pricing, earnings, and institutional holdings. Data is available in both quarterly and yearly formats.

## **Sample Construction**

The population for this study is all SOX 404 and SOX 302 firm level observations within the Audit Analytics database. The sample period is all firm year or firm quarter observations with a filing date of December 2005 through December 2019. SOX 404 became effective for all annual reporting periods after November 14, 2004. Selecting a beginning period of December 2005 will ensure that the creation of any lagged variables will be from the post-SOX period.

Publicly traded firms with reported material weakness deficiencies under SOX 404 and SOX 302 are extracted from the Internal Controls database and Disclosure Controls database from Audit Analytics, respectively. Significant deficiencies, which are less severe than material weaknesses and reported in the Disclosure Controls database, are excluded as management is not required to disclose these weaknesses to the public. Observations not found in Compustat, IBES and CRSP are dropped as key data is not available to construct controls, earnings related variables and calculate abnormal returns. This results in a final sample of 760 firm-year observations for SOX 404 and 3,586 firm-quarter observations for SOX 302. See Appendix A for a full breakdown of the sample construction.

## **Chapter 6: Empirical Results**

This chapter presents the results regarding the impact of meeting analyst earnings expectations on the market response to internal control weakness disclosures. Of particular interest are abnormal returns surrounding the disclosure of 404 and 302 MWs and descriptives are presented in the following sections. The results of the primary regression analyses are presented next followed by a series of robustness analyses.

### **Abnormal Returns for MW Disclosures by Earnings Result**

Table 1 Panel A presents of mean abnormal returns surrounding MW disclosures calculated under the Market Model. Abnormal returns calculated under the Fama French 3 and 4 Factor Models are presented for robustness of results. Column 1 includes the full sample of disclosures followed by disclosures for firms that met or beat earnings in

column 2. Disclosure for firms that missed earnings follow in column 3. For the full sample of SOX 404 MWs there does not appear to be a significant negative market reaction to the MW disclosure. The mean return is 0.16% and not significant. However, results in columns 2 and 3 reveal there is more to the story as not all MWs are alike. The mean return for disclosures of firms that met or beat earnings is significant and positive, however the mean returns for firms that missed earnings is significant negative. Firms that miss earnings experience a mean return of -0.71% on the disclosure date and -0.25% on the day following the announcement.

Table 1 panels B and C display the cumulative abnormal returns (CARs) for the samples of firms that met or beat earnings and firms that missed earnings respectively. The CARs for firms that met or beat earnings are positive across all event windows displayed with sign test significance on the (0,1) window. Contrastingly, CARs for firms that missed earnings are negative across all event windows with significant sign tests for the (0,0) and (0,1) windows. Collectively, the findings in Table 1 present immediate support for the hypothesis that the abnormal returns experienced is different for firms that met or beat earnings compared to firms that missed earnings for MWs disclosed under SOX 404.

Table 2 Panel A presents the mean abnormal returns surrounding MW disclosures calculated under the Market Model for disclosures made under SOX 302, followed by CARs broken down by earning results in Panels B and C respectively. Mean abnormal returns in Panel A columns 2 and 3 show that firms that met or beat earnings have significantly positive returns on the disclosure date, whereas firms that missed earnings experience significantly negative returns. Similar to the preceding SOX 404 results,

CARs in panel B for firms that met or beat earnings are positive across all event windows with sign test significance. In addition, CARs for firms that missed earnings are negative across all event windows with significant sign test results. Findings in Table 2 present additional support for the primary hypothesis pertaining to the SOX 302 disclosures.

### **Abnormal Returns for SOX 404 MW disclosures by MW Type**

Table 3 Panel A presents the mean abnormal returns broken out by new and repeating MWs. Column 1 includes the full sample of Section 404 disclosures followed by new MW disclosure and repeating MW disclosures in columns 2 and 3, respectively. The mean return for the disclosure of new MWs is -0.27% on the disclosure date, followed by a -0.10% return on the day following announcement. The return on the day following the announcement is significantly negative. In addition, sign test results for the sample of new MWs are significantly negative supporting the premise that the disclosure of new MWs is an uncertainty increasing event. On the other hand, the mean return for repeating MWs is significantly positive on the disclosure date with a mean return of 1.33%. The difference in market reaction to new and repeating MWs is not surprising as repeating disclosures are not providing new information to the market. It is a little surprising that the mean return for repeating MWs is positive. This could be explained by other factors preceding the disclosure such as earnings results, and other information accompanying the disclosure in the 10-K.

Table 3 panels B and C display the cumulative abnormal returns (CARs) for new 404 MWs and repeating 404 MWs, respectively. For the sample of new MWs, CARs are negative across all event windows displayed with significance found in the (0,1) window. The CARs for new 404 MWs are negative for the (0,0) and (0,1) window with a mean of



-0.27 and -0.46% respectively for the Market Model. Sign test results are significant as well. CARs in panel C for repeating MWs are positive and significant across all event windows displayed. Collectively, results in table 3 indicate that the market responds differently to new and repeating MWs. The disclosure of new MWs are uncertainty increasing events whereas repeating MWs do not appear to have the same impact. In addition, results from Table 2 provide support for focusing on the (0,0) and (0,1) return windows in the main regressions utilized to test the hypotheses.

Table 4 presents the abnormal returns and CARs for new and repeating SOX 302 MWs. There is no clear delineation between new and repeating MWs under 302 as was evident for SOX 404 MWs. Collectively the abnormal returns demonstrate that the disclosure of 302 MWs resembles that of a nonevent. Table 4 panels B and C display the cumulative abnormal returns for new and repeating 302 MWs, respectively. Although the CARs for new MWs are positive across all event windows displayed, none are statistically significant at conventional levels. CARs for repeating MWs are negative across all event windows displayed, but once again, statistically insignificant. Collectively, results in Tables 3 and 4 present quite different stories regarding the markets response to new and repeating MWs. There is a clear difference in market reaction to new and repeating MWs under 404, suggesting that market participants deem 404 MW disclosures important the first time they are made available. The reaction appears to be muted for reoccurring issues. The market reaction for both new and repeating SOX 302 MWs disclosures is negligible. This is not surprising given previous findings demonstrate concerns about the overall reliability of 302 reports given

management regularly downplays severity and contents are not independently verified (Hermanson & Ye, 2009; Bedard & Graham, 2011).

### **Descriptives - Material Weakness Trends by Earnings, Year and Industry**

Figure 1 displays the SOX 404 market model returns by earnings result and MW type. Outside of a couple of outliers, the distributions for firms that beat earnings are tight with limited variability. However, the distribution for firms that missed earnings and reported new MWs have a much wider range. This is not surprising as uncertainty surrounding these firms is heightened given poor earnings results and the disclosure of negative news related to the accuracy and reliability of reported financial statements. Figure 2 displays similar returns for SOX 302 MWs. Differences in the distributions are not as evident although it appears that market returns are slightly lower for firms that missed earnings. The differences between new and repeating MWs is less discernable. This is consistent with early reported results that found that marginal differences between new and repeating 302 MWs.

Table 5 Panel A provides descriptive trends by year for the SOX 404 material weaknesses disclosures followed by industry trends in Panel B. Cumulative abnormal returns and counts are provided based on earnings result. Figures 3 and 4 provide a visualization of the table results. As shown in Figure 3, the number of SOX 404 MWs seems to decline as companies began to comply with SOX 404 requirements. However, over time the number of MWs has steadily increased over time. MW announcements appear to be less rare, as companies might not be as concerned with the ramifications of reporting MWs. In Figure 4, the impact of earning results on the market response is clear. Outside of very limited years, firms that missed earnings consistently experience more

negative market reactions to MWs than firms that met or beat their earnings targets.

Table 5 Panel B provides descriptive trends by industry for the same sample of 404 MWs. At the industry level, firms that miss earnings experience a more negative market reaction to SOX 404 MW disclosures.

Table 6, Panels A and B provide similar descriptive trends by year and industry for the SOX 302 material weakness disclosures. Figures 3 and 4, which provide a visualization of Panel A results, shows findings consistent those found with SOX 404 MW disclosures. Over time the number of MWs reported continues to increase, and firms that miss earnings consistently experience more negative market reactions. Trends in Panel B demonstrate that earnings differences are consistent between industry.

### **Summary Statistics of Firm Characteristics**

Table 7 displays summary statistics of firm characteristics. A full description of variables is presented in the appendix. As the research is focused on analyzing the impact that meeting earnings expectations has on the market response to internal control weaknesses, the descriptives are separated out by earnings result to determine if there are any fundamental differences between firms that meet or miss analyst earnings targets. Descriptives in Table 7 Panel A show that while firms that meet or miss earnings tend to have the same material weakness profile, they experience significantly difference market reactions to disclosure news across the (0,0) and (0,1) windows. Firms that met or beat earnings experience positive returns while firms that missed earnings experience negative returns.

The 404 material weaknesses are new approximately 75% of the time and are also more likely to be at the entity level, signifying a larger issue. The average for both samples is approximately two MWs disclosed. Firms that meet earnings are generally smaller in size, have smaller ROAs and are less prone to employing BIG 4 auditors. Descriptives in Table 7 Panel B shows similar statistics for the sample of 302 MWs. Again, the market reaction is significantly different based on earnings results. Firms that miss earnings are generally growing and restructuring their business. This makes sense as increased expenditures to support these initiatives impact the bottom line.

### **SOX 404 Multivariate Results**

Table 8 column 1 provides regression results for the entire sample of SOX 404 MW disclosures from 2006-2019 derived from the Market Model. The primary variable of interest, *Miss*, is negative and significant on the announcement date (p-value <0.001) as well as the (0,1) CAR (p-value <0.01) after controlling for firm-specific variables that have been previously found to influence the market response to MW disclosure news. Results indicate that when a firm misses earnings expectations the overall market response to the MW disclosure will be 1.7% lower than firms that met or beat earnings expectations in the (0,0) window and 2.1% lower in the (0,1) window. This supports the primary hypothesis.

Given the previously reviewed results of abnormal returns in prior tables, and in line with prior research, it is not surprising that the coefficient on the *Repeating MW* variable is positive and significant on the disclosure date (p-value <0.01) and the (0,1) CAR window (p-value <0.05). Repeating MWs are already known by market participants and therefore do not increase uncertainty surrounding the firm. Other determinants for

reporting MWs under SOX 404 are not significant. This could be explained by the sample itself in that all firms are covered by analysts. As such, the firms share congruent qualities such as being large, having complex operations, and employing a top auditing firm. Results hold in columns 2 and 3 utilizing CARs derived from other models. The results above for the full sample of disclosures include observations where the firm announced earnings and issued their financial reports (and therefore disclosed their MW) on the same day. For robustness, the regressions were re-run excluding these “same day” disclosures and results hold. In addition, regressions were re-run to exclude all observations in the financial industry and results were unchanged.

Table 9 displays regression results for the full sample of SOX 404 MW disclosures from 2006-2019 derived from the Market Model. The *Miss* variable is replaced with variables to capture earnings surprises. The coefficient on the variable *Surprise* in columns 1 and 4, is not significant, however a breakdown of the type of surprises reveals an explanation. The coefficient on the *Positive Surprise* variable in columns 2 and 5 is positive and significant (p-value <0.01) while the coefficient on the *Negative Surprise* variable in columns 3 and 6 is significantly negative (p-value <0.01). This suggests that for firms that beat earnings expectations, the impact of the MW disclosure is weakened compared to firms that either missed or just met their earnings. However, firms that missed earnings expectations are penalized to a greater degree than firms that had a slight miss or that met. This further supports H1 that preceding EAs play a role into the market response to MWs. As expected, the coefficient on the *Repeating MW* variable is positive and significant across all specifications. Regression results hold

utilizing CARs derived from other models, removing same day observations and observations in the financial sector.

Table 10 and 11 provide additional robustness and display regression results that include other variables that might impact the uncertainty surrounding the firm going into earnings, and therefore could in turn alter the observed results in the primary analyses. Table 11 includes a *Report after Peers* variable which indicates whether a firm releases their earnings before or after their peers based on average days. If a firm releases their earnings after their peers, market participants can utilize peer information as additional information to set expectations, and as a result there should be less uncertainty surrounding the firm. Table 11 includes a *Prior 6 Earnings* variable that captures the firm's variability of meeting their earnings over the last 6 quarters compared to their industry peers. If the variability of a firm's earnings is greater than their peer average, then the firm is less consistent and as such there will be more uncertainty surrounding the firm going into earnings. The sample size in table 11 is smaller as firms without six prior quarters of reported earnings results were excluded.

Results in Table 10 find that the *Miss* variable is negative and significant on the announcement date as well as the (0,1) windows. The positive and negative surprise variables are significant with the expected sign on the coefficient, supporting H1. The *Report after Peers* variable is marginally significant (p-value <0.10) on the announcement date only. This suggests that timeliness of reporting earnings relative to peers does not play a significant role in how the market will respond to SOX 404 disclosure news. Regression results utilizing CARs derived from other models and removing same day items hold.

Results in Table 11 find that the uncertainty surrounding the firm due to prior earnings variability is insignificant and plays no role on how current earnings impact the market's reaction to SOX 404 MW disclosures. In support of H1, the *Miss* variable is negative and significant on the announcement date as well as the (0,1) window. The *Positive* and *Negative Surprise* variables are significant with the expected sign on the coefficient, and *Repeating MW* remain positive and significant. Regression results utilizing CARs derived from other models and removing same day items hold.

### **SOX 302 Multivariate Results**

Table 12 column 1 provides regression results for the entire sample of SOX 302 MW disclosures from 2005-2019 derived from the Market Model. The primary variable of interest, *Miss*, is negative and significant on the announcement date (p-value <0.001) as well as the (0,1) CAR after controlling for firm-specific variables that have been previously found to influence the market response to MW disclosure news. Results indicate that when a firm misses earnings expectations the overall market response to the MW disclosure will roughly 2.1% lower than firms that met or beat earning expectations on the announcement date and 2.3% over the (0,1) window. This supports the primary hypothesis.

Unlike SOX 404 MW results, the *Repeating MW* variable is not significant. As previously reported, the market does not appear to differentiate between new and repeating items. Firms with a higher *ROA* and *High Growth* can mitigate the negative impact of disclosing a MW. This is in line with the literature that suggests that firms who are rapidly growing receive a reprieve as the market expects internal control issues through growing pains. Results hold in columns 2 and 3 utilizing CARs derived from

other models. For additional robustness, the regressions were re-run and only included observations where there was at least a one-day lag between earnings and filings and results still hold.

Table 13 displays regression results for the full sample of SOX 302 MW disclosures from 2005-2019 derived from the Market Model. The *Miss* variable is replaced with variables to capture earnings surprises. The coefficient on the variable *Surprise* in columns 1 and 4, is not significant, however the coefficient on the *Positive Surprise* variable in columns 2 and 5 is positive and significant (p-value <0.001) while the coefficient on the *Negative Surprise* variable in columns 3 and 6 is significantly negative (p-value <0.001). This is in line with expectations and consistent with SOX 404 MW results. For firms that beat earnings expectations, the impact of the MW disclosure is weakened compared to firms that either missed or just met their earnings. Similarly, firms that missed earnings expectations are penalized to a greater degree than firms that had a slight miss or that met earnings. This further supports H1 that preceding EAs play a role into the market response to 302 MWs. *ROA* and *High Growth* variables remain positive and significant. Regression results utilizing CARs derived from other models and removing same day events hold.

Table 14 and 15 contain the regression results that include the variables that capture the timeliness of earnings variables based on peers and prior earnings variability, respectively. Results in Table 14 find that the *Miss* variable is negative and significant (p-value <0.001) on the announcement date as well as the (0,1) CAR window. The *Positive* and *Negative Surprise* variables are significant with the expected sign on the coefficient, thus supporting H1. The *Report after Peers* variable is not significant suggesting that



timeliness of reporting earnings relative to peers does not play a significant role in how the market will respond to SOX 302 disclosure news. *ROA* and *High Growth* variables remain positive and significant. Regression results utilizing CARs derived from other models and removing same day events hold.

Results in Table 15 find that the uncertainty surrounding the firm due to prior earnings variability is not significant. The market reaction to SOX 302 MW disclosures appears to be impacted by the most recent earnings period only. The *Miss* variable remains negative and significant as do the *Surprise*, *ROA* and *Growth* variables. Regression results utilizing CARs derived from other models and removing same day events hold.

## **Chapter 7: Conclusion**

This final chapter presents a summary of key contributions made to the internal control literature stream in accounting. Accounting researchers have explored internal controls disclosures made under SOX 404 and 302 from a variety of different angles, one of which is the immediate market response to disclosure events. This is the first study to examine how preceding earnings announcements impact the market response. Study limitations as well as future academic research opportunities are also presented.

### **Contributions**

The implementation of SOX was met with significant resistance as opponents argued that costs of compliance were a financial burden on firms, with little added benefits to market participants. Nearly two decades later, the call to roll-back key

provisions have been gaining momentum. In March 2020, an amendment was made to accelerated filer definitions that allow many firms to no longer be subject to SOX 404 (b) requirements. The amendment prompted calls for additional research into the costs and benefits of key SOX provisions. This study makes several important contributions that can inform future policy decisions.

This study is the first to investigate how preceding earnings announcements impact the market response to material weakness disclosures. While previous studies find evidence that MW disclosures are important to market participants, this study shows that the market reaction is significantly influenced by the firms' preceding earnings results. Firms that missed earnings experienced a negative market reaction to MW disclosures, whereas positive earnings news attenuates the negative response to MW disclosures. While it is not practical to only require firms that miss earnings to comply with SOX provisions, it demonstrates that key firm information announcements, such as earnings, have the ability to overshadow information released subsequently

To further address the information value of ICW disclosures, this study finds that negative market reaction to MW disclosure is limited only to those firms disclosing a new material weakness under SOX 404. Repeating weaknesses, and those made under SOX 302 do not appear to be associated with abnormal returns. The difference in market reactions between SOX 404 and 302 suggest that the market does not place much weight into 302 disclosures. This is consistent with prior literature that found that 302 disclosures are not as trustworthy given management's tendency to downplay the severity of ICWs and given the lack of independent review required by SOX 404. Relaxing SOX 404 thresholds might have an unintended consequence as relevant information about new

SOX 404 MWs would no longer be required. In addition, descriptive analyses demonstrate that the number of firms reporting both types of material weaknesses is on the rise. This finding suggests that the penalty associated with reported MWs has subsided over time. It does not appear that firms are worried about the negative stigma associated with internal control issues.

### **Limitations**

The current study is not without limitations. The material weakness data gathered by Audit Analytics personnel often relies on individual judgement to decipher key variables and characteristics of the disclosure such as the account in question and the underlying issue (i.e., segregation of duties, board makeup, ethics etc.). This presents an inherent risk that data might include some inaccuracies. Prior to constructing variables to discern between entity level and account level MWs, the researcher performed testing procedures over a sample of 25 MWs to determine if the coding in the Audit Analytics database was accurate. The researcher read each disclosure in detail and compared key attributes of the disclosure to what was entered into the database. Although agreement was noted in all cases, sampling risk remains. Future researcher can replicate this study and use other analytic techniques such as text mining of financial statement disclosures to either validate the Audit Analytics database or create a new population of MW disclosures.

Other limitations are related to sample and variable selection decisions. The researcher limited the sample to material weaknesses that were announced in the 10-K or 10-Q only. Although it is rare, information related to MWs could be disclosed in other

forms such as 8-K and proxy statements such as the DEF 14-A. Future researchers could replicate this study utilizing all MW disclosures made by firms. This study focused on EPS related measurements as the primary indication of whether a firm met or missed earnings targets. As firm life cycles are different, meeting growth projections might be more important for certain firms than profitability. Rather than utilizing bottom-line measures, future studies can focus on top-line measures such as revenues and determine whether results still hold.

### **Future Research**

Future scholars could extend this research in the following ways. First, separate analyses were conducted on Section 302 and 404 MWs (i.e. distinct groups rather than together). While this allowed for robust analysis of each type of disclosure, it presents an opportunity to study 302 and 404 MWs together. It is possible that quarterly 302 MW disclosures might be an early warning to market participants of upcoming 404 MW disclosures. As such, the severity of the market response to the 404 MW disclosure might be different for firms that had prior quarterly disclosures compared to firms who did not.

Second, the number of MWs disclosed under *both* Section 302 and Section 404 has increased over time, and particularly over the last five years. As this increase was not the primary focus of this study it was not thoroughly explored, thus presenting an opportunity for future researchers. It is possible that a some of the observed increase could be explained by the sample construction that required firms be covered by analysts. Technology advancements might make it easier for analysts to cover more firms than in prior years, which in turn could inflate MW counts in later years. However, the increase in MW disclosures might also indicate that the focus and importance of these disclosures

is driven – at least in part – by other significant economic events. A future study could bifurcate the data into subgroups and determine if any inflection points exist that might explain the increase. For example, future researchers can explore how the number of MWs reported changed pre, during and post the 2008 financial crisis.

Third, there is an opportunity to explore whether the time of day that material weakness disclosures are made plays a significant role in the market response. Earnings announcement literature suggests that management opportunistically releases bad news when attention is lowest, such as late at night, busier times, and weekends (Damodaran, 1989; Dellavigna & Pollet, 2009). While this study included a variable that captured the number of days between earning announcements and financial statement filings, future researchers can determine if the time-of-day plays a role. Do companies with MWs try to bury their reports as not to draw attention to the negative news? How does the time of day impact the digestion of the news? These are all questions worth exploring.

Fourth, there is an opportunity to explore whether earnings outcomes impact other short- and long-term implications of disclosing MWs as noted in the literature. Prior research has found that firms with MWs face higher debt and equity costs and are more likely to turnover top executives. Future scholars can determine if and how meeting or missing earnings can influence these costs and turnover. Perhaps earnings results play a significant role in the downstream impacts of MW disclosures. Finally, future researchers could recreate this event study with an experimental design. Utilizing information for a fictitious company, future researchers could manipulate various aspects of firm specific information such as earnings results and MW disclosure information and determine how participants make investment decisions across the conditions.



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**Table 1. Panel A:***Mean Abnormal Returns: 404 MWs by Earnings Result*

Market Model:

	Full Sample N = 760 (1)			Meet or Beat N = 384 (2)			Miss N = 376 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.28% **	382:378	1.782	0.48% **	191:193	2.245	0.07%	191:185	0.383
Day 0	0.16%	358:402	0.788	1.03% ***	193:191	3.473	-0.71% *	165:211 **	1.562
Day 1	-0.04%	366:394	1.155	0.16%	190:194	0.083	-0.24% *	176:200	1.548

Fama French 3 Factor Model:

	Full Sample N = 760 (1)			Meet or Beat N = 384 (2)			Miss N = 376 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.25% *	380:380	1.640	0.43% **	198:186	1.956	0.07%	182:194	0.377
Day 0	0.17%	361:399	0.856	1.06% ***	193:191	3.678	-0.73% **	168:208 *	1.648
Day 1	-0.05%	366:394	1.255	0.13%	193:191	0.325	-0.23% *	173:203	1.440

## Fama French 4 Factor Model:

<i>Date</i>	Full Sample N = 760 (1)			Meet or Beat N = 384 (2)			Miss N = 376 (3)		
	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.25%*	379:381	1.619	0.43%**	192:192	1.963	0.06%	187:189	0.361
Day 0	0.17%	364:396	0.822	1.04%***	195:189	3.594	-0.71%*	169:207*	1.632
Day 1	-0.08%*	374:386	1.462	0.10%	198:186	0.254	-0.27%**	176:200	1.810

Notes: Column 1 shows the full sample and consists of 760 firm year observations that a MW was disclosed in the firms 10-K. The abnormal returns (ARs) and Sign Test results are derived from the Market Model, Fama French 3 Factor Model and Fama French 4 Factor Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. Columns 2 displays the abnormal returns for the subgroup of observations that met or beat earnings, followed by the abnormal returns for the subgroup of observations that missed earnings in column 3.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 1. Panel B:***Cumulative Abnormal Returns – Firms with 404 MWs – Earnings Meet or Beat**N = 384*

Period	Market Model (1)			Fama French 3-Factor (2)			Fama French 4-Factor (3)		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	1.51%	210:174***	4.005	1.49%	209:175**	3.967	1.47%	209:175**	3.910
(0,0)	1.03%	193:191	3.472	1.06%	193:191	3.678	1.04%	195:189	3.594
(0,+1)	1.19%	199:185	2.790	1.19%	201:183*	2.854	1.14%	204:180**	2.829
(-1,+1)	1.67%	208:176**	3.466	1.62%	205:179**	3.352	1.58%	201:183*	3.348

Notes: Panel B shows the cumulative abnormal returns (ARs) for the sample of firms that met or beat earnings. In column 1 the cumulative ARs and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 1. Panel C:***Cumulative Abnormal Return – Firms with 404 MW's – Earnings Miss**N = 376*

Period	Market Model (1)			Fama French 3-Factor (2)			Fama French 4-Factor (3)		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	-0.65%	184:192	1.065	-0.66%	181:195	1.157	-0.65%	177:199	1.162
(0,0)	-0.71%	165:211**	1.561	-0.73%	168:208*	1.648	-0.71%	169:207*	1.632
(0,+1)	-0.96%	162:214**	2.184	-0.96%	162:214**	2.200	-0.99%	167:209**	2.328
(-1,+1)	-0.89%	173:203	1.658	-0.89%	180:196	1.685	-0.93%	172:204	1.799

Notes: Panel C shows the cumulative abnormal returns (ARs) for the sample of firms that missed earnings. In column 1 the cumulative ARs and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 2. Panel A:***Mean Abnormal Returns: 302 MWs by Earnings Result*

Market Model:

	Full Sample N = 3586 (1)			Meet or Beat N = 2047 (2)			Miss N = 1539 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.00%	1751:1835	0.512	0.47%***	1040:1007***	3.597	-0.62%***	711:828**	4.352
Day 0	-0.02%	1731:1855	0.265	0.99%***	1075:972***	5.121	-1.36%***	656:883***	5.461
Day 1	-0.06%	1739:1847	0.223	0.10%*	1015:1032*	1.580	-0.27%*	724:815	1.439

Fama French 3 Factor Model:

	Full Sample N = 3586 (1)			Meet or Beat N = 2047 (2)			Miss N = 1539 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	-0.02%	1748:1838	0.703	0.45%***	1038:1009**	3.667	-0.65%***	710:829**	4.615
Day 0	-0.04%	1722:1864	0.11	0.97%***	1065:982***	5.249	-1.37%***	657:882***	5.754
Day 1	-0.06%	1745:1841	0.237	0.10%**	1035:1012**	1.763	-0.28%*	710:829**	1.597

## Fama French 4 Factor Model:

	Full Sample N = 3586 (1)			Meet or Beat N = 2047 (2)			Miss N = 1539 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	-0.02%	1755:1831	0.698	0.45%***	1044:1003***	3.582	-0.64%***	711:828**	4.563
Day 0	-0.02%	1741:1845	0.194	0.99%***	1081:966***	5.283	-1.37%***	660:879***	5.725
Day 1	-0.05%	1757:1829	0.176	0.13%**	1041:1006**	1.860	-0.28%**	716:823**	1.810

Notes: Column 1 shows the full sample abnormal returns (ARs) and consists of 3,586 firm year observations that a MW was disclosed in the firms 10-Q. The ARs and Sign Test results are derived from the Market Model, Fama French 3 Factor Model and Fama French 4 Factor Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. Columns 2 displays the ARs for the subgroup of observations that met or beat earnings, followed by the ARs for the subgroup of observations that missed earnings in column 3.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 2. Panel B:***Cumulative Abnormal Returns – Firms with 302 MWs – Earnings Meet or Beat**N = 2047*

Period	Market Model (1)			Fama French 3-Factor (2)			Fama French 4-Factor (3)		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	1.46%	1145:902***	6.216	1.41%	1127:920***	6.352	1.44%	1129:918***	6.319
(0,0)	0.99%	1075:972***	5.126	0.97%	1065:982***	5.249	0.99%	1081:966***	5.283
(0,+1)	1.09%	1098:949***	5.253	1.07%	1093:954***	5.435	1.12%	1109:938***	5.484
(-1,+1)	1.56%	1133:914***	6.253	1.51%	1126:921***	6.434	1.57%	1127:920***	6.429

Notes: Panel B shows the cumulative abnormal returns (ARs) for the sample of firms that met or beat earnings. In column 1 the cumulative ARs and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 2. Panel C:***Cumulative Abnormal Returns – Firms with 302 MWs – Earnings Miss**N = 1539*

Period	Market Model (1)			Fama French 3-Factor (2)			Fama French 4-Factor (3)		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	-1.97%	640:899***	7.183	-2.02%	629:910***	7.563	-2.01%	639:900***	7.538
(0,0)	-1.36%	656:883***	5.455	-1.37%	657:882***	5.754	-1.37%	660:879***	5.725
(0,+1)	-1.62%	653:886***	5.439	-1.65%	647:892***	5.743	-1.65%	654:885***	5.808
(-1,+1)	-2.24%	618:921***	7.074	-2.30%	646:893***	7.469	-2.29%	619:920***	7.521

Notes: Panel C shows the cumulative abnormal returns (ARs) for the sample of firms that missed earnings. In column 1 the cumulative ARs and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.



**Table 3. Panel A:***Mean Abnormal Returns: 404 MWs by MW Type*

Market Model:

	Full Sample N = 760 (1)			New MW's Only N = 553 (2)			Repeats Only N = 207 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.28%**	382:378	1.782	0.24%*	279:274	1.578	0.39%	103:104	1.021
Day 0	0.16%	358:402	0.788	-0.27%	245:308**	0.793	1.33%***	113:94**	2.456
Day 1	-0.04%	366:394	1.155	-0.19%**	254:299*	2.019	0.37%	112:95*	0.688

Fama French 3 Factor Model:

	Full Sample N = 760 (1)			New MW's Only N = 553 (2)			Repeats Only N = 207 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.25%*	380:380	1.640	0.19%*	267:286	1.287	0.42%	113:94**	1.052
Day 0	0.17%	361:399	0.856	-0.26%	252:301*	0.751	1.32%***	109:98	2.491
Day 1	-0.05%	366:394	1.255	-0.20%**	252:301*	2.025	0.35%	114:93**	0.578

## Fama French 4 Factor Model:

<i>Date</i>	Full Sample N = 760 (1)			New MW's Only N = 553 (2)			Repeats Only N = 207 (3)		
	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.25%*	379:381	1.619	0.18%*	264:289	1.291	0.42%	114:93**	0.977
Day 0	0.17%	364:396	0.822	-0.25%	252:301*	0.748	1.30%***	112:95**	2.416
Day 1	-0.08%*	374:386	1.462	-0.21%**	265:288	2.075	0.26%	110:97*	0.370

Notes: Column 1 is the full sample and consists of 760 firm year observations that a MW was disclosed in the firms 10-K. The abnormal returns (ARs) and Sign Test results are derived from the Market Model, Fama French 3 Factor Model and Fama French 4 Factor Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. Column 2 displays the ARs for the subgroup of observations with new MW disclosures, followed by ARs for the subgroup of observations with repeating MW disclosures, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 3. Panel B:***Cumulative Abnormal Returns – Firms with New 404 MWs**N = 553*

Period	Market Model (1)			Fama French 3-Factor (2)			Fama French 4-Factor (3)		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	-0.03%	276:277	0.37	-0.07%	274:279	0.18	-0.07%	275:278	0.185
(0,0)	-0.27%	245:308**	0.793	-0.26%	252:301*	0.751	-0.25%	252:301*	0.748
(0,+1)	-0.46%**	253:300*	1.767	-0.46%**	250:303**	1.720	-0.46%**	257:296	1.704
(-1,+1)	-0.22%	262:291	0.54	-0.27%	263:290	0.7	-0.28%	260:293	0.695

Notes: Panel B is the cumulative abnormal returns (ARs) for sample of observations with new MWs. In column 1 the cumulative ARs and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 3. Panel C:***Cumulative Abnormal Returns – Firms with Repeating 404 MWs**N = 207*

Period	Market Model (1)			Fama French 3-Factor (2)			Fama French 4-Factor (3)		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	1.71%***	118:89***	2.407	1.74%***	116:91**	2.463	1.72%***	111:96*	2.359
(0,0)	1.33%***	113:94**	2.456	1.32%***	109:98	2.491	1.30%***	112:95**	2.416
(0,+1)	1.69%***	108:99	2.374	1.68%***	113:94**	2.350	1.56%**	115:92**	2.197
(-1,+1)	2.08%***	119:88***	2.397	2.10%***	122:85***	2.409	1.98%**	114:93**	2.229

Notes: Panel C is the cumulative abnormal returns (ARs) for sample of observations with repeating. In column 1 the cumulative ARs and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 4. Panel A:***Mean Abnormal Returns: 302 MWs by MW Type*

Market Model:

	Full Sample N = 3586 (1)			New MW's Only N = 970 (2)			Repeats Only N = 2616 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	0.00%	1751:1835	0.512	0.10%	497:473**	0.232	-0.03%	1254:1362	0.647
Day 0	-0.02%	1731:1855	0.265	0.17%	460:510	0.332	-0.08%	1271:1345	0.477
Day 1	-0.06%	1739:1847	0.223	-0.01%	480:490	0.505	-0.07%	1259:1357	0.533

Fama French 3 Factor Model:

	Full Sample N = 3586 (1)			New MW's Only N = 970 (2)			Repeats Only N = 2616 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	-0.02%	1748:1838	0.703	0.04%	475:495	0.152	-0.05%	1273:1343	0.688
Day 0	-0.04%	1722:1864	0.11	0.17%	450:520	0.352	-0.12%	1272:1344	0.34
Day 1	-0.06%	1745:1841	0.237	-0.02%	485:485	0.447	-0.08%	1260:1356	0.545

## Fama French 4 Factor Model:

	Full Sample N = 3586 (1)			New MW's Only N = 970 (2)			Repeats Only N = 2616 (3)		
<i>Date</i>	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z	AR	Sign Test (Pos : Neg)	Patell Z
Day -1	-0.02%	1755:1831	0.698	0.03%	475:495	0.09	-0.04%	1280:1336	0.712
Day 0	-0.02%	1741:1845	0.194	0.21%	453:517	0.28	-0.11%	1288:1328	0.396
Day 1	-0.05%	1757:1829	0.176	-0.02%	488:482	0.486	-0.06%	1269:1347	0.503

Notes: Column 1 is the full sample and consists of 3,586 firm year observations that a MW was disclosed in the firms 10-Q. The abnormal returns (ARs) and Sign Test results are derived from the Market Model, Fama French 3 Factor Model and Fama French 4 Factor Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. Column 2 displays the ARs for the subgroup of observations with new MW disclosures, followed by ARs for the subgroup of observations with repeating MW disclosures, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 4. Panel B:***Cumulative Abnormal Returns – Firms with New 302 MWs**N = 970*

Period	Market Model			Fama French 3-Factor			Fama French 4-Factor		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	0.27%	452:518	0.136	0.21%	458:512	0.372	0.24%	466:504	0.285
(0,0)	0.17%	460:510	0.320	0.17%	450:520	0.352	0.21%	453:517	0.28
(0,+1)	0.15%	461:509	0.513	0.16%	459:511	0.515	0.19%	467:503	0.451
(-1,+1)	0.25%	481:489	0.324	0.19%	475:495	0.511	0.22%	470:500	0.433

Notes: Panel B is the cumulative abnormal returns (ARs) for sample of observations with new MWs. In column 1 the cumulative ARs and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 4. Panel C:***Cumulative Abnormal Returns – Firms with Repeating 302 MWs**N = 2616*

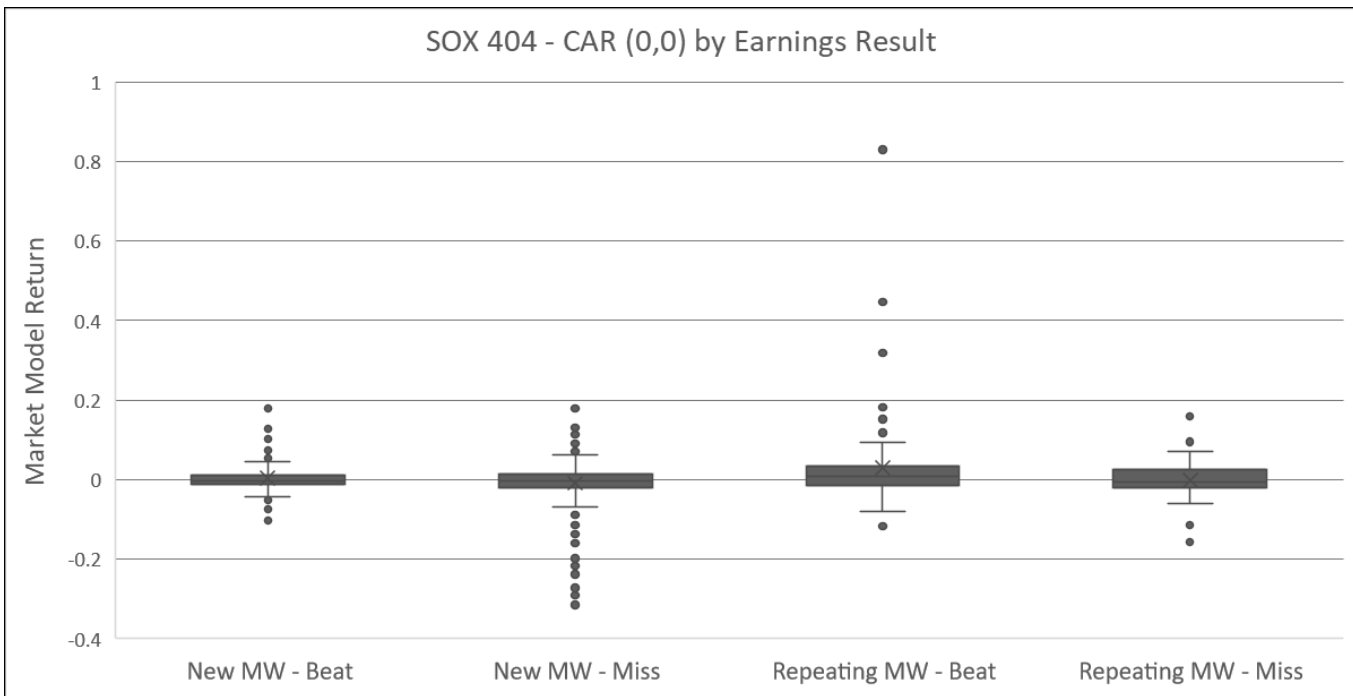
Period	Market Model			Fama French 3-Factor			Fama French 4-Factor		
	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z	Mean	Sign Test (Pos : Neg)	Z
(-1,0)	-0.12%	1333:1283***	0.04	-0.16%	1298:1318	0.184	-0.14%	1302:1314*	0.161
(0,0)	-0.08%	1271:1345	0.483	-0.12%	1272:1344	0.34	-0.11%	1288:1328	0.396
(0,+1)	-0.16%	1290:1326	0.674	-0.19%	1281:1335	0.544	-0.16%	1296:1320	0.571
(-1,+1)	-0.19%	1270:1346	0.163	-0.24%	1297:1319	0.029	-0.20%	1276:1340	0.036

Notes: Panel C shows the cumulative abnormal returns (ARs) for sample of observations with repeating MWs. In column 1 the cumulative AR and Sign Test results are derived from the Market Model. The abnormal return test statistic is based on the standardized abnormal return Patell (1976) Z-test. The cumulative ARs and Sign Test results for columns 2 and 3 are derived from the Fama French 3-Factor and Fama French 4-Factor model, respectively.

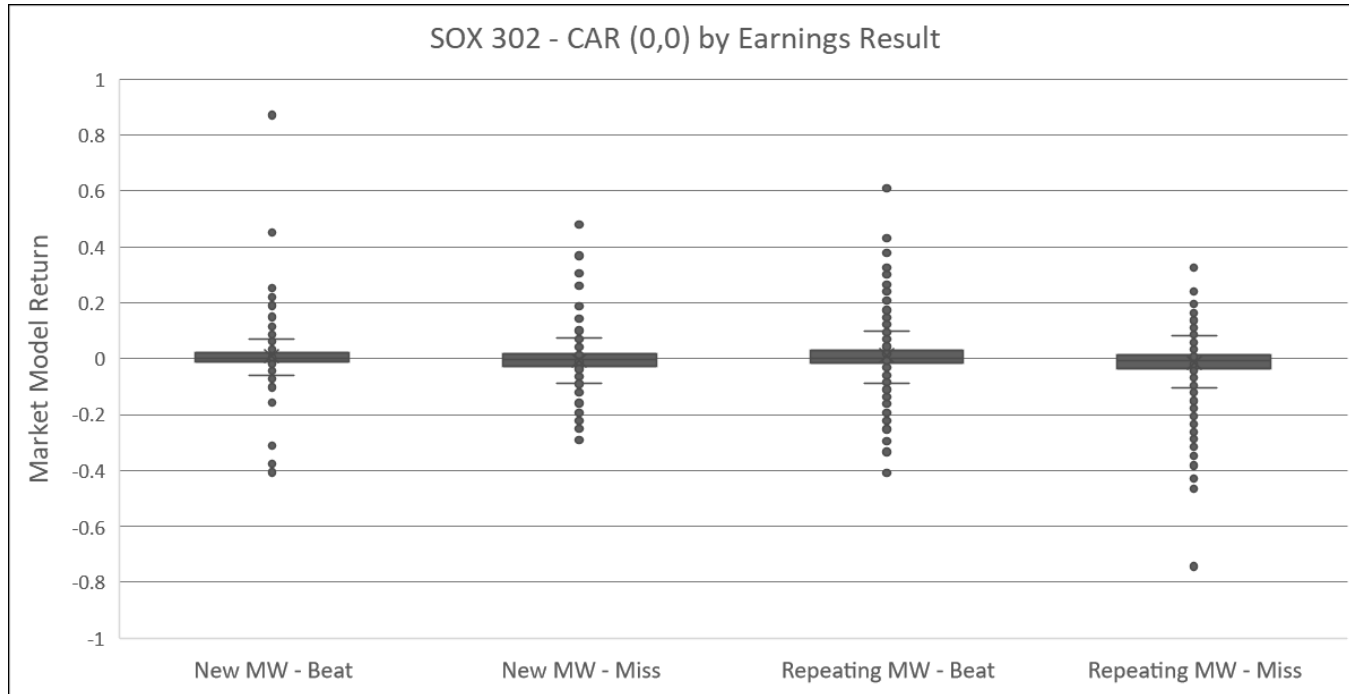
\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.



**Figure 1:**  
*SOX 404 Returns by Earnings Result*



**Figure 2:**  
*SOX 302 Returns by Earnings Result*



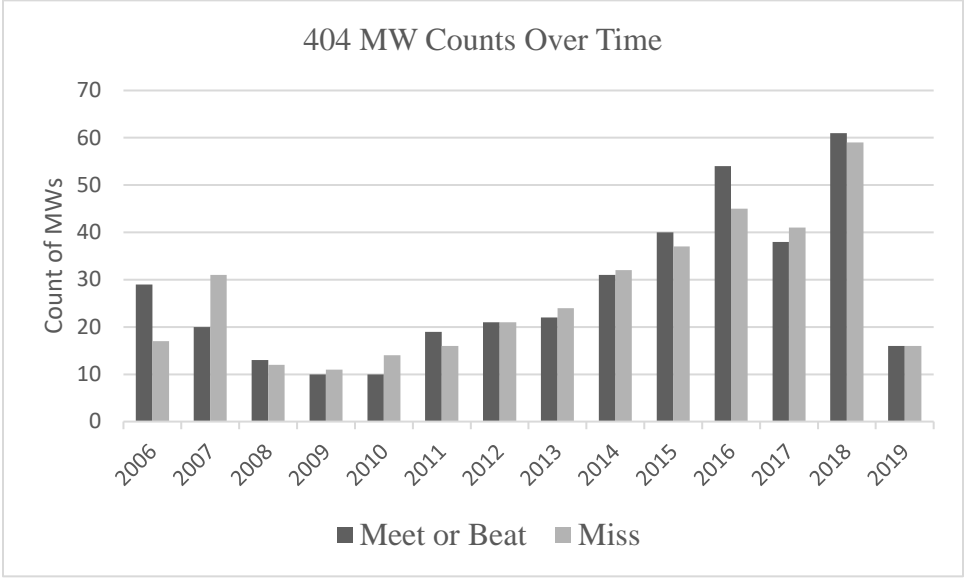
**Table 5. Panel A:***Section 404 MWs by Year*

<b>Year</b>	<b>Meet / Beat</b>		<b>Miss</b>		<b>Total</b>	
	<b>CAR</b>	<b>Count</b>	<b>CAR</b>	<b>Count</b>	<b>CAR</b>	<b>Count</b>
2006	0.001	29	0.001	17	0.001	46
2007	-0.009	20	-0.013	31	-0.012	51
2008	0.018	13	-0.045	12	-0.012	25
2009	0.026	10	0.018	11	0.021	21
2010	0.005	10	-0.017	14	-0.008	24
2011	0.024	19	0.014	16	0.019	35
2012	-0.001	21	0.007	21	0.003	42
2013	-0.003	22	-0.011	24	-0.007	46
2014	0.025	31	-0.018	32	0.003	63
2015	0.021	40	-0.011	37	0.005	77
2016	0.003	54	-0.001	45	0.001	99
2017	0.019	38	0.011	41	0.015	79
2018	0.009	61	-0.014	59	-0.002	120
2019	<u>0.008</u>	<u>16</u>	<u>-0.027</u>	<u>16</u>	<u>-0.009</u>	<u>32</u>
<b>Aggregate</b>	<b>0.010</b>	<b>384</b>	<b>-0.007</b>	<b>376</b>	<b>0.002</b>	<b>760</b>

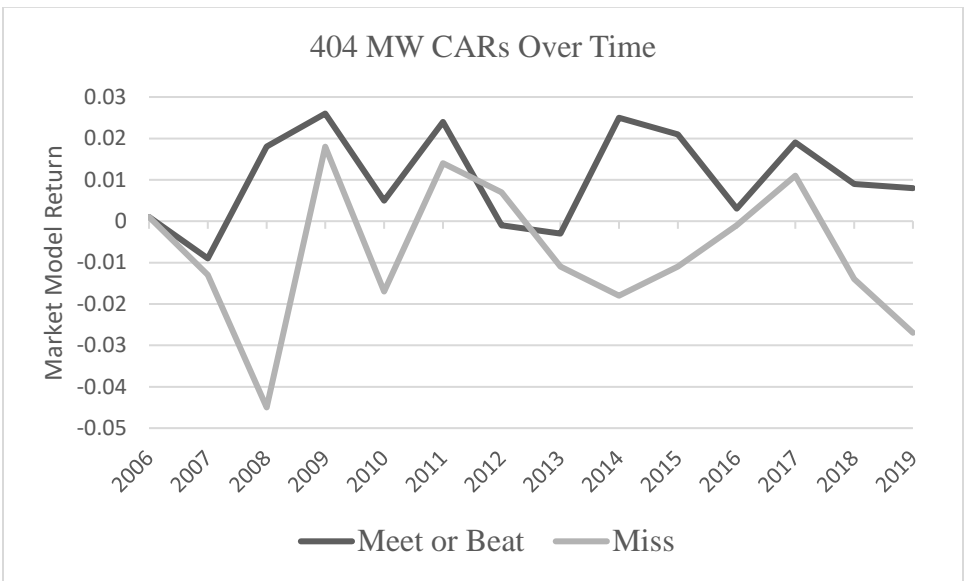
**Table 5. Panel B:***Section 404 MWs by Industry*

Industry	Meet or Beat			Miss			Total		
	CAR	Count	Industry Prct	CAR	Count	Industry Prct	CAR	Count	Industry Prct
CHEMICALS	-0.005	4	0.87%	-0.011	4	1.66%	-0.008	8	1.14%
COMPUTERS	0.005	71	3.35%	0.003	46	5.93%	0.005	117	4.04%
DURABLE MAN	0.012	92	3.27%	-0.006	92	6.44%	0.003	184	4.34%
EXTRACTIVE	0.042	6	1.20%	-0.004	15	3.23%	0.010	21	2.18%
FINANCIAL	0.001	53	1.33%	-0.009	60	2.23%	-0.005	113	1.69%
FOOD	-0.015	11	4.10%	-0.019	13	6.28%	-0.017	24	5.05%
MINING & CO	0.01	5	1.22%	-0.006	15	4.25%	-0.002	20	2.62%
MISC	0.003	1	3.33%	-0.01	1	4.55%	-0.004	2	3.85%
PHARMA	0.014	32	3.62%	-0.018	27	3.93%	0.000	59	3.76%
PRINTING	0.001	14	2.97%	-0.015	10	4.12%	-0.006	24	3.36%
RETAIL	0.013	22	2.34%	-0.01	25	4.49%	0.001	47	3.14%
SERVICES	0.034	40	3.63%	0.002	35	5.42%	0.019	75	4.29%
TRANSPORT	0.005	17	1.81%	-0.016	21	2.90%	-0.006	38	2.29%
UTILITIES	<u>0.006</u>	<u>16</u>	<u>2.38%</u>	<u>-0.011</u>	<u>12</u>	<u>2.93%</u>	<u>-0.001</u>	<u>28</u>	<u>2.59%</u>
<b>Aggregate</b>	<b>0.010</b>	<b>384</b>	<b>2.46%</b>	<b>-0.007</b>	<b>376</b>	<b>3.97%</b>	<b>0.002</b>	<b>760</b>	<b>3.03%</b>

**Figure 3:**  
*SOX 404 MW Counts Over Time*



**Figure 4:**  
*SOX 404 MW CARs Over Time*



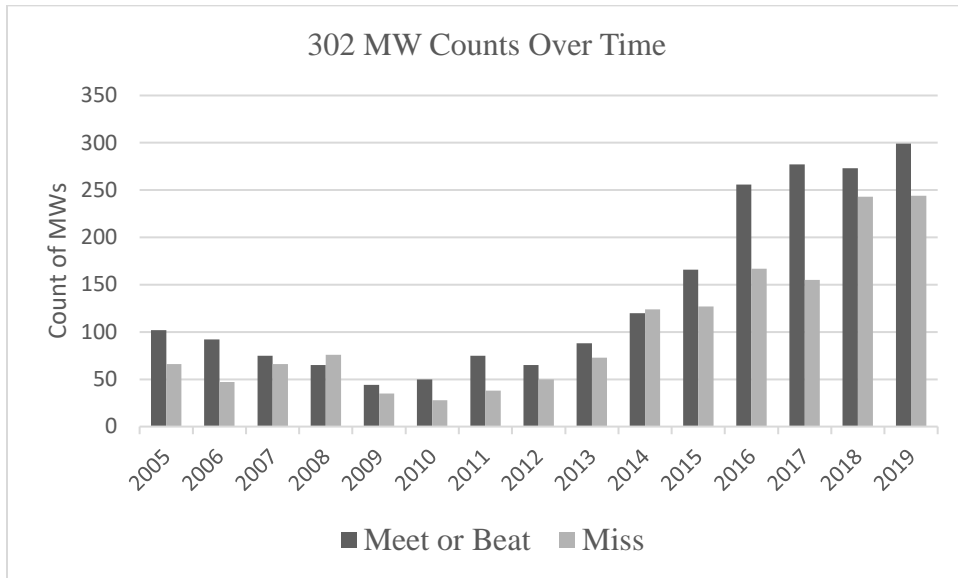
**Table 6. Panel A:***Section 302 MWs by Year*

<b>Year</b>	<b>Meet / Beat</b>		<b>Miss</b>		<b>Total</b>	
	<b>CAR</b>	<b>Count</b>	<b>CAR</b>	<b>Count</b>	<b>CAR</b>	<b>Count</b>
2005	0.02	102	0.006	66	0.015	168
2006	0.002	92	-0.01	47	-0.002	139
2007	0.003	75	-0.013	66	-0.005	141
2008	-0.002	65	-0.007	76	-0.005	141
2009	0.025	44	-0.008	35	0.011	79
2010	0.014	50	-0.015	28	0.004	78
2011	0.013	75	-0.011	38	0.005	113
2012	0.017	65	-0.007	50	0.007	115
2013	0.005	88	-0.02	73	-0.006	161
2014	0.004	120	-0.011	124	-0.003	244
2015	0.001	166	-0.018	127	-0.008	293
2016	0.019	256	-0.011	167	0.007	423
2017	0.013	277	-0.006	155	0.006	432
2018	0.007	273	-0.012	243	-0.002	516
2019	0.009	299	-0.029	244	-0.008	543
<b>Aggregate</b>	<b>0.010</b>	<b>2047</b>	<b>-0.014</b>	<b>1539</b>	<b>0.000</b>	<b>3586</b>

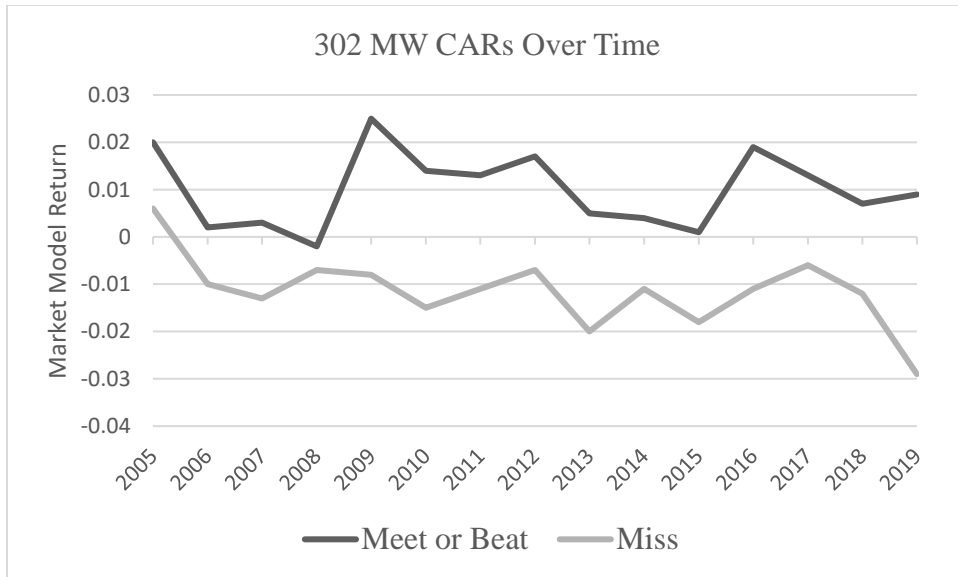
**Table 6. Panel B:***Section 302 MWs by Industry*

Industry	Beat			Miss			Total		
	CAR	Count	Industry Prct	CAR	Count	Industry Prct	CAR	Count	Industry Prct
CHEMICALS	0.014	36	1.97%	-0.032	21	2.54%	-0.003	57	2.15%
COMPUTERS	0.008	442	5.21%	-0.015	204	8.30%	0.000	646	5.91%
DURABLE MAN	0.017	491	4.47%	-0.014	368	7.13%	0.004	859	5.32%
EXTRACTIVE	0.011	39	1.89%	-0.015	51	3.84%	-0.004	90	2.65%
FINANCIAL	-0.001	256	1.50%	-0.007	174	1.82%	-0.003	430	1.61%
FOOD	0.014	44	4.85%	-0.012	38	6.93%	0.002	82	5.64%
MINING & CO	0.018	34	2.27%	-0.022	62	6.03%	-0.008	96	3.80%
MISC	0.001	2	1.80%	0.000	0	0.00%	0.001	2	1.22%
PHARMA	0.008	222	4.33%	-0.025	208	5.76%	-0.008	430	4.92%
PRINTING	0.007	50	2.64%	-0.011	33	3.75%	0.000	83	2.99%
RETAIL	0.019	113	2.93%	-0.005	98	4.89%	0.008	211	3.60%
SERVICES	0.012	192	4.10%	-0.011	173	7.57%	0.001	365	5.24%
TRANSPORT	-0.002	65	2.11%	-0.017	54	3.16%	-0.009	119	2.49%
UTILITIES	<u>0.000</u>	<u>61</u>	<u>2.62%</u>	<u>0.013</u>	<u>55</u>	<u>3.51%</u>	<u>0.006</u>	<u>116</u>	<u>2.97%</u>
<b>Aggregate</b>	<b>0.010</b>	<b>2047</b>	<b>3.20%</b>	<b>-0.014</b>	<b>1539</b>	<b>4.65%</b>	<b>0.000</b>	<b>3586</b>	<b>3.69%</b>

**Figure 5:**  
*SOX 302 MW Counts Over Time*



**Figure 6:**  
*SOX 302 MW CARs Over Time*





**Table 7. Panel A:**

Descriptives Statistics of Firm Characteristics – Firms with 404 MWs

	EPS Meet		EPS Miss		Test for Mean Diffs	
	n=384		n=376		(Beat - Miss)	
	Mean	Median	Mean	Median	Mean	p-value
<b>CAR Window (0,0)</b>	0.010	0.000	-0.007	-0.003	0.017***	-1.050
<b>CAR Window (0,1)</b>	0.012	0.001	-0.010	-0.005	0.021***	-0.050
<b>ICW Lag</b>	18.667	14.000	15.984	8.000	2.683	0.950
<b>Repeating MW</b>	0.258	0.000	0.287	0.000	-0.029	0.441
<b>MW Count</b>	1.943	1.000	2.306	2.000	-0.363***	0.003
<b>Entity Level</b>	0.779	1.000	0.747	1.000	0.031	0.306
<b>Firm Size</b>	6.844	6.863	6.411	6.154	0.433***	0.001
<b>Return on Assets</b>	-0.010	0.021	-0.052	0.000	0.042***	0.001
<b>Foreign Operations</b>	0.438	0.000	0.407	0.000	0.031	0.421
<b>Restructure</b>	0.352	0.000	0.367	0.000	-0.015	0.821
<b>High Growth</b>	0.195	0.000	0.205	0.000	-0.009	0.717
<b>Big 4 Auditor</b>	0.776	1.000	0.681	1.000	0.095***	0.002
<b>Auditor Change</b>	0.109	0.000	0.085	0.000	0.024	0.401

**Table 7. Panel B:**

Descriptives Statistics of Firm Characteristics – Firms with 302 MWs

	EPS Meet		EPS Miss		Test for Mean Diffs	
	n=2047		n=1539		(Beat - Miss)	
	Mean	Median	Mean	Median	Mean	p-value
<b>CAR Window (0,0)</b>	0.010	0.001	-0.014	-0.005	0.023***	0.001
<b>CAR Window (0,1)</b>	0.011	0.003	-0.016	-0.006	0.027***	0.001
<b>ICW Lag</b>	5.589	2.000	6.638	2.000	-1.049***	0.001
<b>Repeating MW</b>	0.718	1.000	0.738	1.000	-0.020	0.178
<b>Entity Level</b>	0.903	1.000	0.895	1.000	0.008	0.42
<b>Firm Size</b>	5.983	5.892	6.418	6.305	-0.434***	0.001
<b>Return on Assets</b>	-0.039	-0.005	-0.009	0.006	-0.030***	0.001
<b>Foreign Operations</b>	0.261	0.000	0.282	0.000	-0.021	0.156
<b>Restructure</b>	0.135	0.000	0.193	0.000	-0.058***	0.001
<b>High Growth</b>	0.162	0.000	0.203	0.000	-0.041***	0.002
<b>Big 4 Auditor</b>	0.612	1.000	0.677	1.000	-0.065***	0.001
<b>Auditor Change</b>	0.038	0.000	0.040	0.000	-0.002	0.792

**Table 8.**

Regressions: 404 MWs and Earnings Results

	Dependent Variable: Abnormal Return					
	MM (1)		FF3 (2)		FF4 (3)	
	Day 0	CAR (0,1)	Day 0	CAR (0,1)	Day 0	CAR (0,1)
<i><b>Earnings Variables</b></i>						
Miss	-0.017*** (0.00)	-0.021*** (0.01)	-0.017*** (0.00)	-0.020*** (0.01)	-0.017*** (0.00)	-0.019*** (0.01)
ICW_Lag	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
<i><b>Internal Control Variables</b></i>						
Repeating MW	0.015*** (0.01)	0.019*** (0.01)	0.014*** (0.01)	0.019*** (0.01)	0.014*** (0.01)	0.018*** (0.01)
Number of MW Reported	0.001 (0.00)	0.002 (0.00)	0.001 (0.00)	0.002* (0.00)	0.001 (0.00)	0.002 (0.00)
Entity Level	-0.005 (0.01)	-0.002 (0.01)	-0.004 (0.01)	-0.002 (0.01)	-0.004 (0.01)	-0.002 (0.01)
<i><b>Other Determinants</b></i>						
Firm Size	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
Return on Assets	0.001 (0.01)	0.014 (0.02)	0.006 (0.01)	0.020 (0.02)	0.008 (0.01)	0.025 (0.02)
Foreign Operations	-0.001 (0.00)	-0.001 (0.01)	-0.001 (0.00)	-0.001 (0.01)	-0.001 (0.00)	-0.001 (0.01)
Restructuring	-0.001 (0.01)	-0.002 (0.01)	-0.001 (0.01)	-0.002 (0.01)	-0.002 (0.01)	-0.002 (0.01)
High Growth	0.004 (0.01)	0.005 (0.01)	0.004 (0.01)	0.003 (0.01)	0.004 (0.01)	0.004 (0.01)

Big 4 Auditor	0.001 (0.01)	0.002 (0.01)	0.001 (0.01)	0.003 (0.01)	0.002 (0.01)	0.003 (0.01)
Auditor Change	0.005 (0.01)	0.010 (0.01)	0.006 (0.01)	0.010 (0.01)	0.006 (0.01)	0.011 (0.01)
Intercept	-0.014 (0.02)	-0.015 (0.03)	-0.016 (0.02)	-0.020 (0.03)	-0.015 (0.02)	-0.019 (0.03)
R <sup>2</sup>	0.08	0.08	0.08	0.09	0.09	0.09
N	760	760	760	760	760	760

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 404 from 2006-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market, Fama French 3-Factor and Fama French 4-Factor models, respectively. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal year prior to the disclosure. Industry and year fixed effects are included. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 9.**

Regressions: 404 MWs and Earnings Surprises

	Dependent Variable: Market Model Abnormal Return					
	Day 0			CAR (0,1)		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Earnings Variables</i>						
Surprise	-0.003 (0.01)			0.002 (0.01)		
Positive Surprise		0.015*** (0.00)			0.020*** (0.01)	
Negative Surprise			- 0.016*** (0.00)			-0.017*** (0.01)
ICW_Lag	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
<i>Internal Control Variables</i>						
Repeating MW	0.014*** (0.01)	0.014*** (0.01)	0.015*** (0.01)	0.018*** (0.01)	0.019*** (0.01)	0.019*** (0.01)
Number of MW Reported	0.001 (0.00)	0.001 (0.00)	0.001 (0.00)	0.001 (0.00)	0.002 (0.00)	0.001 (0.00)
Entity Level	-0.003 (0.01)	-0.004 (0.01)	-0.004 (0.01)	-0.001 (0.01)	-0.002 (0.01)	-0.002 (0.01)
<i>Other Determinants</i>						
Firm Size	0.001 (0.00)	0.001 (0.00)	0.001 (0.00)	0.001 (0.00)	0.000 (0.00)	0.000 (0.00)
Return on Assets	0.005 (0.01)	0.001 (0.01)	0.000 (0.01)	0.019 (0.02)	0.014 (0.02)	0.013 (0.02)

Foreign Operations	-0.001 (0.00)	-0.001 (0.00)	-0.000 (0.00)	-0.001 (0.01)	-0.002 (0.01)	-0.000 (0.01)
Restructuring	-0.002 (0.01)	-0.001 (0.01)	-0.001 (0.01)	-0.003 (0.01)	-0.002 (0.01)	-0.003 (0.01)
High Growth	0.004 (0.01)	0.004 (0.01)	0.004 (0.01)	0.005 (0.01)	0.005 (0.01)	0.005 (0.01)
Big 4 Auditor	0.003 (0.01)	0.001 (0.01)	0.001 (0.01)	0.004 (0.01)	0.002 (0.01)	0.003 (0.01)
Auditor Change	0.008 (0.01)	0.006 (0.01)	0.006 (0.01)	0.013 (0.01)	0.011 (0.01)	0.011 (0.01)
Intercept	-0.025 (0.02)	-0.029 (0.02)	-0.018 (0.02)	-0.032 (0.03)	-0.032 (0.02)	-0.021 (0.02)
R <sup>2</sup>	0.06	0.07	0.07	0.08	0.09	0.08
N	760	760	760	760	760	760

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 404 from 2006-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market Model. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal year prior to the disclosure. Industry and year fixed effects are included. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.



Return on Assets	0.001 (0.01)	0.001 (0.01)	-0.000 (0.01)	0.014 (0.02)	0.014 (0.02)	0.013 (0.02)
Foreign Operations	-0.000 (0.00)	-0.000 (0.01)	0.000 (0.00)	0.000 (0.01)	-0.000 (0.01)	0.000 (0.01)
Restructuring	-0.002 (0.01)	-0.002 (0.01)	-0.002 (0.01)	-0.003 (0.01)	-0.003 (0.01)	-0.004 (0.01)
High Growth	0.004 (0.01)	0.004 (0.01)	0.005 (0.01)	0.005 (0.01)	0.005 (0.01)	0.005 (0.01)
Big 4 Auditor	0.003 (0.01)	0.002 (0.01)	0.003 (0.01)	0.004 (0.01)	0.004 (0.01)	0.004 (0.01)
Auditor Change	0.005 (0.01)	0.006 (0.01)	0.006 (0.01)	0.010 (0.01)	0.011 (0.01)	0.011 (0.01)
Intercept	0.001 (0.02)	-0.014 (0.02)	-0.003 (0.02)	0.002 (0.03)	-0.016 (0.03)	-0.004 (0.03)
R <sup>2</sup>	0.08	0.08	0.08	0.09	0.09	0.09
N	749	749	749	749	749	749

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 404 from 2006-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market Model. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal year prior to the disclosure. Industry and year fixed effects are included. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.





Return on Assets	0.016 (0.02)	0.017 (0.02)	0.014 (0.02)	0.027 (0.02)	0.028 (0.02)	0.026 (0.02)
Foreign Operations	0.000 (0.01)	0.000 (0.01)	0.001 (0.01)	-0.001 (0.01)	-0.001 (0.01)	-0.001 (0.01)
Restructuring	-0.000 (0.01)	-0.000 (0.01)	-0.000 (0.01)	-0.001 (0.01)	-0.002 (0.01)	-0.002 (0.01)
High Growth	0.005 (0.01)	0.005 (0.01)	0.005 (0.01)	0.007 (0.01)	0.007 (0.01)	0.007 (0.01)
Big 4 Auditor	0.005 (0.01)	0.005 (0.01)	0.005 (0.01)	0.007 (0.01)	0.007 (0.01)	0.007 (0.01)
Auditor Change	0.008 (0.01)	0.010 (0.01)	0.008 (0.01)	0.012 (0.01)	0.014 (0.01)	0.013 (0.01)
Intercept	-0.002 (0.00)	-0.002 (0.00)	-0.002 (0.00)	-0.002 (0.00)	-0.002 (0.00)	-0.002 (0.00)
R <sup>2</sup>	0.09	0.09	0.09	0.10	0.10	0.10
N	608	608	608	608	608	608

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 404 from 2006-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market Model. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal year prior to the disclosure. Industry and year fixed effects are included. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 12.**

Regressions: 302 MWs and Earnings Results

	Dependent Variable: Abnormal Return					
	MM		FF3		FF4	
	Day 0	CAR (0,1)	Day 0	CAR (0,1)	Day 0	CAR (0,1)
<i>Earnings Variables</i>						
Miss	-0.021*** (0.00)	-0.023*** (0.00)	-0.021*** (0.00)	-0.023*** (0.00)	-0.021*** (0.00)	-0.024*** (0.00)
ICW_Lag	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
<i>Internal Control Variables</i>						
Repeating MW	-0.003 (0.00)	-0.003 (0.00)	-0.003 (0.00)	-0.003 (0.00)	-0.003 (0.00)	-0.004 (0.00)
Entity Level	0.000 (0.00)	0.004 (0.00)	0.001 (0.00)	0.004 (0.00)	0.001 (0.00)	0.005 (0.00)
<i>Other Determinants</i>						
Firm Size	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Return on Assets	0.057*** (0.02)	0.092*** (0.02)	0.054*** (0.02)	0.089*** (0.02)	0.050*** (0.02)	0.086*** (0.02)
Foreign Operations	-0.001 (0.00)	-0.000 (0.00)	-0.000 (0.00)	0.000 (0.00)	-0.000 (0.00)	0.000 (0.00)
Restructuring	0.000 (0.00)	0.001 (0.00)	0.000 (0.00)	0.002 (0.00)	0.000 (0.00)	0.001 (0.00)
High Growth	0.010*** (0.00)	0.010*** (0.00)	0.011*** (0.00)	0.011*** (0.00)	0.011*** (0.00)	0.011*** (0.00)
Big 4 Auditor	0.001 (0.00)	0.001 (0.00)	0.001 (0.00)	0.001 (0.00)	0.000 (0.00)	0.000 (0.00)

Auditor Change	-0.009 (0.01)	-0.010 (0.01)	-0.009 (0.01)	-0.010 (0.01)	-0.009 (0.01)	-0.010 (0.01)
Intercept	0.016 (0.01)	0.011 (0.01)	0.015 (0.01)	0.011 (0.01)	0.016 (0.01)	0.013 (0.01)
R <sup>2</sup>	0.05	0.05	0.05	0.05	0.05	0.05
N	3586	3586	3586	3586	3586	3586

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 302 from 2005-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market, Fama French 3-Factor and Fama French 4-Factor models, respectively. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal quarter prior to the disclosure. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

**Table 13.***Regressions: 302 MWs and Earnings Surprises*

	Dependent Variable: Market Model Abnormal Return					
	Day 0			CAR (0,1)		
<b><i>Earnings Variables</i></b>						
Surprise	-0.001 (0.00)			-0.001 (0.00)		
Positive Surprise		0.019*** (0.00)			0.021*** (0.00)	
Negative Surprise			-0.021*** (0.00)			-0.023*** (0.00)
ICW_Lag	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
<b><i>Internal Control Variables</i></b>						
Repeating MW	-0.002 (0.00)	-0.002 (0.00)	-0.003 (0.00)	-0.002 (0.00)	-0.002 (0.00)	-0.003 (0.00)
Entity Level	-0.000 (0.00)	0.000 (0.00)	-0.000 (0.00)	0.003 (0.00)	0.004 (0.00)	0.003 (0.00)
<b><i>Other Determinants</i></b>						
Firm Size	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Return on Assets	0.077*** (0.02)	0.061*** (0.02)	0.054*** (0.02)	0.114*** (0.02)	0.096*** (0.02)	0.089*** (0.02)
Foreign Operations	-0.001 (0.00)	-0.002 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.001 (0.00)	0.000 (0.00)
Restructuring	0.002 (0.00)	0.000 (0.00)	0.001 (0.00)	0.003 (0.00)	0.001 (0.00)	0.002 (0.00)

High Growth	0.012*** (0.00)	0.010*** (0.00)	0.011*** (0.00)	0.011*** (0.00)	0.009*** (0.00)	0.010*** (0.00)
Big 4 Auditor	0.001 (0.00)	0.000 (0.00)	0.001 (0.00)	0.000 (0.00)	0.000 (0.00)	0.001 (0.00)
Auditor Change	-0.008 (0.01)	-0.008 (0.01)	-0.008 (0.01)	-0.008 (0.01)	-0.009 (0.01)	-0.009 (0.01)
Intercept	0.003 (0.01)	-0.000 (0.01)	0.013 (0.01)	-0.003 (0.01)	-0.007 (0.01)	0.007 (0.01)
R <sup>2</sup>	0.03	0.04	0.04	0.03	0.05	0.05
N	3586	3586	3586	3586	3586	3586

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 302 from 2005-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market Model. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal quarter prior to the disclosure. Industry and year fixed effects are included. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.



Foreign Operations	-0.001 (0.00)	-0.002 (0.00)	-0.001 (0.00)	-0.000 (0.00)	-0.001 (0.00)	-0.000 (0.00)
Restructuring	0.000 (0.00)	0.000 (0.00)	0.001 (0.00)	0.001 (0.00)	0.000 (0.00)	0.002 (0.00)
High Growth	0.011*** (0.00)	0.010*** (0.00)	0.012*** (0.00)	0.010*** (0.00)	0.009*** (0.00)	0.011*** (0.00)
Big 4 Auditor	0.002 (0.00)	0.001 (0.00)	0.002 (0.00)	0.002 (0.00)	0.001 (0.00)	0.002 (0.00)
Auditor Change	-0.008 (0.01)	-0.008 (0.01)	-0.008 (0.01)	-0.009 (0.01)	-0.009 (0.01)	-0.009 (0.01)
Intercept	0.018* (0.01)	0.002 (0.01)	0.015 (0.01)	0.016 (0.01)	-0.001 (0.01)	0.011 (0.01)
R <sup>2</sup>	0.05	0.04	0.05	0.06	0.05	0.05
N	3522	3522	3522	3522	3522	3522

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 302 from 2005-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market Model. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal quarter prior to the disclosure. Industry and year fixed effects are included. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.



**Table 15.***Regressions: 302 MWs and Prior Earnings Results*

	Dependent Variable: Market Model Abnormal Return					
	Day 0			CAR (0,1)		
<b><i>Earnings Variables</i></b>						
Miss	-			-		
	0.017***			0.019***		
	(0.00)			(0.00)		
Positive Surprise		0.015***			0.016***	
		(0.00)			(0.00)	
Negative Surprise			-			-0.019***
			0.018***			(0.00)
			(0.00)			
ICW_Lag	-0.000	-0.000	-0.000	-0.000	0.000	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Prior 6 Earnings	-0.001	-0.003	-0.000	-0.001	-0.004	-0.001
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
<b><i>Internal Control Variables</i></b>						
Repeating MW	-0.001	-0.000	-0.001	0.000	0.000	0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Entity Level	-0.000	-0.000	-0.001	0.002	0.002	0.001
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
<b><i>Other Determinants</i></b>						
Firm Size	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Return on Assets	0.089***	0.091***	0.087***	0.117***	0.120***	0.117***
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)

Foreign Operations	0.001 (0.00)	0.000 (0.00)	0.001 (0.00)	0.003 (0.00)	0.002 (0.00)	0.003 (0.00)
Restructuring	0.002 (0.00)	0.002 (0.00)	0.003 (0.00)	0.004 (0.00)	0.004 (0.00)	0.005 (0.00)
High Growth	0.006* (0.00)	0.006* (0.00)	0.007** (0.00)	0.009** (0.00)	0.009** (0.00)	0.010*** (0.00)
Big 4 Auditor	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)	-0.000 (0.00)
Auditor Change	-0.004 (0.01)	-0.003 (0.01)	-0.004 (0.01)	-0.002 (0.01)	-0.001 (0.01)	-0.002 (0.01)
Intercept	0.026** (0.01)	0.014 (0.01)	0.023** (0.01)	0.025* (0.01)	0.012 (0.01)	0.022* (0.01)
R <sup>2</sup>	0.05	0.04	0.05	0.05	0.04	0.05
N	2470	2470	2470	2470	2470	2470

Note: The table reports OLS regression results for all firm-year disclosures made under SOX 302 from 2005-2019. The dependent variable is various cumulative abnormal returns (CARs) derived from the Market Model. The independent variables capture earnings characteristics, material weakness characteristics and other determinants of reporting MWs. All financial and auditor characteristic variables are measured at the end of the fiscal quarter prior to the disclosure. Industry and year fixed effects are included. A description of all variables is presented in the appendix.

\*denotes significance at the 10% level, \*\*denotes significance at the 5% level and \*\*\*denotes significance at the 1% level.

## Appendix A

### Sample Construction

	404 Sample		302 Sample	
	<u>Records</u> <u>Dropped</u>	<u>Running</u> <u>Total</u>	<u>Records</u> <u>Dropped</u>	<u>Running</u> <u>Total</u>
Total Number of MW Observations reporting per Audit Analytics extract from 2005-2019		1,881		20,988
<b><u>Less:</u></b>				
Observations missing Compustat Data	(303)	1,578	(8,064)	12,924
Observations without analyst coverage in IBES	(724)	854	(9,185)	3,739
Observations missing PERMOs in CRSP	<u>(39)</u>	<u>815</u>	<u>(134)</u>	<u>3,605</u>
Observations where filing was released after next quarters earnings	<u>(51)</u>	<u>764</u>	<u>(16)</u>	<u>3,589</u>
Observations Entered into Eventus:		764		3,589
<b><u>Less:</u></b>				
Observations missing historical data required by Eventus to calculate abnormal returns	<u>(4)</u>	<u>760</u>	<u>(3)</u>	<u>3,586</u>
Final Sample for Regressions:		<b>760</b>		<b>3,586</b>

## Appendix B

### Variable Definitions

Variable	Definition
<b><i>Earnings Variables</i></b>	
Miss	Binary variable taking the value of 1 if a firm missed earnings and 0 otherwise
ICW_Lag	The number of days between release of earnings reports and disclosure of a material weakness (in the 10-K or 10-Q)
Surprise	Binary variable taking the value of 1 if absolute value of the difference between estimated earnings and actual earnings is greater than 2 cents, 0 otherwise.
Positive Surprise	Binary variable taking the value of 1 if the firm beat earnings by more than 2 cents 0 otherwise
Negative Surprise	Binary variable taking the value of 1 if the firm missed earnings by more than 2 cents 0 otherwise
Report After Peers	Binary variable taking the value of 1 if the firm reports earnings after the median numbers of days of the peer group (by period and SIC Class)
Prior 6 Earnings	Binary variable taking the value of 1 if the standard deviation of difference of the last six earnings forecasts and estimates is greater than the standard deviation of the median difference of the peer group (by period and SIC Class)
<b><i>Internal Control Variables</i></b>	
Repeating MW	Binary variable taking the value of 1 if the MW has been reported in a previous period 0 otherwise
Number of MWs Reported	The number of MWs reported per Audit Analytics (only applicable to 404 MWs)
Entity Level	Binary variable taking the value of 1 if the MW is a firm-level issue
<b><i>Other Determinants</i></b>	
Firm Size	Natural logarithm of the firm average market value (Compustat #199 * #25)
Return on Assets (ROA)	Net income (Compustat # 18) / Total Assets (Compustat #6)
Foreign Operations	Binary variable taking the value of 1 if the firm has a nonzero foreign currency translation 0 otherwise (Compustat #150)
Restructuring	Binary variable taking the value of 1 if the firm was involved in restructuring 0 otherwise (Compustat #s 376, 377, 378, or 379 nonzero)

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High Growth	Binary variable taking the value of 1 year over year industry-adjusted sales growth falls within the top quintile of all firms 0 otherwise (Compustat #12)
Big 4 Auditor	Binary variable taking the value of 1 if the auditor is a big 4 firm 0 otherwise
Auditor Change	Binary variable taking the value of 1 if the firm changed auditors in the most recent year 0 otherwise
Industry	Classification based on firm 2 digits of the firm SIC code.

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