THE IMPACT OF FRESH EYES: HOW A CHANGE IN THE ENGAGEMENT TEAM IMPACTS THE REPORTING OF INTERNAL CONTROL MATERIAL WEAKNESSES

By

Hannah Elizabeth Richards

A DISSERTATION

Submitted to
The University of Texas at Arlington
in partial fulfillment of the requirements for the degree of

Business Administration - Doctor of Philosophy

May 2021
Arlington, Texas

Dissertation Committee:

Ramgopal Venkataraman, Dissertation Chair
Nandu J. Nagarajan
David M. Rosser
Terrance R. Skantz
Mahmut Yasar

The Impact of Fresh Eyes:

How a Change in the Engagement Team Impacts the Reporting of

Internal Control Material Weaknesses

ABSTRACT

Regulators have repeatedly debated mandatory auditor rotation. Proponents emphasize the benefits that a new auditor brings, specifically, improved independence and a fresh perspective, leading to higher quality audits. However, opponents argue that changing auditors is costly and impedes audit quality. The United States currently requires audit partner rotation, but it is not clear that partner change alone significantly impacts audit outcomes. In this dissertation, I provide evidence that the fresh perspective brought about by changes in the engagement team improves the detection and reporting of internal control material weaknesses (ICMW) after controlling for the likelihood of the existence of ICMW. I examine three different engagement team changes: audit firm change, audit office change, and audit partner change. My findings show that a turnover of the whole engagement team through an audit firm change increases the likelihood of the auditor reporting an ICMW. This effect is larger than that for either partial engagement team changes (i.e., office and partner changes). Additionally, I do not find any association between partner change and the likelihood of a reported ICMW.

ACKNOWLEDGEMENTS

This dissertation would not exist without the support from a countless number of people. Though it would be impossible to list everyone who influenced my goal of getting a Ph.D. and this dissertation, I do want to thank a few key figures. First and foremost, I want to acknowledge the tremendous influence my dissertation chair, Ramgopal Venkataraman, has had on my work. Ram always encouraged my ideas and helped me develop the research tools needed to test my ideas. His deep knowledge of econometrics, coupled with his wonderful sense of humor, made our dissertation meetings engaging, productive, and fun. I cannot thank him enough for the guidance and generosity he has bestowed upon me these last five years. I would also like to thank my dissertation committee, Drs. Nandu Nagarajan, Terrance Skantz, David Rosser, and Mahmut Yasar. Their feedback helped me to improve my dissertation in distinct ways. Additionally, I want to thank Dr. Donald McConnell and Mr. Mathew Sargent for their guidance when I taught my first auditing class. Teaching auditing sparked my interest in one of the primary focuses of this dissertation, internal control material weaknesses.

I also want to thank a handful of people who immensely helped me improve my dissertation's writing and formatting, though any errors are my responsibility alone. Dr. Tatia Jordan taught me not to judge my first writing draft. This wisdom allowed my words to flow onto the page – no matter how poorly worded – so that I could later come back and curate them until I was proud of my writing. Dr. Jivas Chakravarthy used his sharp eye to train me to create beautifully formatted tables, and he provided much needed direction for my introduction chapter. Also, I want to thank Suye Wang and Xiaozhe (Ben) Gu for being willing to form a writing group with me during our last year together in the Ph.D. program. Our in-depth conversations about each other's writing taught me how to better express my ideas.

Since the thought of getting a Ph.D. did not cross my mind until I was a senior at Mississippi College (MC), I would not have considered applying for Ph.D. programs without the influence of MC professors. Dr. Marcelo Eduardo asking me to work as a tutor and graduate teaching assistant allowed me to find my love of academics and passion for teaching accounting. The opportunities he provided me and his faith in my ability to teach other students introduced me to a career path I otherwise would not have considered. Also at MC, I had the great fortune of crossing paths with Dr. Nancy Anderson, and I doubt any other person has impacted my dream of getting a Ph.D. more than her. Before I even had her as a professor, she took me under her wing when I became the inaugural MC Investment Club treasurer. She believed in me before I believed in myself, and she showed me what was possible. I hope to be as engaging, supportive, and generous of a professor as she was to her students.

DEDICATION

I cannot simply dedicate this dissertation to one person, as so many family members and friends have supported my goal of getting a Ph.D. First, I dedicate this dissertation to my immediate family. With fond memories, I clearly remember my late father, Gary Hurt, driving the moving truck to Texas though I know he did not want his baby girl to move so far away. My mom, Rhonda Hurt, has always been the biggest supporter of my dreams and has shown complete faith that I can complete any goal I choose. Also, my sweet brother, Jeremy Hurt, has never missed celebrating an achievement in my life.

Second, I would like to dedicate my dissertation to my husband, David Richards, who has supported me in every way since we met during my first year in the Ph.D. program. I will never forget that during the most hectic times of the Ph.D. program, our Saturday date night would be David picking me up late from the UTA library, taking me out to dinner, and going with me to get my groceries for the following week. I doubt David will ever fully realize how much his support, patience, and humor have kept me sane during the Ph.D. program.

I would also like to dedicate my dissertation to several close friends, most of whom I have known for over a decade. Both Alex Hammerbacher (my childhood best friend) and Anna Lowe (my long-distance running buddy) have encouraged me to pursue my dreams and strive to be the best version of myself. Since my freshman year of college, Carly Yelverton has been like an older sister to me, guiding me through all the significant milestones of life. Another MC friend, Emily Ham, has been there for me in all of life's highs and lows. I so appreciate her attending all my university graduations, especially since she is traveling a great distance for my Ph.D. graduation. Also, I would like to thank Kayla Martin for being a constant friend as a dealt with the stress of applying to Ph.D. programs and then navigating each milestone of the Ph.D. program.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER 1: INTRODUCTION

Regulators, academics, and practitioners have debated the advantages and disadvantages of mandatory audit firm rotation for at least 40 years (e.g., Cohen 1978). Supporters of mandatory audit firm rotation believe this measure increases audit quality by improving auditor independence and providing fresh eyes to examine the financial reporting system. Challengers to mandatory audit firm rotation argue that this measure reduces audit quality in the initial years of the engagement by creating too steep a learning curve for the engagement team (PCAOB 2011). As a compromise in this debate, current U.S. regulations only mandate audit partner rotation. This rotation brings the fresh eyes of a new partner without interrupting the auditor-client relationship. However, some argue that partner rotation fails to provide enough of a fresh perspective to impact audit outcomes. With deliberations primarily focusing on audit firm and partner rotation, non-partner engagement team member rotation has received little attention (e.g., Cohen 1978; 107th Congress Hearings 2002). My dissertation seeks to add to this discussion by providing evidence on whether a change in the engagement team impacts the audit outcome of reported internal control material weaknesses (ICMW). I also highlight the change of non-partner engagement team members and compare it to audit firm and partner changes to see if each type of fresh perspective similarly impacts the likelihood of auditors reporting ICMW.

External auditors of public companies make professional judgments about the fair representation of the client's financial statements and the effectiveness of internal controls over financial reporting (ICFR). However, auditors are not immune to cognitive biases that can cloud their judgments (e.g., Ranzilla, Chevalier, Herrmann, Glover, and Prawitt 2011). These cognitive biases can be exacerbated when the engagement team is consistent from year to year. Stagnant

engagement teams can result in lower audit quality through an overreliance on prior year audit procedures or a reduction in professional skepticism.

Without a change in the engagement team bringing about a fresh perspective, the team is more likely to use the auditing approach of SALY, which stands for "same as last year." The SALY auditing approach occurs on recurring audits when the engagement team relies on prior year working papers to repeat the same audit procedure. Reliance on the SALY approach may negatively impact an audit's effectiveness by increasing the engagement team's susceptibility to cognitive biases (e.g., Wright 1988; Mock and Wright 1999). Specifically, the SALY approach may create or strengthen the mental tendencies of availability, confirmation, overconfidence, and anchoring (Ranzilla et al. 2011). Thus, engagements that lack a fresh perspective and heavily rely on using the same audit procedures year after year can result in low-quality audit outcomes.

To perform an effective audit, engagement teams must maintain professional skepticism throughout the audit (PCAOB 2012). Professional skepticism is threatened by familiarity with the client and Groupthink tendencies (Glover and Prawitt 2014). Auditors become over familiar with their clients when they are repeatedly a part of the client's engagement team. This continuing relationship can impact auditor judgements by providing more opportunity for the client to ingratiate themselves with the engagement team (Robertson 2010). Groupthink is a phenomenon that results in a group of people making poor decisions (Janis 1982). The likelihood that Groupthink can occur in an engagement team increases when the group remains constant and is not challenged by new perspectives. Thus, when engagements teams do not incorporate fresh eyes, the quality of audit outcomes can suffer from a reduction of professional skepticism.

A popular paraphrase of Proust's writing on art can be surprisingly applicable in the context of auditing: "The real voyage of discovery lies not in seeking new lands but in seeing with fresh

eyes." In the context of auditing, discoveries are likely to occur when a company hires a new audit engagement team (i.e., seeks new land) or the existing engagement team approaches a continuing audit with a fresh perspective (i.e., sees with fresh eyes). I investigate how fresh eyes impact the audit outcome of reported ICMW by examining three different types of engagement team changes. The first change I consider is when the client changes audit firms. In this case, the entire engagement team turns over; thus, the client will have a whole new set of eyes examining its financial reporting process. The SALY method will not be available to the engagement team since they were not the auditor on the prior year's engagement. In initial audits, the engagement team must decide which audit procedures are appropriate to test the ICFR for the new client.[1] The analysis needed to select appropriate audit procedures and then perform these procedures without any history or familiarity with the client will potentially reveal internal control deficiencies that a continuing auditor may not have identified. Additionally, an audit firm change means that none of the engagement team will be familiar with the client. Thus, professional skepticism is not threatened by an over-familiarity with the client.

Two significant changes to the engagement team that can bring new viewpoints to the audit are high turnover in the engagement team or a rotation in the engagement team's tone-at-the-top. A substantial, if not complete, turnover of the engagement team can be expected when a different audit office picks up the recurring engagement (i.e., an office change). In these cases, the audit

[1] Though predecessor auditors may share workpapers with the successor auditor, auditing standards do not require the sharing of all workpapers (AICPA Au-C 210, 510). For opening balances, auditing standards require the successor auditor to review the predecessor's work or perform their own audit procedures (AICPA Au-C 510.08c). Thus, though successor auditors might access prior year workpapers and ultimately use the same procedures, the extra scrutiny of the previous workpapers breaks the SALY mindset. Additionally, audit firms are unlikely to fully replicate another audit firm's workpapers due to their own ego, audit procedure preference, and distinct workpaper formatting.

remains with the same audit firm and will be subject to that firm's audit standards and preferences. However, by the audit firm assigning the audit to a different office, the engagement team's staffing is primarily, if not entirely, changed. Even though the prior year workpapers are fully available to the engagement team, the personnel's experience, culture, and preferences at the new audit location may elicit a fresh perspective.

When the client remains with the same audit firm but has a new audit partner overseeing the engagement (i.e., a partner change), the rest of the engagement team is likely to remain the same. It is not clear that changing the engagement team leadership will evoke a significant fresh perspective to discourage the SALY approach and increase professional skepticism. If the partner does not insist upon different audit procedures and documentation styles, the engagement team is likely to rely on the prior year's working papers. However, if the partner's preferences do differ from the prior year audit, the engagement team may uncover internal control weaknesses they overlooked in the previous year by updating their auditing methods to align with the new tone-at-the-top. Introducing fresh eyes to the engagement team by either changing the partner or non-partner engagement team members can lessen Groupthink tendencies and, thus, biases that can reduce professional skepticism.

The auditing literature investigates a wide variety of audit outcomes, such as the likelihood of future restatements, the propensity to issue a going concern opinion, and the quality of financial statement elements. I examine the likelihood an auditor will report an ICMW because evaluating internal controls requires a significant amount of auditor judgment (Earley, Hoffman, and Joe 2008). Thus, recurring engagement teams might be more susceptible to cognitive biases when evaluating the effectiveness of internal controls than when assessing the fairness of the financial

statements, which auditors compare to the underlying financial transactions (Asare et al. 2013). Additionally, identifying existing ICMWs is an important task that facilitates high-quality financial statements (PCAOB 2007). Since ICMWs are internal controls that are unlikely to prevent or detect a material misstatement from occurring in the financial reporting system, identifying existing ICMWs is a part of in the auditing function and impacts the quality of the financial reporting system.

Extant literature finds a positive association between an audit firm change and the successor auditor reporting ICMW (e.g., Krishnan and Visvanathan 2007; Zhang, Zhou, and Zhou 2007; Rice and Weber 2012). Researchers tend to attribute this phenomenon to client-auditor realignment. Clients with weak internal controls might provide more audit risk than the auditor would prefer, resulting in the auditor resigning from future engagements (Krishnan and Visvanathan 2007; Elder, Zhang, Zhou, and Zhou 2009; Ghosh and Tang 2015;). Alternatively, this realignment could originate from the client, with clients seeking auditors that will either help improve internal controls (Elder et al. 2009) or be more lenient when reporting on ICFR effectiveness (Newton, Persellin, Wang, and Wilkins 2016). To the best of my knowledge, no studies have considered whether the association between audit firm changes and subsequent ICMW reporting is due to the new engagement team's fresh perspective. Importantly, most prior studies do not differentiate between the existence, detection, and reporting of ICMW. By not controlling for the likelihood that the client has an existing ICMW, these studies cannot parse out the impact changing audit firms has on the detection and reporting of existing ICMW. Instead, these previous findings could be driven by the existence of ICMW triggering the audit firm change.

A limited number of papers in the audit office and partner literature examine how different audit offices and partners can influence reported ICMW. Audit offices with more experience issuing ICFR opinions are more likely to timely report an ICMW (Anantharaman and Wans 2019). However, Cowle and Rowe (2019) suggest that audit offices can experience a negative reputational effect for issuing adverse ICFR opinions. Due to partner identities only becoming available in the U.S. recently, the primary finding regarding partner and reported ICMW comes from the nonprofit setting, which provides information on internal control deficiencies (ICD), ICMW, and partner identities. In the nonprofit setting, Fitzgerald, Omer, and Thompson (2018) find that audit partners with long tenure are less likely to report ICDs and ICMWs and that successor partners who follow long-tenured predecessor partners are more likely to identify new ICDs. To my knowledge, extant literature has not examined how a fresh perspective from a change in the partner or non-partner members of the engagement team impacts reported ICMW in the public company setting.

To provide evidence of the impact an engagement team change has on audit outcomes, I examine 21,877 SOX 404(b) opinions for fiscal years 2007-2019. Audit firm and office changes are observable for my full sample period. Since the disclosure of partner identities became mandatory in 2017, I can observe whether an audit partner change occurs for 3,512 observations. Audit firm changes indicate a turnover of the entire engagement team, while audit office and partner changes are intra-firm, a partial engagement team changes.[2] Using SOX404(b) data from 2004-2017, I utilize a cumulative rolling window to derive an out-of-sample estimation of the likelihood that a company has existing ICMWs. While controlling for the likelihood that an ICMW

[2] Officer and partner changes are not mutually exclusive, but only 10% of the observable partner changes occur at the same time as office changes.

exists, I find that auditors are more likely to report an ICMW when there has been a change in the engagement team. This relationship is the strongest when the entire engagement team changes (i.e., a firm change). Out of the two partial engagement team changes I observe, I provide evidence that it matters where the fresh perspective originates. Fresh eyes amongst the engagement team members performing the audit procedures (i.e., an office change) provide a more substantial impact on reported ICMW than when the audit partner changes. Furthermore, I do not find evidence to support the claim that changing the engagement team's partner affects the likelihood of reported ICMW.

This dissertation contributes to the debate around mandatory auditor rotation by providing evidence of how different engagement team changes impact the audit outcome of reported ICMW. By controlling for the existence of ICMW, I show that the association between audit firm change and reported ICMW goes beyond the conventional explanations of client-auditor realignment or opinion shopping. Instead, I contribute some of the first archival evidence to suggest that the positive association between firm change and reported ICMW could result from the audit benefiting from the successor auditor's fresh eyes.

My study compares the impact of three types of engagement team changes. Though I find a significant relationship between audit firm change and reported ICMW, I am unable to document a significant relationship between partner change and reported ICMW. The difference between firm change and partner change is statistically significant, providing evidence that partner change does not provide the same effect on reported ICMW as an audit firm change. Also, I examine a third type of engagement team change that regulators neglect when considering mandatory auditor rotation: the change of non-partner engagement team members. My findings suggest that when a fresh perspective occurs in the non-partner engagement team members, the team is more likely to

discover and report ICMWs than if the fresh perspective occurs in the leadership. Though the impact of office changes is less substantial than the impact of firm changes, office changes still influence reported ICMW more than partner change. Thus, perhaps routinely rotating the non-partner engagement team members can provide a compromise between retaining the audit-client relationship while still bringing a significant fresh perspective to the engagement.

CHAPTER 2: BACKGROUND AND RELATED LITERATURE

I begin my literature review by describing the debate on mandatory audit rotations and the current rotation regulations applicable in the U.S. Next, I cover the regulations regarding reporting internal control material weaknesses (ICMWs) and research that identifies factors that impact the existence and reporting of ICMWs. Then, I discuss the extant literature on auditors using the SALY approach, the importance of professional skepticism, and relevant factors that can reduce professional skepticism. Finally, I cover the literature addressing the interactions between reported ICMW and the three engagement team changes I examine: audit firm, office, and partner change.

2.1: Mandatory Auditor Rotation

Long before the highly publicized accounting frauds and the fall of Arthur Anderson in the early 2000s, the auditing profession contemplated mandatory auditor rotation. In 1974, the American Institute of Certified Public Accountants (AICPA) formed the Commission on Auditors' Responsibilities (also known as the "Cohen Commission") to "develop conclusions and recommendations regarding the appropriate responsibilities of independent auditors." As part of their report, the Cohen Commission laid out the advantages and disadvantages of mandatory audit firm rotation. Their report noted that "[m]any of the asserted advantages of rotation can be achieved if the public accounting firm systemically rotates the personnel assigned to the engagement" (Cohen 1978). In the same year of the release of the Cohen Commission report, the AICPA mandated that audit partners rotate after seven consecutive years.

While considering which new auditor regulations should be a part of the Sarbanes-Oxley (SOX) Act of 2002, the Securities and Exchange Commission (SEC) contemplated mandating audit firm rotation. Instead of expanding the rotation regulation to other engagement team

members, the SEC reduced the partner-client relationship to five years (SOX Act of 2002). This action is in line with the Office of the Chief Accountant's opinion that mandatory audit partner rotations provide "a sufficient opportunity for bringing a fresh viewpoint to the audit without creating the significant costs and risks associated with changing accounting firms" (U.S. SEC 1994).

However, both former SEC Chairman Arthur Levitt and former SEC Chief Accountant Lynn Turner insisted that partner rotation alone was not satisfactory during their 2002 testimonies to determine whether the SOX Act should mandate audit firm rotation. Levitt advocated for mandatory audit firm rotation because he believed that partner change alone was insufficient to ensure that the audit consisted of "fresh and skeptical eyes." Turner also argued that partner rotation was inadequate to provide "an independent set of eyes looking at the quality of the financial reporting" because "the accounting firm has significant exposure to litigation in the event of a restatement of the financial statements" (107th Congress Hearings 2002).

Since 2002, the financial and auditing communities have continued discussing how to improve audit quality. In 2011, the Public Company Accounting Oversight Board (PCAOB) sought public comments to enhance "auditor independence, objectivity, and professional skepticism." Noting that mandatory audit firm rotation might be prohibitively costly, the PCAOB asked, "whether alternatives to mandatory [audit firm] rotation exist that would enhance independence, objectivity, and professional skepticism" (PCAOB 2011). By comparing the impact of audit firm change and partner change, I seek to provide evidence of whether these two types of changes have similar effects. Additionally, by examining audit office change, I highlight a type of engagement team change that receives little attention – a turnover of the engagement team members while retaining the audit firm. By continuing the audit-client relationship but also

bringing in more of a fresh perspective than partner change alone, a change in the non-partner engagement team members might provide a balance between keeping audit costs down while improving audit quality.

2.2: Internal Control Material Weaknesses

Section 302 of the SOX Act of 2002 requires the management of all public companies to recognize their responsibility over the company's internal controls over financial reporting (ICFR) and to design, evaluate, and report on the effectiveness of the ICFR. Effective November 15, 2004, accelerated filers and large accelerated filers must engage the external auditor that audits its financial statements to attest to and report on management's assessment of ICFR (Section 404 of the SOX Act of 2002).[3] Auditing standards require auditors to evaluate identified control deficiencies (ICD) related to the company's ICFR and classify these deficiencies as either significant deficiencies or material weaknesses. The PCAOB (2007) defines a material weakness as "a deficiency, or a combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis." If the auditor assesses that any ICDs rise to the severity of a material weakness, the auditor must issue an adverse opinion, which includes identifying and describing the material weaknesses (PCAOB 2007).

[3] The SEC defines an accelerated filer as a public company that has a global public float of at least $75 million by the end of its second quarter. Additionally, the company must have previously filed at least one annual report with the SEC. Large accelerated filers must meet the same conditions except the global public float threshold is $700 million. Public float is the company's share price multiplied the number of common shares held by investors not affiliated with the company (SEC 2003).

The SOX Act of 2002 was a reaction to egregious accounting scandals that had regulators and investors demanding for changes to improve financial reporting quality. Requiring management to report on the state of their company's ICFR and engage the external auditor to evaluate ICFR has been a costly SOX implementation for companies. However, for large companies, regulators consider the benefits of reporting on the effectiveness of ICFR to be worth the cost. Researchers have found that the disclosure of ICMWs provides valuable information for investors and creditors (e.g. Ashbaugh-Skaife, Collins, Kinney, LaFond 2008; Hammersley, Myers, and Shakespeare 2008; Costello and Wittenberg-Moerman 2011; Dhaliwal, Hogan, Trezevant, and Wilkins 2011). Additionally, identifying ICD allows for remediation, which results in higher-quality financial statements (PCAOB 2007).

Quickly after the SOX 404(b) standards became effective, researchers worked to identify what characteristics were associated with ICMWs. Using a sample of companies that disclose an ICMW under Section 302 or 404 from August 2002-2005, Doyle, Ge, and McVay (2007b) find that a company is more likely to disclose ICMWs if they are smaller, younger, financially weak, performing poorly, complex, or growing quickly. These findings reveal that companies with limited funds or diverted focus are less likely to maintain high-quality ICFR. U. Hoitash, R. Hoitash, and Bedard (2009) expand this research by examining the board and audit committee characteristics associated with the disclosure of ICMW and find that corporate governance impacts the existence and disclosure of ICMW. Much of the ICMW literature does not distinguish between the existence, detection, and reporting of ICMWs. A notable exception is Rice and Weber (2012), who examine companies that restated financial statements due to ICMWs. Thus, their whole sample is known to have existing ICMWs. Rice and Weber then consider how different company and auditor characteristics impact the reporting of ICMW.

2.3: The SALY Approach to Auditing

The SALY approach to auditing occurs when the engagement team approaches audit planning and testing the "same as last year." When the engagement team personnel remain constant from year to year, the team is more likely to depend on the SALY approach. When an audit firm change occurs, the engagement team will be entirely different from the engagement team in the prior year and the audit firm will not have their own prior year working papers to reference. Though predecessor auditors often share working papers with successor auditors, they are not required to share all their working papers (AICPA Au-C 210, 510). Even if all the predecessor provides all their working papers, auditing standards require successor auditors to carefully consider whether to rely on the predecessor auditor's work (AICPA Au-C 510.08c). Additionally, audit firms have their own preferences for auditing procedures and how to document these procedures in working papers. Thus, the fluid approach of SALY will be interrupted by the extra scrutiny of the predecessor's working papers and the preferences of audit firms. For intra-firm engagement team changes, the engagement team will still have complete access to the firm's prior year working papers. However, the new partner or engagement team members will be unfamiliar with the client and will have their own preferences and levels of experience. Thus, the questions introduced by new engagement team members can disrupt the SALY method. With engagement team changes likely to lessen the use of the SALY approach, it is useful to consider the impact of the SALY approach on audit quality. By introducing a fresh perspective in the engagement team, the auditor can avoid many of the consequences related to depending on the SALY approach.

2.3.1 The Interplay between Cognitive Biases and the SALY Approach

Regulators, professionals, and academics have long expressed concerns over the cognitive biases that can influence auditors when making professional judgments. In a KPMG publication discussing the professional judgment framework, Ranzilla et al. (2011) identify four cognitive biases that auditors need to be aware of: the tendencies of availability, confirmation, overconfidence, and anchoring. The availability, confirmation, and overconfidence tendencies can lead the engagement team to choose the SALY approach even when it is not the best audit procedure in the current year. Additionally, if the engagement team chooses the SALY method, the nature of SALY can exacerbate these four cognitive biases.

The availability tendency causes people to more heavily weight information that is fresh in their memory when making a decision (Ranzilla et al. 2011; Tversky and Kahneman 1974). Thus, the availability tendency can lead auditors to consider the prior year audit procedure to be more relevant to the current engagement than alternative audit procedures. When following the SALY approach, the auditor may check the prior year workpapers before looking at the current year information. Thus, the prior year information will likely be fresh in the auditor's memory, and the availability tendency can result in the auditor overweighting the importance of prior year's information in the current year audit.

When deciding on audit procedures, the confirmation tendency can also play a role. This tendency causes people to place more weight on new information that confirms their initial beliefs (Ranzilla et al. 2011; Wason 1960). When considering alternative audit procedures, the confirmation tendency can cause auditors to pay less attention to information that does not confirm that the audit procedure used in the prior year engagement is the most appropriate for the client this year. The confirmation tendency can continue to influence the auditors' decisions after

selecting to repeat the prior year's audit procedure. The initial belief of the auditor might be the client's prior year financial condition, risk assessment, or quality of the internal controls system. Thus, inconsistent information with this initial belief receives less attention until it reaches a threshold the auditor cannot ignore (Tan 1995; Cassell, Dearden, Rosser, and Shipman 2019).

The overconfidence tendency, which is the tendency for people to overestimate their ability (including their team's ability) to make good decisions or execute a task, can affect the auditor's judgment when selecting and performing audit procedures (Ranzilla et al. 2011). When deciding whether to use the SALY approach, the overconfidence tendency can influence the auditor's decision because of the auditor's overconfidence in their prior-year decision to choose that audit procedure. Additionally, the auditor might be overconfident in their belief that they would switch to a different audit procedure if an alternate procedure were more effective than the prior-year procedure. The overconfidence tendency can also impact the auditor's judgment after selecting the SALY approach. Auditors might be overconfident in their belief that they can remain alert when repeating familiar audit procedures. Senior members on the engagement team may display overconfidence in the new staff members' ability to use the prior year workpapers as a guide to repeat the same audit procedure this year. Due to this overconfidence, senior members may not provide enough guidance to staff members to ensure audit procedures are adequately performed.

Another tendency that can impact the auditor's judgment after selecting the SALY approach is the anchoring tendency, which is the tendency for people to anchor on an initial value and not adjust sufficiently away from this value as they receive new information (Tversky and Kahneman 1974; Ranzilla et al. 2011). A significant concern with the SALY approach to auditing

is that the prior year workpaper provides an anchor that auditors may not adjust far enough away from when making judgments in the current engagement (Libby 1981; Joyce and Biddle 1981).[4]

Prior research provides evidence that these cognitive biases do impact auditors when planning audit procedures. Wright (1988) conducted an experimental study to examine if auditors respond appropriately to the change in client characteristics when having access to prior year workpapers. In this study, auditors with access to prior year workpapers selected an average of seven more audit procedures than auditors without access to prior year workpapers. Despite selecting a higher number of audit procedures, the auditors who had the prior year workpapers did not do a better job of selecting audit procedures that were critical to the current audit. This finding suggests that auditors anchor to the number and type of audit procedures performed in the prior year, which can reduce audit effectiveness. In a field study, Mock and Wright (1999) find that auditors do change audit programs when changes occur in the client's risk level. However, the audit programs primarily reflect the prior year's audit procedures instead of adequately responding to the change in risk.

2.3.2 The Disadvantages to using the SALY Approach

Using the SALY approach can make it more challenging for the engagement team to meet the American Institute of Public Accountants' (AICPA) standards, such as the standard of

[4] One common situation the anchoring tendency can influence is selecting a sample size. Following the prior year's procedure and seeing the sample size of the previous engagement, the auditor might anchor on that sample size and not adjust enough given the conditions of the current engagement. For example, given this year's weakened internal controls, increase in transaction volume, and increase in the account balance, an appropriate sample size might by 65. However, if the prior year sample size was 55, an auditor might anchor and only adjust the sample size up to 61, even when considering the changed conditions. When influenced by anchoring, decision-makers do usually adjust in the correct direction, but the adjustment is not large enough.

incorporating unpredictability throughout the audit. Clarified Auditing Standard (Au-C) 240.29c states that "the auditor should incorporate an element of unpredictability in the selection of the nature, timing, and extent of audit procedures." Repeating audit procedures from year to year goes against this desired unpredictability, which leaves the engagement team vulnerable to overlooking internal control deficiencies. Reliance on the SALY method allows the client's management to predict which accounts and records the auditors will more heavily scrutinize, unintentionally providing an opportunity to hide fraudulent activity (Chen, Kelly, and Salterio 2012). The SALY approach also leaves the audit vulnerable to any recurring internal control deficiencies the engagement team failed to identify in the prior year; therefore, the engagement team is unlikely to discover them in the current audit when using the same audit procedures.

The SALY method also potentially prevents the engagement team from properly planning the audit. The planning phase can be time-consuming and mentally tasking, which makes adopting the SALY approach appealing if significant changes to the engagement team or client have not occurred. However, the planning phase is crucial to the audit since the objective of this phase "is to plan the audit so that it will be performed in an effective manner" (AICPA Au-C 300.04). Choosing the SALY approach during the planning phase saves time at the beginning of the audit at the price of over- or under-testing during the execution phase of the audit (Gartland 2017; Koziel 2017).

2.3.3 Why the SALY Approach is Widespread

Despite concerns about relying on prior year workpapers, SALY is a common auditing practice. Humans, intentionally or unintentionally, seek shortcuts to lessen their mental load, and the SALY approach provides auditors with such a shortcut (Ranzilla et al. 2011). In a field study of changes in audit programs for a recurring client, Bedard (1989) finds that auditors only modified

9 percent of individual tests. Most of these changes involved changing the test's extent or timing and not varying the nature of the test performed. Indeed, Mock and Wright (1999) find in their field study that 99 percent of tests used in the current year share the same nature as those used in the prior year.

One reason for the widespread use of the SALY approach is that it can increase audit efficiency by reducing audit costs related to hours spent planning, testing, reviewing, and training new audit staff. During the planning phase, if no substantial changes have occurred with the engagement team or the client, the engagement team is likely to choose to roll forward last year's procedures. If they do not, the engagement team would have to take the time to fully develop procedures that would be at least equally effective and would satisfy the requirements of the PCAOB (Bauer, Hillison, Peecher, and Pomeroy 2020). Additionally, senior members of the engagement team can allow the SALY method to be a training tool. Instead of guiding new staff members through an audit procedure, staff auditors can refer to the prior year workpaper, which details how the audit procedure was performed (Wright 1988). Even with no new audit staff, following the SALY approach can save time by allowing the engagement team to repeat a familiar procedure instead of developing and performing a new procedure. In the review process, new audit procedures face questions of suitability and will take more time to evaluate than an audit procedure the reviewer deemed appropriate in the prior year (Bedard 1989).

Besides audit efficiency, the SALY approach can also contribute to audit effectiveness. By repeating audit procedures for the client, auditors may perform a more effective audit in the current year because they know these audit procedures have already passed through the audit firm’s quality and assurance for this client. Without using prior year workpapers, auditors tend to choose audit procedures from standardized audit programs. Having access to prior year audit procedures allows

auditors to easily consider and test client-specific risks beyond what auditing standards commonly recommend (Fay, Jenkins, and Popova 2015; Mock and Wright 1999). Prior research finds that 10-20 percent of identified audit adjustments result from expectations based on prior years, with audit adjustments identified in prior years and prior year workpapers being the primary source of these expectations (Hylas and Ashton 1982; Wright and Ashton 1989). Thus, if auditors do not carefully consider information gleaned from the prior year audit, they may have more difficulty identifying material misstatements.

Though there are benefits to the SALY approach, the costs cannot be ignored. Audit firms can make concentrated efforts to reduce their use of the SALY method. However, introducing fresh eyes to the engagement team can be a natural way of breaking the SALY mindset. If the audit firm changes, the SALY approach will not be available to the engagement team. If there are intra-firm changes to the engagement team, the preferences and insights of the new engagement team members can bring into question the appropriateness of using the prior year's auditing procedures. Current U.S. regulations mandate the rotation of audit partners every five years, but it is not clear whether the periodic changing of the audit partner is enough to avoid some of the costs while still retaining the benefits of the SALY approach.

2.4: Professional Skepticism

The AICPA defines professional skepticism as "an attitude that includes a questioning mind, being alert to conditions that may indicate possible misstatement due to fraud or error, and a critical assessment of audit evidence" (AICPA Au-C 200.14). To produce high-quality audit outcomes, it is crucial that the engagement team exercises professional skepticism throughout the audit (PCAOB 2012). Thus, it is important to consider threats to maintaining professional

skepticism. Over-familiarity with the client and a lack of fresh eyes can reduce professional skepticism (PCAOB 2012; Glover and Prawitt 2014).

When the same engagement team repeatedly audits a client, the engagement team may become over-familiar. One way this can occur is through the client's managers and employees using the ongoing auditor-client relationship to ingratiate themselves with the engagement team members, which can impact auditor judgements (Robertson 2010). Without new perspectives infiltrating the engagement team, Groupthink can occur among the engagement team and reduce the quality of the group's decisions (Janis 1982).

Continuing audit engagements and a lack of fresh eyes may result in the engagement team using the SALY approach. One of the reasons that it is critical for auditors to maintain professional skepticism is that professional skepticism guards auditors from the influence of cognitive biases. However, the SALY method can exacerbate cognitive biases, which increases the difficulty of maintaining professional skepticism throughout the audit (PCAOB 2012; Doty 2013; Fay and Montague 2015). Additionally, familiarity with the client's audit and personnel increases as the engagement team uses the SALY approach. Completing audit tasks and having conversations with the client's personnel that feels routine limits the auditor's ability to critically consider inquiry responses, audit evidence, and minor changes in the client's circumstances. Thus, the SALY approach's ability to diminish professional skepticism can allow misstatements and internal control deficiencies to go unnoticed.

2.5: The Interaction between Audit Firm Change and ICMW

Shortly before the implementation of Section 404 of the SOX Act of 2002, companies started voluntarily reporting ICMW. Both in the periods of voluntarily and mandatory ICMW

reporting, researchers document a connection between audit firm change and reported ICMW. The interaction between these two events is not clear. Most researchers note that auditor change appears to precede the reporting of an ICMW; however, other researchers find that clients are more likely to experience an auditor change after reporting an ICMW. There are various potential explanations for the relationship between audit firm change and the likelihood of reporting an ICMW. To my knowledge, none of these papers consider that an engagement team who can view the audit with a fresh perspective might be more likely to identify previously undiscovered internal control issues.

2.5.1 Auditor Change Preceding ICMW

Examining the initial years of the SOX 404 implementation, Krishnan and Visvanathan (2007) and Zhang et al. (2007) note that a company's initial SOX 404 report is more likely to disclose an ICMW if the firm switched audit firms before this new mandatory filing. Ashbaugh-Skaife et al. (2007) also find this relationship in the period before SOX, when companies voluntarily reported internal control deficiencies. After the implementation of SOX, this relationship appears to continue to hold. In a study examining which companies are more likely to report existing ICMWs, Rice and Weber (2012) find that a client is more likely to report an ICMW if they experienced an auditor change in the prior year. Ghosh and Tang (2015) find that within three years of an auditor resigning, the client is more likely to report an ICMW than clients that dismissed its auditor. This association is primarily attributed to auditors resigning from clients with poor ICFR, either due to the increase in audit risk (Elder et al. 2009; Ghosh and Tang 2015; Krishnan and Visvanathan 2007) or reputational risk (Cowle and Rowe 2019).

2.5.2 ICMW Preceding Auditor Change

Another characterization of the SOX 404 implementation period is auditor changes occurring after the auditor issues an adverse opinion on the effectiveness of the client's ICFR (Bedard, Graham, R. Hoitash, and U. Hotisah 2007; Elder et al. 2009). The auditor switching could originate from either the auditor or client ending the relationship due to disagreements with the effectiveness of the client's ICFR (Bedard et al. 2007). Elder et al. (2009) provide evidence that auditor resignations instead of auditor dismissals are primarily driving the auditor switching behavior. These findings support the explanation of auditors distancing themselves from clients with weak internal controls after an attestation of the effectiveness of ICFR became mandatory. However, examining a sample period ending in 2007, Ettredge, Heintz, Li, and Scholz (2011) find that clients are more likely to dismiss their auditor after receiving an adverse ICFR opinion, potentially signaling opinion shopping behavior.

2.5.3 The Evidence on Opinion Shopping for a Clean SOX404(b) Opinion

When clients switch auditors after receiving an adverse ICFR opinion, this action can stem from either a desire to engage an auditor that can help improve the internal control system or to find an auditor that will report its poor ICFR as effective. Ettredge et al. (2011) find evidence that supports that a company wants to engage an auditor who can help remedy internal control weaknesses. Though they do find that auditors are more likely to be dismissed after issuing an adverse ICFR opinion, Ettredge et al. find that the replacement auditors tend to be of a higher-quality (i.e., a Big 4 audit firm or an industry specialist). However, Newton, Persellin, Wang, and Wilkins (2016) provide evidence that opinion shopping may still be occurring in this market by modeling the ex-ante probabilities a client will receive an adverse ICFR opinion if it continues the auditor-client relationship or dismisses its auditor. They find that a client is more likely to switch

auditors if ex-ante the successor auditor is less likely to issue an adverse ICFR opinion than the current auditor.

2.6: The Interaction between Audit Office Change and Audit Outcomes

Though the extant literature has not widely examined intra-firm office switches, researchers have extensively documented that an audit firm's various office locations are not homogenous. Though the overall firm provides support for its offices, each office is responsible for its audits - from submitting a bid to delivering the audit opinion (Wallman 1996; Francis, Stokes, and Anderson 1999). A firm's reputation, leadership, experience, and technical ability do not seamlessly flow to all branches of the firm.[5] Thus, audit quality fluctuates amongst an audit firm's offices (Francis 2004).

2.6.1 Impact of Office Quality and Clientele on Audit Outcomes

Due to office heterogeneity, a company's audit outcomes will vary depending on which audit office it engages. The quality of audit outcomes depends on the office's ability to provide high-quality audits and how the client compares to the office's client base. One distinguishing feature which potentially captures audit quality is office size, which is positively associated with audit quality.[6] Clients of larger offices are more likely to receive a going concern opinion (Francis and Yu 2009), to report smaller unsigned abnormal accruals (Choi, C. Kim, J. Kim, and Zhang

[5] Studies of the largest national audit firms in Australia, the United States, and the United Kingdom find that audit offices do not earn a fee premium unless both the firm is an industry leader nationally and the office is an industry leader within its city (Ferguson, Francis, and Stokes 2003; Francis, Reichelt, and Wang 2005; Basioudis and Francis 2007). The differing fee premiums these offices can charge indicate that all offices of a firm are not considered equally reputable – the office must build its own reputation.

[6] Office size is commonly examined as the total amount of audit fees the office earns or the total number of public clients the office audits per year.

2010), and not to issue restatements (Francis, Michas, and Yu 2013). High-quality offices also distinguish themselves by being industry specialists. These offices are likely to issue more going concern opinions, have clients with lower abnormal accruals, and have clients that are less likely to meet analysts' earnings forecasts than other audit offices (Reichelt and Wang 2010). Additionally, when audit offices have issues with audit quality, these issues appear to be systemic throughout the office instead of limited to a few clients. Francis and Michas (2013) find that when an office issues an opinion on financial statements that will result in a future downward restatement, the concurrent clients report higher abnormal accruals than office-years not associated with restatements.

A client may also receive different treatment, impacting the level of audit quality it receives, depending on how it compares to its audit office's clientele. For example, when a client stands out from the office's clientele due to its size or the client's risk level, the auditor appears to treat the client more conservatively by issuing more going concern opinions and restricting abnormal accruals (Reynolds and Francis 2000; Hallman 2017).[7] Also, an office's clientele can impact audit quality by placing a restraint on the office's resources and adding to its experience. Bills, Swanquist, and Whited (2016) provide evidence that office growth places a limitation on the office's resources, which results in a short-term decline in audit quality until the audit office can adjust to its growth.[8] Anantharaman and Wans (2019) find that the more

[7] There is also evidence of this in the insurance market. Craswell, Stokes, and Laughton (2002) find that larger insurance clients of audit offices are less likely to under-reserve (i.e., engage in earnings management).

[8] The year after an audit office experiences growth (measured by an upward change in total audit fees), clients are more likely to report higher absolute discretionary accruals and to issue a future restatement (Bills et al. 2016).

experience an office has with issuing SOX 404(b) opinions, the better the office is at reporting ICMW promptly and detecting misstatements related to ICMW.[9]

2.6.2 Impact of Audit Outcomes on Office Growth and Switches

Companies appear to be aware of the heterogeneity of audit offices and predictably respond when events indicate an audit office's quality or the company is not a good fit for the audit office. Two events that bring into question the quality of an audit are restatements and litigations. After the client of an audit office announces a restatement or an office has a lawsuit brought against them by the users of a client's financial statements, the audit office is less likely to add new clients and retain existing clients (Swanquist and Whited 2015; Fan, Gunn, Li, and Nagarajan 2016). An audit office is also less likely to grow through new clients if the auditor issued a qualified SOX404(b) opinion in the prior year (Cowle and Rowe 2019).[10] Additionally, companies can observe the auditor preferences of industry leaders as a sign of quality. Francis, Mehta, and Zhao (2017) find that when an office gains (losses) a major industry client, they experience same-industry client gains (losses) for the following two years.

A company may consider an office-client relationship to be a poor fit if it is dissimilar to the office's clientele or if the audit office is likely to issue an inappropriate opinion. Brown and Knechel (2016) find that when a client's financial disclosures are dissimilar to those of the office's other same-year same-industry clients, the company is more likely to switch auditors and are more likely to select a new auditor that has the best fit. There is also evidence that companies will change

---

[9] The size of the audit office's SOX 404(b) clientele by industry also increased the likelihood that ICMWs would be reported timely for clients within that industry.

[10] It is unclear why clients avoid ICMW-offices. Potential clients might perceive that the office is more likely to give them a qualified SOX 404(b), which is costly for the company. Another possibility is that the potential client views the office's clientele as being low-quality, which may give the impression that the office is low-quality.

audit firms if the company is considered riskier compared to the office's clientele (Hallman 2017). In a study of whether same-firm office switches are an opportunity for opinion shopping, Chen, Francis, and Hou (2019) note that companies appear to select auditors that are better at issuing appropriate GC opinions.[11]

2.7: The Interaction between Audit Partner Change and Audit Outcomes

Since 2002, U.S. public companies' audit partners must rotate off the audit after leading the audit for five consecutive years. Thus, audit partner rotations are unique from audit firm and office changes because the change is either mandatory or voluntary, instead of purely voluntary. Effective January 31, 2017, audit firms must disclose the engagement partner's identity in a Form AP filing upon completing the audit of a U.S. public company (SEC 2016; PCAOB 2015). With U.S. audit firms only recently revealing audit partner names, audit partner research in the U.S. setting is limited.[12] However, audit partner research using international settings has contributed to our understanding that individual audit partners do not have identical effects on audit outcomes (Lennox and Wu 2018).

2.7.1 Impact of Partner Tenure on Audit Outcomes

The new or tighter partner tenure limitations that many countries adopted in the early 2000s reflect the belief that audit partner tenure is negatively associated with audit quality. These

[11] Specifically, companies that switched audit offices selected offices with lower Type 1 error rates without higher Type II error rates (i.e., the new office is less likely to issue an unwarranted going concern opinion without being more likely not to issue a warranted going concern opinion).

[12] Before the Form AP regulation, some researchers used unique methods to identify partner changes (Laurion, Lawrence, and Ryans 2017; Litt, Sharma, Simpson, and Tanyi 2014). However, these studies are noisy because they assume all partner changes are mandatory (Lennox and Wu 2018). Research from the U.S. that relies on U.S. proprietary data and data from international countries that have mandatory audit partner rotations finds a high volume of voluntary partner changes (Carey and Simnett 2006; Lennox, Wu, and Zhang 2014; Gipper, Hail, and Leuz 2020), so this assumption is unlikely to be valid.

regulations balance wanting to provide fresh eyes for the audit without severing the audit-client relationship. Before partner rotation became mandatory in Australia and Taiwan, researchers examined the impact of partner tenure on various audit quality measures to determine whether a long partner-client relationship is harmful or beneficial.[13] In Australia, there is evidence that partner tenure is negatively associated with the likelihood of issuing going concern opinions (Carey and Simnett 2006; Ye, Carson, and Simnett 2011). Evidence between partner tenure and discretionary accruals, an audit quality proxy, shows a more complicated relationship. Chi and Huang (2005) find that Taiwanese companies that have a short (i.e., one-three years) or long (i.e., greater than eight years) audit firm or partner relationship are more likely to report higher levels of discretionary accruals. Chen, C. Lin, and Y. Lin. (2008) find that partner tenure is negatively associated with discretionary accruals for Taiwanese companies even after controlling for audit firm tenure. However, a positive association between partner tenure and discretionary accruals when tenure is less than six years appears to be primarily driving this result. In Australia, Fargher, Lee, and Mande (2008) find the opposite relationship: a positive association between partner tenure and discretionary accruals driven by a negative association when tenure is less than three years. Overall, international evidence before mandatory rotations suggests that either too long or too short of a partner tenure might negatively impact audit quality.

2.7.2 Impact of Partner Rotations on Audit Outcomes

Evidence on the impact of partner rotation on audit outcomes first came from international settings. Chi, Huang, Liao, and Xie (2009) provide some of the first analysis in this research area

[13] Partner rotation became mandatory every seven (five) years in Australia (Taiwan) starting in 2002 (2003). Before these regulations, all partner rotations were voluntary (ICAA, 2002; Chi and Huang, 2005).

by comparing Taiwanese companies subject to mandatory partner rotation for the first time to companies that did not need to rotate partners yet. When using ERC and abnormal accruals as a proxy for audit quality, they do not find that audit quality differs between the two groups.[14] However, researchers using more direct proxies for audit quality provide evidence that partner rotation impacts audit quality. Firth, Rui, and Wu (2012) find that audit partner rotations, whether mandatory or voluntary, are associated with a higher likelihood of issuing a modified audit opinion for Chinese companies. Lennox, Wu, and Zhang (2014) find that auditors are more likely to propose audit adjustments for Chinese companies in the final year of a partner's tenure before mandatory rotation takes place and in the first year of a partner's tenure. Overall, research in international settings suggests that audit quality improves after a partner rotation and that predecessor partners might increase audit quality when they know a mandatory partner rotation will occur after the audit.

Using proprietary data for U.S. audits, researchers have started providing evidence on how partner rotations impact audit quality before the Form AP regulation. In the nonprofit setting, which allows them to observe internal control deficiencies and partner identities, Fitzgerald et al. (2018) find that ICDs and ICMWs are less likely to be reported as partner tenure increases. However, successor partners only appear to identify new ICDs in their first year of tenure when the predecessor partner had a long tenure. Using data from the PCAOB on the six largest U.S.

[14] Both abnormal accruals and ERC are earnings quality measures that appear in the auditing literature as audit quality proxies. These measures are appropriate under the assumption that high-quality audits produce high-quality earnings. If companies do not materially misstatement accruals, auditors have little influence on the reported accrual numbers. Thus, accruals being higher than "normal" accrual levels do not reflect poor audit quality if those accruals are not materially misstated. By using share prices, ERC is a measure that is more reflective of investor's perception of earnings quality rather than actual earnings quality and, thus, auditor quality (Bamber and Bamber, 2009).

audit firms, Gipper, Hail, and Leuz (2020) do not find evidence that audit quality is related to tenure, except that shorter tenure (within two years of a partner rotation) is associated with restatement announcements.[15] Thus, evidence exists in U.S. settings that audit quality does improve after partner rotations.

[15] The audit quality measures that Gipper et al. (2002) study are absolute accruals, restatement periods, restatement announcements, SOX 404(b) internal control opinions, and the findings from PCAOB and audit-firm inspections. Gipper et al. do not count all reported ICMWs; instead, they only count reported ICMW weaknesses linked to financial statements that are restated in the future. By measuring ICMWs in this manner, auditors are only given credit for identifying ICMWs when they do not also identify an existing material misstatement.

CHAPTER 3: HYPOTHESIS DEVELOPMENT

3.1 Fresh Eyes through Engagement Team Changes

Drawing from the audit turnover literature, I use three different auditor change events to measure engagement team change: firm, office, and partner change. Each of these changes indicates that the engagement team will be approaching the audit with fresh eyes. To examine how auditing with fresh eyes impacts audit outcomes, I focus on reported internal control material weaknesses (ICMW). Compared to other audit outcomes, reporting ICMWs is an auditor task that is especially susceptible to being influenced by cognitive biases since evaluating internal controls is more subjective and requires a significant amount of auditor judgment compared to other audit procedures (Earley et al. 2008; Asare et al. 2013). Since the presence of an ICMW means management is unlikely to be able to prevent or detect a material misstatement, the detection and reporting of ICMW is an important task. By reporting ICMWs, auditors facilitate high-quality financial statements in the future and provide a warning to investors (PCAOB 2007).

It is not clear that auditing with fresh eyes will improve audit outcomes. Indeed, one of the main arguments against mandatory audit firm rotation is that the engagement team will face too steep of a learning curve in an initial audit to perform a high-quality audit (PCAOB, 2011). Engagement team members may struggle with the notoriously heavy workload of a first-year audit and their inexperience with the client. These challenges could prevent new engagement team members from identifying ICMWs. Alternatively, the competing effects from the fresh perspective and the steep learning curve could cancel each other out. Thus, a change in the engagement team may not significantly impact the audit outcome of reported ICMW. Therefore, I present the following hypothesis as a two-sided hypothesis in the null form:

H1: *Ceteris paribus, changes in the engagement team are not associated with the likelihood of reporting internal control material weaknesses.*

3.2 Comparison of Full and Partial Engagement Team Changes

After examining whether a change in the engagement team impacts reported ICMW, I compare the effect that the different engagement team changes have on this audit outcome. Out of the three engagement team changes I examine, audit firm change represents a complete turnover of the engagement team. The other two changes represent a partial turnover of the engagement team change.

With an audit firm change, the entire engagement team brings a fresh perspective to the audit and cannot fully access a complete set of prior year workpapers. The engagement team typically retains the same partner for audit office changes, but the non-partner engagement team members are more likely to be sourced from the new office. A partner change results in new leadership for the engagement team, and sometimes the partner will choose to replace existing engagement team members with preferred employees. Thus, audit office and partner changes will bring fewer fresh eyes to the audit, but the engagement team will have full access to prior year workpapers and have some members who have experience with the client.

Though the experience and access to workpapers are beneficial for the partial engagement team changes, these audits are also more likely to use the SALY approach. Since the engagement team succeeding an audit firm change cannot rely on the SALY method and have no prior relationship with the client, they will be less susceptible to cognitive biases and reduced professional skepticism related to the SALY approach and overfamiliarity with the client than a partially changed engagement team. Thus, I present my second hypothesis in the alternative form:

H2: *Ceteris paribus, audit firm changes are more strongly associated with reported material weaknesses than partial engagement team changes (i.e., audit office or partner changes).*

3.3 Comparison of Partial Engagement Team Changes

Out of the two partial engagement team changes, it is not clear whether an office or partner change will have a more substantial impact on the audit outcome of reported ICMW. In these situations, the audit remains with the same firm but is managed or performed by different individual auditors. The successor engagement team might hesitate to report previously unfound ICMWs, and this aversion behavior may be more intense at the partner level. However, if the new partner chooses not to report material findings, it will increase the partner's litigation risk (Laurion et al. 2017).

With a partner change, the tone-at-the-top of the engagement team changes while most non-partner members remain the same. Having an overall view of the engagement, a new partner might catch ICMWs that had previously gone unnoticed. Additionally, the successor partner might prefer different auditing procedures and documentation methods than the predecessor auditor. Thus, a new partner's guidance might trigger a departure from the SALY approach and facilitate new ICMW discoveries. However, there is also evidence that for large, complex audits, the successor partner will shadow the outgoing partner to make the partner rotation a smooth transition (Gipper et al. 2020). In these situations, it is unlikely the new partner will deviate from the audit procedures used in the prior year and bring a fresh perspective.

Since audit staff and managers perform the audit procedures, fresh eyes in the engagement team's non-partner members can identify previously missed ICMWs. However, the new engagement team members may be reluctant to express their concerns over the ICFR system due to evaluation apprehension (i.e., being concerned the rest of the engagement team will judge their

opinion unfavorably). Out of a fear of being incorrect, new engagement team members might avoid drawing attention to an internal control issue that the experienced engagement team members have not identified. Thus, evaluation apprehension can cause new engagement team members to downplay the seriousness of an ICMW to avoid receiving attention and criticism from the continuing partner and other engagement team members (Ranzilla et al. 2011). With both audit office and partner changes having circumstances working for and against the engagement team detecting and reporting ICMW, it is unclear which type of partial engagement team will have a stronger impact on reported ICMW. Thus, I present my third hypothesis in the null form:

H3: *Ceteris paribus, there is no difference in the likelihood of internal control material weaknesses being reported between audit office changes and audit partner changes.*

CHAPTER 4: RESEARCH DESIGN AND SAMPLE SELECTION

In Chapter 4, I discuss my research design and the sample selection process. First, I present the two-stage methodology I use to test my hypotheses. I then define my dependent variable, variables of interest, and control variables I use for both stages of my model. The Appendix provides additional details of how I measure my variables. Finally, I explain the sample selection process I use to address my hypotheses. Table 1 summarizes my sample selection method.

4.1 Research Design

My hypotheses focus on whether engagement team changes impact the reporting of internal control material weakness (ICMW). For the external auditor to report an ICMW, the company must first have an existing ICMW and then the auditor must be able to discover it. My hypotheses focus solely on the auditor's role of discovering and reporting an ICMW. Thus, it is essential that I control for the likelihood that an ICMW exists, which I do through creating and controlling for *Pred. Existing ICMW*. In the first stage of my model (Eq. 1), I estimate *Known ICMW* using a vector of independent variables that account for company, governance, and top management characteristics associated with the existence of internal control issues. Doyle et al. (2007b) and Hoitash et al. (2009) primary motivate my selection of independent variables. The *Known ICMW* model is the following ordinary less squares (OLS) regression:

$$\begin{aligned} Known\ ICMW_{it} = {} & b_1 PY\ ICMW_{it} + b_2 Company\ Age_{it} + b_3 Market\ Value_{it} + \\ & b_4 Aggregate\ Loss_{it} + b_5 Altman\ Z\text{-}score_{it} + b_6 Segments_{it} + \\ & b_7 Foreign\ Transactions_{it} + b_8 Restructuring\ Charges_{it} + b_9 M\&A\ Value_{it} + \\ & b_{10} Extreme\ Sales\ Growth_{it} + b_{11} Announce\ Restatement_{it} + \beta_{12} Board\ Size_{it} + \\ & \beta_{13} Board\ Independence_{it} + \beta_{14} Board\ Tenure_{it} + \beta_{15} Board\ Reputation_{it} + \\ & \beta_{16} CEO\ Duality_{it} + \beta_{17} CEO\ Tenure_{it} + \beta_{18} AC\ Size_{it} + \beta_{19} AC\ Tenure_{it} + \\ & b_{20} Mgmt\ Turnover_{it} + b_{21} AC\ Turnover_{it} + \text{Industry Fixed Effects} + c_{it} \end{aligned} \quad (1)$$

Known ICMW is an indicator variable equal to one when the company either receives an adverse ICFR opinion or subsequently restates the financial statement due to internal control issues or a material misstatement. To get a prediction of the likelihood that company i has an ICMW in year t, I estimate the *Known ICMW* model over cumulative rolling windows from 2005 to t-2.[16] The window starts in 2005 since I need two years of ICFR opinions to calculate Eq. 1, and ICFR opinions were not required until 2004. Instead of using a fixed window, I include all years between 2005 to t-2 to provide for a robust prediction of how varying company characteristics impacts the likelihood the company has an ICMW. This methodology provides me with out-of-sample estimates which I can then apply for company i in year t.

I use the linear discriminant model (LDM) method to ensure that the prediction of *Known ICMW* (*Pred. Existing ICMW*) falls within the range of 0 to 1 (Allison 2020). For the LDM method, I transform the parameters obtained from Eq. 1 as follows:

$$k_{t-2} = (N_{t=2005\ldots t-2} + 1)/RSS_{t=2005\ldots t-2}, \tag{2}$$

where *N* is the residual degrees of freedom and *RSS* is the residual sum of squares.

$$a_{t-2} = \log(m_{t=2005\ldots t-2}/(1 - m_{t=2005\ldots t-2})) + k_{t-2} * (c_{t=2005\ldots t-2} - 0.5) + 0.5((1/m_{t=2005\ldots t-2}) - 1/(1 - m_{t=2005\ldots t-2})), \tag{3}$$

where *m* is the mean of *Known ICMW* and *c* is the intercept from Eq. 1.

With these transformed parameters, I then generate predicted probabilities of *Known ICMW* (*Pred. Existing ICMW*) to estimate the likelihood a company has existing ICMW as follows:

$$\widehat{y_{it}} = c_{t=2005\ldots t-2} + b_{t=2005\ldots t-2} X_{it}, \tag{4}$$

[16] For example, to calculate a prediction of *Known ICMW* for 2009, I estimate Eq. 1 for 2005-2007. My final sample year, 2019, uses 2005-2017 to estimate the *Known ICMW* model.

where *b* is the coefficients from Eq. 1 and *X* is the value of the variables used in Eq. 1 for company i at year t.

$$Pred.\,Existing\ ICMW_{it} = 1/[1 + \exp(-(k_{t-2} * (\widehat{y_{it}} - c_{t=2005\ldots t-2}) + a_{t-2}))] \quad (5)$$

The equation I use to test my hypotheses includes the likelihood the company has an ICMW (*Pred. Existing ICMW*) along with a vector of company, governance, top management, and auditor characteristics that are known to impact the detection and reporting of ICMW. Since factors that influence the existence of ICMW also impact the detection and reporting of the ICMW, I include many of the same independent variables from Eq. 1 in the *Reported ICMW* model. Based on Rice and Weber (2012), I include three auditor characteristics in my *Reported ICMW* model.[17] My *Reported ICMW* model is the following OLS:

$$\begin{aligned} Reported\ ICMW_{it} = {} & \beta_{1a}Firm\ Change_{it} + \beta_{1b}Office\ Change_{it} + \\ & \beta_{1c}Partner\ Change_{it} + \beta_{2}Pred.Existing\ ICMW_{it} + \beta_{3}Company\ Age_{it} + \\ & \beta_{4}Market\ Value_{it} + \beta_{5}Aggregate\ Loss_{it} + \beta_{6}Altman\ Z\text{-}score_{it} + \\ & \beta_{7}New\ Xfin_{it+1} + \beta_{8}Segments_{it} + \beta_{9}Foreign\ Transactions_{it} + \\ & \beta_{10}Restructuring\ Charges_{it} + \beta_{11}M\&A\ Value_{it} + \beta_{12}Extreme\ Sales\ Growth_{it} + \\ & \beta_{13}Announce\ Restatement_{it} + \beta_{14}Board\ Size_{it} + \beta_{15}Board\ Independence_{it} + \\ & \beta_{16}Board\ Tenure_{it} + \beta_{17}Board\ Reputation_{it} + \beta_{18}CEO\ Duality_{it} + \\ & \beta_{19}CEO\ Tenure_{it} + \beta_{20}AC\ Size_{it} + \beta_{21}AC\ Tenure_{it} + \beta_{22}Mgmt\ Turnover_{it} + \\ & \beta_{23}AC\ Turnover_{it} + \beta_{24}Big4_{it} + \beta_{25}Audit\ Fees_{it} + \beta_{26}Nonaudit\ Fees_{it} + \\ & \text{Industry Fixed Effects} + \varepsilon_{it} \end{aligned} \quad (6)$$

The dependent variable, *Reported ICMW*, is an indicator variable that equals one if the auditor issues an adverse ICFR opinion in the current year. My variables of interest are the indicators of observable changes in the engagement team: *Firm Change*, *Office Change*, and *Partner Change*.

[17] I include these three auditor characteristics (*Big4*, *Audit Fees*, and *Nonaudit Fees*) in the *Reported ICMW* model and not the *Known ICMW* model since auditors play a role in the detection and reporting of ICMW but not the existence of ICMW.

4.1.1 Variable Descriptions for the Known ICMW Model

To investigate the auditor's role of discovering and reporting an ICMW, I need to control for the likelihood that an ICMW exists. However, the existence of ICMW cannot be identified if the ICMW is never discovered or reported. Thus, it is only possible to determine the existence of an ICMW if the company receives an adverse ICFR or the financial statements are later restated. *Known ICMW* is an indicator variable that equals one if the company (1) originally receives an adverse ICFR opinion, (2) restates its financial statements citing issues with internal controls, or (3) restates its financial statements due to a material misstatement. I consider a restatement to be material if the average annual cumulative change in net income scaled by total assets is larger than 0.05.[18] Internal controls should be effective in either preventing or detecting material misstatements. Thus, a material misstatement reveals that the company's internal controls were either not designed or operating effectively. By including restatements due to internal control issues or material misstatements, I can expand my count of *Known ICMW* beyond the companies that originally received an adverse ICFR opinion.

The first independent variable in my *Known ICMW* model is *PY ICMW*, which indicates if the company's auditor reported an ICMW in the prior year. After a company becomes aware of an ICMW, management must remedy the internal control issue that was not effective in detecting or preventing a material misstatement. Due to the nature of internal controls and characteristics of the company, remediation does not always occur between the initial reporting of the ICMW and the following audit (e.g., Bedard 1989; Doyle et al. 2007a; Goh 2009; Hammersley, Myers, and

[18] I scale by the last reported total assets before the restatement period. If the restatement period covers the period when the company became public, I use the first publicly reported total assets.

Zhou 2012; Johnstone, Li, and Rupley 2011). Due to the sticky nature of the quality of internal controls, whether the company receives an adverse ICFR opinion in the prior year can provide information about the likely existence of internal control issues in the current year. Thus, I expect the coefficient of *PY ICMW* to be positively related to *Known ICMW* (i.e., $b_1 > 0$).

The next two independent variables highlight firm characteristics that proxy for the firm's ability to devote resources to developing and maintaining strong internal controls: *Company Age* and company size (*Market Value*). I use the log of the number of years the company has stock price information available on Compustat as my company age measure.[19] Following Doyle et al. (2007b), I take the log of the company's current year market value of equity to calculate company size. Older companies have had more time to revise the internal control system than younger companies, and larger companies have more resources to allocate towards building an effective internal control system than smaller companies (Doyle et al. 2007b). Thus, I expect both *Company Age* and *Market Value* to be negatively related to the company having ineffective internal controls (i.e., b_2 and $b_3 < 0$).

Doyle et al. (2007b) also find that a company's financial health is related to its internal controls' effectiveness. When companies are struggling to stay in the black, managers are likely to devote less time and resources to maintaining an environment of strong internal controls. Thus, I follow Doyle et al. (2007b) by including recent losses (*Aggregate Loss*) and the company's

[19] My company age measure differs from Doyle et al.'s (2007) variable because they use CRSP information to calculate company age. I calculate company age with both CRSP and Compustat. Since these two company age calculation methods produce similar results, I chose to use my Compustat company age variable. Since none of my other variables require CRSP data, using CRSP to calculate firm age puts an unnecessary data constraint on my sample.

bankruptcy risk (*Altman Z-score*) in my independent variables.[20] *Aggregate Loss* is an indicator variable equal to one when the sum of the company's earnings before extraordinary items for the current and prior year are negative. Doyle et al. (2007b) find that companies reporting a recent history of losses are more likely to have ineffective ICMW, so I expect *Aggregate Loss* to be positively related to *Known ICMW* (i.e., $b_4 > 0$). I use *Altman Z-score* to measure bankruptcy risk, with a lower score representing higher risk of bankruptcy. Thus, I expect *Altman Z-score* to be negatively related to *Known ICMW* (i.e., $b_5 < 0$).

Three independent variables capture the operational complexity of the company: *Segments*, *Foreign Transactions*, and *Restructuring Charges*. As a company's operations become more complex, the internal control system will have to expand and increase in complexity. Thus, companies with complex operations will find it harder to ensure all its internal controls operate effectively (Doyle et al. 2007b). *Segments* is the log of the total number of operating and geographic segments the company reports in the current year. *Foreign Transactions* is an indicator variable equal to one if the company reports a foreign currency adjustment in the current year. *Restructuring Charges* is the sum of the current and prior year restructuring charges scaled by current year market cap.[21] Since all these variables proxy for operational complexity, I expect each variable to be positively related to *Known ICMW* (i.e., b_6, b_7, and $b_8 > 0$).

Doyle et al. (2007b) find that the company's internal control system does not adjust quickly enough when a company grows quickly. Thus, I include two independent variables to proxy for

---

[20] Doyle et al. (2007b) use Shumway's (2011) hazard default prediction model to estimate bankruptcy risk. I instead used the Altman Z-Score as a measure of bankruptcy risk, which similar prediction models of ICMW (e.g. Ge et al., 2017) use as a measure of bankruptcy risk.

[21] I take the inverse of Compustat's RCP variable for *Restructuring Charges* to represent the company's restructuring expenses and income.

rapid growth: *M&A Value* and *Extreme Sales Growth*. *M&A Value* accounts for business growth through acquisitions and is the total value of controlling acquisitions completed in the current and prior year scaled by the current year.[22] To account for a company growing organically, I use the indicator variable of *Extreme Sales Growth*, which equals one if the company's industry-adjusted annual sales growth ranks in the top 20 percent of the companies in my sample. Since larger values for both variables indicate rapid growth, I expect the coefficients of *M&A Value* and *Extreme Sales Growth* to be positive (i.e., b_9 and $b_{10} > 0$).

Due to restatements being able to signal the company's internal control quality, I include the independent variable *Announce Restatement*, which indicates whether a company has announced a restatement within the current or prior fiscal year. Krishnan and Visvanathan (2007) find that prior restatements are positively associated with poor internal control quality. Restatements are often a result of a company not having strong internal controls over their financial reporting system. Thus, a company that has recently announced a restatement has become aware of internal control issues that will either still exist or the company will try to correct. Due to the sticky nature of internal control issues, I expect recent restatements to have a positive relationship with *Known ICMW* (i.e., $b_{11} > 0$).

How effective the company's board of directors are in their role of governance can impact the quality of the company's ICFR system (R. Hoitash, U. Hoitash, and Bedard 2009; Johnstone et al. 2011; Bedard, R. Hoitash, U. Hoitash, and Westermann 2012). Thus, I include four control variables that proxy for the board of directors' effectiveness. The first variable is *Board Size*,

[22] Following Doyle et al. (2007), I only count acquisitions that result in the company owning at least 50% of the acquiree.

which is the number of directors on the board in the current year. Prior literature suggests that smaller boards are more effective at governance (Yermack 1996; Core, Holthausen, and Larcker 1999). Thus, I expect *Board Size* to be positively associated with the company having internal control issues (i.e., $b_{12} > 0$). I also include a measure of the proportion of independent directors on the board, with independent directors being directors that are not employed by the company. Prior literature finds that boards with a larger proportion of independent directors are better at governance (Beasley 1996; Klein 2002). In the ICMW setting, there is evidence that a more independent board is able to remediate existing ICMW quicker (Goh 2009; Johnstone et al. 2011), which is why I expect to find *Board Independence* to be less associated with *Known ICMW* (i.e., $b_{13} < 0$). Additionally, prior literature suggests that the longer tenure of independent directors increases the governance ability of the firm (Beasley 1996; Bedard, Chtourou, and Courteau 2004). Thus, I include *Board Tenure*, which measures the average amount of time that the independent directors have served on the board, and I expect it to be negatively associated with the existence of ICMW (i.e., $b_{14} < 0$). To get a sense of the quality of the directors, I also include *Board Reputation*, which measures the average number of other boards the independent directors serve on, with other boards include public, private, and nonprofit organizations. The higher in demand the directors are can proxy for the director's experience and expertise, with both qualities being able to improve the ability of the director to monitor the company (Bedard et al. 2004). Thus, I expect *Board Reputation*, to be negatively associated with *Known ICMW* (i.e., $b_{15} < 0$).

The overarching internal control component that the Committee of Sponsoring Organizations of the Treadway Commission (COSO) identifies is the control environment, which depends on the company's tone-at-the-top to establish an environment committed to high-quality internal controls (McNally 2013). As the tone-at-the-top, the chief executive officer (CEO) exerts

tremendous influence over the company's internal controls. Thus, I include two CEO variables in my *Known ICMW* model to factor how the CEO's power might influence the existence of ICMW. First, I include *CEO Duality* as an indicator for the CEO also serving as the chair of the board. Theory suggests that when the CEO also serves as the chair of the board, the board has less power to govern the CEO (Dechow, Sloan, and Sweeney 1996; Core et al. 1999). I also include *CEO Tenure*, which is the number of years the CEO has been serving in that role. Prior literature suggests that the power of the CEO increases with the CEO's tenure (e.g., Hermalin and Weisbach 1998). Thus, I expect both *CEO Duality* and CEO tenure to be positively associated with *Known ICMW* (i.e., b_{16} and $b_{17} > 0$).

Beyond the board of directors, I also control for two audit committee variables. As the committee on the board of directors that is responsible for the overseeing of the financial reporting process, how effective the audit committee is may impact the existence of ICMW. To proxy for the strength of the audit committee, I include variables measuring the audit committee size and tenure. *AC Size* is a count of how many audit committee members served on the audit committee for over half the year. *AC Tenure* measures the average length of time the audit committee members served on the audit committee as of the end of the fiscal year.[23] Prior literature suggests that larger audit committee can be more effective through having a larger base of knowledge to pull from and being able to spread the workload amongst more members (e.g. Goh 2009; Hoitash et al. 2009). A higher average tenure on the audit committee suggests that the audit committee is more experienced (e.g. Bedard et al. 2004). Both variables would increase the strength of the audit

[23] If the audit committee member served on the committee for over half the year but left the committee before the end of the fiscal year, tenure is calculated for the member as of their last day on the committee.

committee, which is why I expect *AC Size* and *AC Tenure* to be negatively associated with the existence of ICMW (i.e., b_{18} and $b_{19} < 0$).

The last two independent variables account for how a change in the management or governance of the company can impact ICFR. *Mgmt Turnover* is an indicator variable equal to one if the company has had a change in the CEO or CFO position in the current or prior fiscal year. The CEO and CFO are responsible for the ICFR and must evaluate and report on the effectiveness of the ICFR system (Munsif, Raghunandan, and Rama 2013). Thus, a change in either of these positions could impact the quality of ICFR for better or worse. I also include an indicator variable, *AC Turnover*, which indicates whether there has been a change in the audit committee in the current or prior fiscal year. Part of the audit committee's responsibilities include providing oversight for the financial statements and the quality of internal controls used to generate those statements. A change in the composition of the audit committee could either intensify or lower the committee's focus on internal control quality (Krishnan 2005). Since it is not clear whether a change in the CEO, CFO, or audit committee positions would strengthen or weaken the quality of internal control, I do not have a directional prediction for how *Mgmt Turnover* or *AC Turnover* would be associated with *Known ICMW* (i.e., b_{20} and $b_{21} \neq 0$).

I conclude my *Known ICMW* model with industry fixed effects by including industry indicator variables for 15 different industries.[24] Ge and McVay (2005) that the percentage of

[24] I follow the 18 industries that Doyle et al. (2007b) specify: (1) Agriculture: 0100-0999; (2) Mining: 1000-1299, 1400-1999; (3) Food: 2000-2199; (4) Textiles: 2200-2799; (5) Drugs: 2830-2839 and 3840-3851; (6) Chemicals: 2800-2829 and 2840-2899; (7) Refining: 1300-1399 and 2900-2999; (8) Rubber: 3000-3499; (9) Industrial: 3500-3569 and 3580-3659; (10) Electrical: 3660-3669 and 3680-3699; (11) Miscellaneous Equipment: 3700-3839 and 3852-3999; (12) Computers: 3570-3579, 3670-3679, and 7370-7379; (13) Transportation: 4000-4899; (14) Utilities: 4900-4999; (15) Retail: 5000-5999; (16) Services: 7000-7369 and 7380-8999; (17) Banks: 6000-6999; and (18) Miscellaneous: 9000-9000. However, my research design excludes Utilities and Banks. Additionally, none of my sample falls within the Miscellaneous category.

companies that report ICMW varies widely by industry. Due to internal controls issues being more prevalent in some industries than others, it is important that I control for industry when estimating the likelihood that a company has an existing ICMW. My industry indicator variables are untabulated.

4.1.2 Reported ICMW Model: Dependent Variable and Engagement Team Changes

The dependent variable, *Reported ICMW*, is an indicator variable equal to one if the auditor issues an adverse ICFR opinion in the current year. If the ICFR opinion is later restated, *Reported ICMW* captures the original ICFR opinion. The variables of interest I use to test H1 are *Firm Change*, *Office Change*, and *Partner Change*. These change variables are indicators equal to one if there has been a change in the audit firm, office, or partner. Office and partner changes capture intra-firm changes. A significant β_1 will support my hypothesis that changes in the engagement team are associated with reported ICMW.

To test H2, I will examine whether the coefficient of *Firm Change* is larger and significantly different from the coefficients of *Office Change* and *Partner Change*. coefficients on the partial engagement team change variables, I will find support for my second hypothesis. To test H3, I will compare the explanatory power of *Firm Change* and *Partner Change*. If either variable has higher explanatory power that is significantly different, this will allow me to reject the null hypothesis that there is no difference in the impact of an audit firm or partner change on the probability of the auditor reporting an ICMW.[25]

[25] My H3 requires partner change information to be available, limiting my sample period for this hypothesis to approximately a year after U.S. auditors were required to report partner identities on Form AP. Though this filing became effective as of January 31, 2017, some audit firms were early adapters. Thus, I can calculate some audit partner changes as early as 2016.

4.1.3 Reported ICMW Model: Control Variables

The first control variable in the *Reported ICMW* model controls for the likelihood that the company has an existing ICMW. I created *Pred. Existing ICMW* by using an out-of-sample estimation for Eq. 1 and then transforming the prediction variable to fit the range of 0-1 through the LDM modification specified in Eq. 2-5. Since *Pred. Existing ICMW* is estimating the likelihood of the company having existing internal control issues, I expect *Pred. Existing ICMW* to be positively associated with *Reported ICMW* (i.e., $\beta_2 > 0$).

A strong internal control system is not just dependent on a company establishing effective internal controls, but it also depends on a company conducting regular and thorough testing of its ICFR. A company that has more experience in testing the ICFR (Doyle et al. 2007b) and more resources to dedicate to testing the ICFR (Rice and Weber 2012) can better identify issues with its ICFR than less wealthy and experienced companies, which is why I control for company age (*Company Age*) and size (*Market Value*). If a company knows it has existing ICMW, management is required under Section 404 of the SOX Act to inform the external auditor (Sarbanes-Oxley Act of 2002). Thus, companies that have a higher likelihood of detecting ICMW increases the likelihood that the auditor will detect and report the ICMW. However, the age and size of a company can indicate a more complex operating environment, which would make detecting ICMW more difficult for both the company and the external auditor (Rice and Weber 2012). Additionally, an established and large company may use its influence to persuade the external auditor to not report existing ICMW to avoid facing market repercussions of revealing ICMW. Chan, Lee, and Seow (2008) provide some evidence for this argument by finding that larger companies are more likely to fail to originally disclose an ICMW. On the other hand, the increased audit effort and potential for negative consequences for an external auditor that misreports on a

well-known client can increase the likelihood of the auditor detecting and reporting an ICMW. With *Company Age* and *Market Value* theoretically having competing influence on detection and reporting, I do not predict an expected sign for these control variables (i.e., β_3 and $\beta_4 \neq 0$).

Companies facing financial distress are likely to be less able to identify existing ICMW but more likely to avoid reporting ICMW (Rice and Weber 2012). To control for financial distress, I include *Aggregate Loss* and bankruptcy risk (*Altman Z-score*) in the Reported ICMW model. If a company is financially strained, they will likely devout less resources to testing ICMW, which lowers the likelihood of detection. Additionally, companies that are already struggling would have incentives for ICMW to not be reported (e.g., Ogneva, Subramanyam, and Raghunandan 2007; Kim, Song, and Zhang 2011; Ashbaugh-Skaife et al. 2009). However, auditors may increase effort when auditing a struggling company to avoid reputation and litigation consequences if the auditor fails to report known issues. Thus, it is not clear the net influence that *Aggregate Loss* and *Altman Z-score* will have on *Reported ICMW* (i.e., β_5 and $\beta_6 \neq 0$).

Another company characteristic that could make reporting ICMW especially harmful is if the company plans to access external markets for capital. Evidence exists that both equity and debt markets charge a higher cost of capital to companies with reported ICMW (e.g., Ogneva et al. 2007; Ashbaugh-Skaife et al. 2009; Costello and Wittenberg-Moerman 2011; Dhaliwal, Hogan, Trezevant, and Wilkins 2011). Following Rice and Weber (2012), I estimate a company's external financing needs in year t based on its external financing activity in year t+1. Specifically, I calculate the variable *New Xfin* as cash acquired from stock issuance less cash paid to repurchase stock and dividend holders plus cash acquired from debt issuance less cash paid on existing debt. *New Xfin* is calculated for t +1 and scaled by average total assets (Bradshaw, Richardson, and Sloan 2006). External financing needs would discourage the company reporting ICMW but should

have no impact on the ability of the company to detect ICMW or on the auditor to detect and report ICMW. Thus, I expect *New Xfin* to be negatively related with *Reported ICMW* (i.e., $\beta_7 < 0$).

Complex or growing operations can make it harder for a company or its external auditor to identify existing ICMW issues. More geographical and operating segments, engaging in foreign transactions, and undergoing restructuring increases the difficulty of testing internal controls and, thus, detecting ICMW (Doyle et al. 2007b). Thus, I include *Segments*, *Foreign Transactions*, and *Restructuring Charges* as control variables and expect each of these variables to have a negative relationship with *Reported ICMW* model (i.e., β_8, β_9, and $\beta_{10} < 0$). Similarly, a company that is growing through M&As or rapidly increasing sales may be unwilling to invest in thorough internal testing of its ICFR and will be motivated to avoid reporting any ICMW due to related negative market consequences (Doyle et al. 2007b). Additionally, there can be growing pains as the company incorporates acquired companies, which may have poorer internal control systems, into its system. An auditor of a company acquiring other companies or experiencing extreme growth may find it harder to test the ICFR of a company that is growing rapidly. Thus, I include *M&A Value* and *Extreme Sales Growth* as control variables and expect them to have a negative relationship with *Reported ICMW* model (i.e., β_{11} and $\beta_{12} < 0$).

If a company has recently announced a restatement, this can increase the likelihood of an ICMW both being detected and reported. The auditor will be aware of the low internal control quality that led to the restatement of the financial statements. Thus, the auditor will be more likely to detect existing ICMW by assessing the ICFR issues that triggered the restatement and by potentially increasing overall ICFR testing. Additionally, the announcement of the restatement can lead stakeholders to expect the company to subsequently receive an adverse ICFR opinion, which lowers reputational penalties of reporting an ICMW (Rice and Weber 2012). Thus, I expect

Announce Restatement as a control variable and expect it to be positively related to *Reported ICMW* (i.e., $\beta_{13} > 0$).

Prior literature finds that a stronger board is more forth coming about ICMW and also remedies ICMWs quicker. Thus, I include four variables that proxy for the board's governance strength: *Board Size*, *Board Independence, Board Tenure*, and *Board Reputation*. Boards that do a better job of governing the company should have a positive impact on the likelihood that an existing ICMW is detected and reported. Thus, *Board Size* should have an inverse relationship with *Reported ICMW* (i.e., $\beta_{14} < 0$) since evidence suggests that smaller boards have stronger governance (Yermack 1996; Core et al.1999). *Board Independence* is a proxy for how much influence the CEO exerts over the board, with a higher proportion of independent directors leading to a better governance mechanism. Thus, I expect *Board Independence* to be positively associated with an existing ICMW being reported (i.e., $\beta_{15} > 0$). I also include the average tenure of independent directors (*Board Tenure*) and the average number of other boards that the independent directors serve on (*Board Reputation*) as proxies of experience with the company and the director's reputation and expertise. Increased experience and expertise can positively impact the detection of existing ICMW by the directors demanding better ICMW internal testing and the reporting of existing ICMW through directors wanting to avoid the long-term negative consequences of having to restate an originally unreported ICMW. Therefore, I expect *Board Tenure* and *Board Reputation* to be positively related to *Reported ICMW* (i.e., β_{16} and $\beta_{17} > 0$).

CEO Duality and *CEO Tenure* are both proxies for how much influence and power the CEO might exert over the board. If the CEO is in the leadership role of the board or if a larger proportion of board members started after the CEO, the board may find it more difficult to govern top management. This might allow top management to be less thorough in their examination of

ICFR or less forthcoming about internal control issues (i.e., Hermanson and Ye 2009). Thus, I expect *CEO Duality* and *CEO Tenure* to be negatively associated with an existing ICMW being reported (i.e., β_{18} and $\beta_{19} < 0$).

The audit committee can influence the likelihood of ICMW being detected and reported through their oversight of the financial reporting system, including hiring the external auditor and overseeing internal audits. Thus, I include two variables to control for the effectiveness of the audit committee: *AC Size* and *AC Tenure*. Prior literature suggests that larger audit committees and an audit committee that consists of more experienced members will result in more efficient audit committees (e.g. Goh 2009; Hoitash et al. 2009; Bedard et al. 2004). The more effective the audit committee, the more likely existing ICMWs will be detected and reported. Thus, I expect both *AC Size* and *AC Tenure* to be positively associated with *Reported ICMW* (i.e., β_{20} and $\beta_{21} > 0$).

As the parties responsible for maintaining and providing oversight of the ICFR system, changes in the CEO, CFO, or audit committee positions can impact the likelihood of ICMW detection or reporting. Thus, I control for *Mgmt Turnover* to account for recent changes in the CEO or CFO and *AC Turnover* to account for recent changes in the composition of the audit committee. New executives or audit committee members can either increase or reduce the evaluation of the ICFR system, which would have an ambiguous impact on the detection of ICMW (Johnstone et al. 2011). Additionally, the company may take advantage of the change in leadership or governance to report ICMW and place the blame on the prior administration (Rice and Weber 2012). On the other hand, the new administration may fear that reporting an ICMW may reflect poorly on the new executives or audit committee members. Since it is not clear what impact changes in the CEO, CFO, or audit committee would have on the detection and reporting of

ICMW, I do not predict what relationship *Mgmt Turnover* and *AC Turnover* will have with *Reported ICMW* (i.e., β_{22} and $\beta_{23} \neq 0$).

Prior literature argues that the four largest audit firms provide superior audit quality by having more resources for training and for being more concerned about reputational impacts of low-quality audits (e.g., Becker et al. 1998; Francis, Maydew, and Sparks 1999). Following Rice and Weber (2012), I include *Big4* as an indicator equal to one if either Deloitte, Ernst and Young, KPMG, or PricewaterhouseCoopers provided the ICFR opinion. If the Big 4 audit firms do provide increased training, this should increase the likelihood of detecting ICMW. Audit firms that are more concerned about their reputation should be less likely to acquiesce to its client that would not want an ICMW reported. Thus, I expect to find a positive relationship between *Big4* and *Reported ICMW* (i.e., $\beta_{24} > 0$).

Finally, I include *Audit Fees* and *Nonaudit Fees* as control variables in the *Reported ICMW* model. Both measures are the amount of audit (nonaudit) fees paid to the external auditor in the current year scaled by the square root of total assets (Rice and Weber 2012). An increase in the ratio of audit fees paid relative to the size of the company signals that an increased amount of audit effort was performed. Greater audit effort should result in the auditor being more likely to detect any existing ICMW; thus, I expect *Audit Fees* to be positively related to *Reported ICMW* (i.e., $\beta_{25} > 0$). If the external auditor also provides nonaudit services to the client, it can either increase the likelihood of detecting ICMW by the auditor having greater knowledge of the client or it can reduce the likelihood of reporting ICMW through reduced auditor independence (Rice and Weber 2012). Thus, I do not have a prediction for how *Nonaudit Fees* will relate to *Reported ICMW* (i.e., $\beta_{26} \neq 0$).

Though untabulated, I also include industry fixed effects through the 15 industry indicators defined above in my *Reported ICMW* model. Since the percentage of ICMW is not consistent across industries (Ge and McVay 2005), this can impact whether the company detects or reports existing ICMW. Industries with a higher likelihood of having ICMW may be subjected to more intense internal control testing, either through the company's internal or external auditors, which would increase detection. Additionally, the average percentage of ICMW within an industry can impact the decision to report ICMW. Clients in high-ICMW industries may be less combative against the auditor disclosing existing ICMW than clients in low-ICMW industries.

4.2 Sample Selection

My sample starts with the SOX404(b) opinions reported on the Audit Analytics SOX 404 Internal Controls database, which provides auditor's report on the effectiveness of the company's internal control over financial reporting starting in 2004. To include *PY ICMW* in the *Known ICMW* model, I require one year of lag data for ICFR opinions. Thus, my earliest sample year is 2005. My sample consists solely of U.S. auditors and U.S. companies that are not utilities (SIC codes 4900-4999) or banks (SIC codes 6000-6999). I incorporate the Audit Analytics Opinion database to calculate *Firm Change*, *Office Change*, and *Partner Change*. Due to some auditors being early adaptors of the Form AP filing requirements, I can calculate audit partner change as early as 2016 for some companies. Before further restrictions, my sample consists of 31,848 company-year observations (6.2 percent have *Reported ICMW*) and 5,527 partner change observations (6.1 percent *Reported ICMW*).

Most of my independent variables come from Compustat Fundamentals Annual database. To be included in my sample, companies must meet the following data requirements: total assets

not missing, common shares outstanding and sales are greater than zero, the share price is above $1, and a one-year lag is available for total assets, sales, restructuring charges, and income before extraordinary items (-2,929 company-year observations, -306 partner change observations). I also merge my sample with the Compustat Segments database to calculate *Segments;* the SDC Platinum Mergers and Acquisitions database to calculate *M&A Value*; Audit Analytics Director and Officer Changes database to *Mgmt Turnover* and *AC Turnover*; Audit Analytics Restatements database to calculate *Announce Restatement* and *Known ICMW*; BoardEx Organization Summary and Committee databases to calculate *Board Size*, *Board Independence*, *Board Tenure*, *Board Reputation*, *CEO Duality*, *CEO Tenure, AC Size*, and *AC Tenure*; and Audit Analytics Audit Fees database to calculate *Audit Fees* and *Nonaudit Fees*. BoardEx does not provide data for 914 company-year observations and 139 partner change observations. Additionally, data on audit and nonaudit fees is missing for 23 company-year observations. These sample restrictions leave me with a final sample of 27,982 company-year observations (5.7 percent have *Reported ICMW*) and 5,082 partner change observations (5.5 percent have *Reported ICMW*).

When estimating the Eq. 1 coefficients, I can start the cumulative rolling window with fiscal year 2005 and continue till hitting fiscal year 2017. My main data limitation with Eq. 1 is needing the lag SOX404(b) opinion for *PY ICMW*, and this opinion was not required until 2004. I stop the cumulative rolling window at fiscal year 2017 since my final fiscal year for Eq. 6 is 2019. When estimating Eq. 1, I can use 24,170 company-year observations (4.8 percent have *Reported ICMW*). To get out-of-sample estimates, I have a one-year break between estimating Eq. 1 and my main regression, Eq. 6. Additionally, Eq. 6 uses one variable, *New Xfin*, that requires one year of lead data. Thus, I can estimate Eq. 6 over the period of 2007-2019. This methodology allows me to use 21,877 company-year observations (3.9 percent have *Reported ICMW*) and 3,512

partner change observations (4.7 percent have *Reported ICMW*) when estimating Eq. 6. Table 1 details my sample construction.

CHAPTER 5: RESULTS

Chapter 5 begins with a discussion of the descriptive statistics for my sample, including correlations and univariate analyses. I then present the results of my out-of-sample estimation of *Known ICMW*. I conclude with discussing the estimation of the *Reported ICMW* model, which I use to test my hypotheses.

5.1 Descriptive Statistics and Univariate Tests

Table 2, Panel A (B) presents descriptive statistics for all the variables I use to estimate *Known ICMW* (*Reported ICMW*) for the fiscal years 2005-2017 (2007-2019). Though *Market Value*, *Company Age*, and *Segments* appear in my multivariate regression as logged values, I present the descriptive statistics for these variables in the raw form. Following Doyle et al. (2007b), I winsorize *Market Value*, *Altman Z-score*, *Restructuring Charges*, and *M&A Value* at 1 percent and 99 percent. Since my sample period does not overlap with Doyle et al. 's sample period (2003), there are differences in the means of our variables. However, in untabulated analysis, I compare my sample's 2003 values with Doyle et al.'s sample and find the mean differences to be minimal.

5.1.1 Reported ICMW and Engagement Team Changes by Industry and Year

In Table 2, Panel C, I display the mean for *Reported ICMW* and the engagement team change variables by 15 industry classifications for my *Reported ICMW model* sample.[26] Consistent with Ge and McVay (2005), I find that the percentage of firms reporting ICMW varies by industry. Companies classified as electrical (agriculture) report an unusually high (low) percentage of

[26] I follow Doyle et al. (2007b) by classifying my sample into 18 industries and then eliminating two industries, utilities and banking. None of my sample fell into the miscellaneous category (SIC codes 9000-9999.

ICMW (6.4 percent and 1.2 percent, respectively). Thus, I need to control for industry variation through fixed effects. Out of the engagement team change variables, *Partner Change* has the widest range of variation amongst the industries. The industry that experiences the most (least) amount of partner change is electrical at 26.8 percent (agriculture at 8.3 percent). If partner change is purely random, I would expect to see about 20 percent of partner change due to rotations being mandatory ever five years. The limited availability of partner identities could explain this variation since I can only observe approximately three years of partner changes. Thus, the differences could be to various industries having concentrations of Form AP early adopters, fiscal year-ends, or partner changes around a year outside of my partner change observations.

Table 2, Panel D provides the mean for the dependent variable and engagement team change variables by year for my *Reported ICMW model* sample. The percentage of companies with that reported ineffective internal controls was the highest at 7.0 percent in 2007, three years after the implementation of SOX 404. The *Reported ICMW* percentage then declined till it leveled out around 2 percent in 2010-2011. Around this time, regulators and researchers started calling out management and auditors for failing to discover an ICMW before restatements (e.g., Chan et al. 2008; Rice and Weber 2012). After 2011, ICMW percentage sees an increase with an average of 4.4 percent of Reported ICMW from 2012-2019. Both audit firm and office changes are approximately 2-5 percent from 2007-2019. Starting in 2016, I can observe some partner changes due to auditors being early adopters to the Form AP filing. From 2017-2019, the percentage of observations that had a partner change is approximately 21-23 percent. If partner changes were solely the result of mandatory partner rotations, I would expect this variable to be 20 percent. However, partner changes also occur for non-mandatory reasons, making this percentage higher.

5.1.2 Correlations

Table 3 displays the correlations for the variables used in my *Reported ICMW* model. Since my variables include a mix of indicator, continuous, and integer variables, I include both the Pearson and Spearman correlations (bottom-left and top-right of Table 3, respectively).[27] *Firm Change*, *Office Change*, and *Partner Change* are all significantly and positively correlated with *Reported ICMW*. As expected, the likelihood an ICMW exists (*Pred. Existing ICMW*) is positively correlated with *Reported ICMW*. Interestingly, *Pred. Existing ICMW* is positively related to *Firm Change* and *Office Change* but not *Partner Change*. This could potentially account for companies with poor internal control systems either dismissing their current audit team with a hope of getting a more favorable ICFR opinion from a different team or the engagement team resigning due to the increased risk and testing needed when a client has a poor internal control system. There is no such association with *Partner Change* perhaps due to a partner's reluctance to lose a client, the client waiting-out a partner they do not care for instead of trying to change partners, or discretionary partner changes being overpowered by mandatory partner changes. In support of the last argument, *Partner Change* does not have any significant Spearman correlation with any of the control variables.

Older companies, larger companies, and companies with more segments are less likely to change audit firms and audit offices. This relationship likely stems from large companies having a smaller pool of audit firms and offices that can handle its audit and older companies building auditor-client relationships they do not want to terminate. Firm and office changes are more likely

[27] Pearson evaluates the linear relationship between continuous variables, while Spearman evaluates the monotonic relationship between either continuous or ordinal variables.

to occur when the client is facing financial difficulty, which potentially is due to auditor resignation from clients with higher litigation risk or to clients trying to move to cheaper auditors. Companies that are seeking external financing (*New Xfin*) in the following year or are growing rapidly (*Extreme Sales Growth*) are more likely to change audit firms or offices, potentially trying to increase audit quality to lower its cost of capital or increase their credibility (Hogan 1997). Overall, companies that have more complex operations (*Segments* and *Foreign Transactions*) or are dealing with events such as restructuring and M&As (*Restructuring Charges* and *M&A Value*) are less likely to change audit firms or offices. *Firm Changes* are positively correlated with the company announcing a restatement in the last two years (*Announce Restatement*), which could either be due to the company firing an auditor that failed to identify a restatement or the new auditor finding the prior auditor's mistakes. Most of the board strength, CEO power, and audit committee effectiveness variables are negatively correlated with *Firm Change* and *Office Change*. *Mgmt Turnover* is positively associated with *Firm Change* and *Office Change* while turnover in the audit committee has no correlation with firm or office changes. It appears a company is less likely to switch audit firms or offices if they have engaged a *Big4* firm, potentially due to having limited options of which firms can properly conduct its audit due to size or location restrictions. Additionally, it appears companies might pay less audit and nonaudit fees when they change audit firms and more audit fees when the audit office changes.

5.1.3 Univariate Tests

Table 4, Panel A shows the variable means used in my primary analysis by *Reported ICMW*. The univariate test shows that companies receiving an adverse ICFR opinion are significantly more likely to experience an engagement team change. As expected, *Pred. Existing ICMW* is significantly higher for companies receiving an adverse ICFR opinion. Additionally,

companies that are younger (*Company Age*) and smaller (*Market Value*) are more likely to report ICMW. Companies with poorer financial health (higher *Aggregate Loss* and lower *Altman Z-score*) or that are seeking external financing (*New Xfin*) are more associated with *Reported ICMW*. Companies that have more complicated operating environments (*Segments* and *Foreign Transactions*), have recently completed larger M&As (*M&A Value*), or have recently announced a restatement (*Announce Restatement*) are more associated with *Reported ICMW*. Smaller boards and boards where the independent directors have less tenure and less other director positions (*Board Size*, *Board Tenure*, and *Board Reputation*) are all more likely to report an ICMW. Companies that have the same person as CEO and the chair of the board of directors (*CEO Duality*) and that have longer-tenured CEOs (*CEO Tenure*) are less likely to report an ICMW while companies. Recent changes in the CEO, CFO, or audit committee positions (*Mgmt Turnover*, and *AC Turnover*) are associated with *Reported ICMW*. Companies that did not hire a *Big4* auditor and paid more in *Audit Fees* are significantly more likely to report ICMW. This could be because the Big 4 firms avoid clients with severe ICFR issues or because problematic companies avoid hiring higher-quality auditors. The higher *Audit Fees* can be reflecting that a client with poor internal controls is more expensive to audit, due to having to increase substantive testing.

Table 4, Panel B compares the means for the variables used in the *Reported ICMW* model for the two years where *Partner Change* is available due to auditors being early adopters to the Form AP filing. There are several significant differences between the means of the early adopters compared to the non-adopters. For both years of early adoptions, the early adopters are more likely to experience an audit firm change (*Firm Change*), have an existing ICMW (*Pred. Existing ICMW*), be a younger company (*Company Age*), experience recent losses (*Aggregate Losses*), obtain external financing in the following year (*New Xfin*), have boards with less experience

(*Board Tenure*), and pay more in audit fees (*Audit Fees*) than non-adopters. The earliest adoptions of Form AP are associated with the auditor issuing an adverse ICFR opinion (*Reported ICMW*). However, these associations disappear when comparing audits by firms that early adopted by one year (i.e., adopted in 2016 for partner change to be able to be calculated in 2017) to non-adopters.

In Panels C and D of Table 4, I further analyze the relationship between my engagement team change variables and the auditor reporting an ICMW. I utilize the chi-square test to compare the difference between my actual count and the expected count if a relationship did not exist between my engagement team change variables and *Reported ICMW*. I split my chi-square tests out by my engagement team change variables and whether data was available to calculate *Partner Change*. Panel C (D) displays the chi-square tests for the engagement team change variables before (after) *Partner Change* was observable. I do not include observations that changed audit firms for the chi-square tables testing office and partner change.

All my chi-square statistics are significant. For each of my engagement team change variables, I observe more engagement team changes coinciding with *Reported ICMW* than expected. Specifically, I observe 79 more firm changes, 16 more office changes, and 11 more partner changes than expected.[28] Overall, the chi-square tests provide evidence that an engagement team with fresh eyes is more likely to report an ICMW, which would allow for the rejection of H1. Considering the difference between actual and expected is more extensive for firm changes than office or partner changes, I also find support for my H2. It appears that an engagement team with entirely new fresh eyes will be more effective at reporting an ICMW than

[28] For *Firm Change* (*Office Change*), there are 67 (8) more actual than expected in the *Partner Change* unavailable subsample and 12 (8) in the *Partner Change* available subsample.

an engagement team with only a partial change in its members. Out of the observations for which partner change is observable (Panel D), 12 more firm changes occurred than expected. Thus, unexpected engagement team changes for this subsample are close in number, which does not provide evidence for the rejection of H3.

5.2 Multivariate Regression Results

5.2.1 Results of the Known ICMW Model

In Table 5, I report the estimation of Eq. 1, the *Known ICMW* model. I use a cumulative rolling window starting in 2005 and ending in 2017 to estimate this regression. For all years, *PY ICMW* is positive and highly significant, as expected due to the sticky nature of internal control issues. Consistent with the findings of Doyle et al. (2007b), the coefficients on *Market Value* are consistently negative and highly significant, suggesting that larger companies are less likely to have issues in their ICFR system. As expected, companies that are financial struggling (positive *Aggregate Loss* and a low *Altman Z-Score*) are known to have more ICMW. There is also some evidence that companies that are more complex (*Segments* and *Foreign Transactions*) and are rapidly growing (*M&A Value* and *Extreme Sales Growth*) have more ICMW. My findings are consistent with prior research that shows that companies will focus less on maintaining high-quality ICFR when funds are limited and attention is diverted (Doyle et al. 2007b).

Consistent with the findings of Rice and Weber (2012), companies that have announced a restatement in the last two year (*Announce Restatement*) are more likely to have known ICMW. Unexpectedly, in the earlier rolling windows, larger boards (*Board Size*) have a negative relationship with *Known ICMW*. However, boards with a larger proportion of independent directors and with independent directors that have more outside board memberships (*Board*

Independence and *Board Reputation*) are negatively associated with *Known ICMW*. Both the tenure of the CEO (*CEO Tenure*) and the average tenure of the audit committee members (*AC Tenure*) are negatively related to *Known ICMW*, suggesting that experience in the CEO and audit committee positions reduces the existence of ICMW. Audit committee turnovers (*AC Turnover*) do not have a significant impact on *Known ICMW* while CEO and CFO turnovers (*Mgmt Turnover*) have a significantly positive impact.

5.2.2 Results of the Reported ICMW Model

In Table 6, my multivariate analysis includes three columns: (1) the full sample, (2) the subsample for which *Partner Change* is unavailable, and (3) the subsample for which *Partner Change* is unavailable. In every regression, the coefficient on *Firm Change* is positive and highly significant, which means I can reject H1 and conclude that engagement team changes do have an impact on *Reported ICMW*. While controlling for the likelihood of an ICMW existing, *Reported ICMW* is 7.2, 7.7, and 5.3 percentage points more likely to occur for companies experiencing a *Firm Change* than companies who have no engagement team changes (full sample, *Partner Change* unavailable sample, and *Partner Change* available sample, respectively). *Office Change* is always positive but is only significant for the subsample that includes *Partner Change*. In the *Partner Change* subsample, companies experiencing audit office changes are 3.9 percentage points more likely to have its auditor issue an adverse ICFR than companies that have no engagement team changes. In the last regression, *Partner Change* is positive but not significant.

In the first two columns, I test the difference between the coefficients of *Firm Change* and *Office Change* and find *Firm Change* to be significantly higher than *Office Change*. For my full sample (*Partner Change* unavailable subsample) companies that have a *Firm Change* are 6.1 (7.3) percentage points more likely to receive an adverse ICFR opinion than companies experiencing an

Office Change. For Column 3, I test the difference between the coefficients of *Firm Change* and *Partner Change* and find it be significantly different, which allows me to reject H3 and conclude that rotating partners does not have the same impact on *Reported ICMW* as changing audit firms. Specifically, the probability of *Reported ICMW* is about 4.2 percentage points higher for companies that experience a *Firm Change* compared to those that experienced a *Partner Change*. In the *Partner Change* subsample, *Office Change* is not significantly different from *Firm Change* or *Partner Change*. Thus, this provides evidence that a complete turnover of the engagement team (*Firm Change*) has more impact on *Reported ICMW* than partial engagement team turnovers (*Office Change* and *Partner Change*).

Pred. Existing ICMW is highly significant and positive in all my regressions, providing validity for my first-stage model. Companies that have experienced recent losses (*Aggregate Loss*) or will seek external capital in the following year (*New Xfin*) have a negative association with *Reported ICMW*, potentially showing management's resistance to the auditor reporting ICMW. Companies with more geographical and operating segments (*Segments*) and undergoing restructuring (*Restructuring Charges*) are less likely to receive an adverse ICFR opinion, consistent with the idea that more segments and restructurings would increase the difficulty of detecting ICMW. Companies that have announced a restatement in the past two years (*Announce Restatement*) have a positive relationship with *Reported ICMW*, which can indicate the stickiness of recently discovered ICFR system issues, increased testing by the internal or external auditor, or a decreased reluctance from management to reporting ICMW. As expected, variables that indicate lower governance strength (*Board Size* and *CEO Duality*) are negatively associated with *Reported ICMW*. There is also evidence that an auditor will be more likely to report ICMW when a company has recently experienced a change in the audit committee (*AC Turnover*), potentially due to

increase testing of the ICFR system and the ability to blame ICFR issues on the prior audit committee member. *Big4* firms are less likely to give adverse ICFR opinions, which potentially shows that the Big 4 firms are more selective with which clients they take on. As expected, more audit effort (larger *Audit Fees*) is positively related with *Reported ICMW*.

5.2.3 Detailed Examination of the Engagement Team Changes

In Table 7, I use the subsample for which *Partner Change* is available, and I look at how firm, office, and partner change impact *Reported ICMW* individually and in pairings. In Column 7, I also include all three of the engagement team changes for comparison purposes. Once again, the coefficient on *Firm Change* is positive and highly significant. Additionally, *Office Change* continues to be positively and significantly related to *Reported ICMW*. The only time that *Partner Change* is significant is when *Office Change* is omitted, which potentially suggests some substitution effect between the engagement team experiencing a change in the non-partner members (*Office Change*) and the partner.

Overall, my results find that introducing fresh eyes through engagement team changes does have an impact on auditors reporting ICMW. The engagement team change that has the strongest impact is an audit firm change, which results in a complete fresh perspective from the engagement team. Out of the two partial engagement team changes, there is some evidence that companies experiencing an audit office change are more likely to receive an adverse ICFR report. However, a change in the audit partner does not appear to impact the likelihood the engagement team will report ICMWs.

CHAPTER 6: LIMITATIONS AND CONCLUDING REMARKS

Out of concerns that a lack of a fresh perspective in the auditing process is harmful to the quality of audit outcomes, the U.S. has mandatory audit partner rotations for public companies. Regulators limited mandatory rotation to audit partners hoping that audit partner rotation will positively impact audit outcomes while avoiding the cost of an audit firm change. However, whether an audit partner rotation elicits enough change to improve audit outcomes is an empirical question. Additionally, the auditing literature has not widely examined if an audit partner change has similar impacts on audit quality as an audit firm change.

Stagnant engagement teams can contribute to overreliance on the prior year's working papers and lower professional skepticism, both of which can be harmful to audit outcomes. Due to the subjective nature of evaluating internal controls, these engagement team behaviors can significantly limit the ability of the engagement team to detect and report existing ICMWs. This study examines changes in the engagement team, which can reduce these potentially harmful engagement team behaviors and, thus, increase the likelihood auditors will detect and report existing ICMWs. Consistent with the three types of engagement team changes varying in the volume and type of fresh eyes the change introduces, I find that the engagement team changes do not equally impact reported ICMW.

My study examines the turnover of the entire engagement team (i.e., audit firm change) and two partial engagement team changes: the turnover of the partner and turnover of the non-partner engagement team members (i.e., audit partner and office change, respectively). Consistent with fresh eyes improving audit quality, I find that auditors are more likely to report ICMWs when an audit firm change occurs. Since not all fresh eyes are likely to have the same effect on reported ICMW, I compare the three types of engagement team change. In line with the idea that more fresh

eyes can provide a stronger impact, I find that the turnover of the entire engagement team has a more substantial effect on reported ICMW than partial engagement team changes. Out of the two partial engagement team changes, only non-partner engagement team member changes appear to affect reported ICMW. This finding suggests that partner rotation is not having the impact regulators anticipated on audit outcomes. Given these findings, regulators might consider requiring a more comprehensive change in the engagement team to elicit an improvement in audit outcomes.

Though this study is the first to providence evidence that audit firm changes continue to have a positive association with reported ICMW while controlling for the likely existence of ICMW, I am not whole-heartedly recommending that regulators mandate audit firm rotation. A limitation of my study is that I do not consider the cost of the engagement team changes to the clients or auditors. Out of the three engagement team changes I can observe, audit firm change has the most impact on improving audit quality. However, audit firm changes are also the costliest type of engagement team change. Though improving the quality of audit outcomes is desirable, companies and auditors cannot pursue high-quality audit outcomes with no regard to the cost. Additionally, my study does not provide a complete picture of how engagement team changes impact audit outcomes since I limit my focus to reported ICMW. Given that the ability of the auditors to detect ICMW should improve other audit outcomes, such as a reduction in the likelihood of futures restatements and an increase in financial statement quality, fresh eyes are likely to positively impact audit outcomes that I do not currently examine.

Due to this being an archival study, my methodology suffers from being unable to assign companies randomly to the categories of engagement team changes. Though I attempt to address this by controlling for the likelihood the company has an existing ICMW, endogeneity may remain.

In conclusion, these results add to the debate on mandatory auditor rotations by providing evidence that partner change alone is not a perfect substitute for the benefits of audit firm rotation. My results also highlight the benefit of rotating the engagement team members who perform the audit procedures, which standard setters have not commonly considered.

APPENDIX

Panel A: ICMW Variables

Variable	Description	Calculation	Source(s)
Known ICMW$_{it}$	Indicates if the auditor reports an ICMW for year t or a later restatement that covers year t identifies internal control issues or is material	= 1 if (1) *IC is Effective*$_{it}$ = "N", (2) *Other_Significant_ Issues*$_{it}$ includes "404", or (3) ((Annual *Cumulative Change in Net Income*$_{it}$ × 1,000,000) ÷ *AT*$_{it}$) > 0.05; otherwise = 0	Audit Analytics; Compustat
Pred. Existing ICMW$_{it}$	Predicts the likelihood that company i has an existing ICMW at year t by using the coefficient estimates from a rolling estimation window of *Known ICMW*$_{it}$ regressed on a vector of variables known to be associated with internal control issues	(See Eq. 1-5)	(See variables included in Eq. 1)
PY ICMW$_{it}$	Indicates if the auditor reports an ICMW for year t-1	= 1 if *IC_is_Effective*$_{it-1}$ = "N"; otherwise = 0	Audit Analytics
Reported ICMW$_{it}$	Indicates if the auditor reports an ICMW for year t	= 1 if *IC_is_Effective*$_{it}$ = "N"; otherwise = 0	Audit Analytics

Panel B: Engagement Team Change Variables

Variable	Description	Calculation	Source(s)
Firm Change$_{it}$	Indicates if an audit firm change occurs from year t-1 to t	= 1 if *Auditor_Fkey*$_{it}$ ≠*Auditor_Fkey*$_{it-1}$ (not counting audit firm M&As and name changes); otherwise = 0	Audit Analytics
Office Change$_{it}$	Indicates if the audit firm remains the same from year t-1 to t but the audit office changes	= 1 if *Firm Change*$_{it}$ = 0 and *Aud_City*$_{it}$ ≠ *Aud_City*$_{it-1}$; otherwise = 0	Audit Analytics
Partner Change$_{it}$	Indicates if the audit firm remains the same from year t-1 to t but the audit partner changes	= 1 if *Firm Change*$_{it}$ = 0 and *Partner_ID*$_{it}$ ≠ *Partner_ID*$_{it-1}$; otherwise = 0	Audit Analytics

Panel C: Company Characteristics

Variable	Description	Calculation	Source(s)
Aggregate Loss$_{it}$	Indicates if the sum of earnings before extraordinary items for years t and t-1 is negative	= 1 if (IB_{it}+IB_{it-1}) < 0; otherwise = 0	Compustat
Altman Z-score$_{it}$	A measure of bankruptcy risk as of year t, with a lower value representing a higher risk of bankruptcy	= 1.2*((ACT_{it}–LCT_{it})÷AT_{it}) + 1.40×(RE_{it}÷AT_{it}) + 3.30×((NI_{it}+$XINT_{it}$+TXT_{it})÷AT_{it}) + 0.60×(($CSHO_{it}$ × $PRCC\_F_{it}$)÷LT_{it}) + 0.999×($SALE_{it}$÷AT_{it})	Compustat
Announce Restatement$_{it}$	Indicates if a company has announced a restatement in year t or t-1	= 1 if ($FYE\_IC\_OP_{it}$ – 730) ≤ *Disclosure_Date* ≤ $FYE\_IC\_OP_{it}$; otherwise = 0	Audit Analytics
Company Age$_{it}$	The natural log of the number of years the company has been public as of the end of year t	= log(Age_{it}), where age is the rounded number of years from the first fiscal year end with a stock price to the end of fiscal year t	Compustat
Extreme Sales Growth$_{it}$	Indicates if the company has industry-adjusted sales growth for year t in the top 20% of the sample	= 1 if (*sales growth*$_{it}$ – median(*sales growth*$_{kt}$) ranks in the top 20% of the sample; otherwise = 0	Compustat
Foreign Transactions$_{it}$	Indicates if the company reports a foreign currency adjustment in year t	= 1 if FCA_{it} > 0; otherwise = 0	Compustat
M&A Value$_{it}$	The sum of the company's year t and t-1 controlling acquisitions, scaled by year t market value	= (*Value of Transaction*$_{it}$+*Value of Transaction*$_{it-1}$) ÷ ($PRCC\_F_{it}$×$CSHO_{it}$)	SDC Platinum; Compustat
Market Value$_{it}$	The natural log of the company's market value of equity as of the end of year t	= log($PRCC\_F_{it}$×$CSHO_{it}$)	Compustat
Restructuring Charges$_{it}$	The sum of the company's year t and t-1 restructuring charges, scaled by year t market value	= –(RCP_{it}+RCP_{it-1}) ÷ ($PRCC\_F_{it}$×$CSHO_{it}$)	Compustat
New Xfin$_{it+1}$	For year t+1, the sum of cash received from stock sales and long-term debt issuance less cash used for stock repurchases, dividend payments, and debt payments, scaled by average total assets for year t and t+1	= ($SSTK_{it+1}$+$DLTIS_{it+1}$–$PRSTKC_{it+1}$–DV_{it+1}–$DLTR_{it+1}$ + $DLCCH_{it+1}$) ÷ ((AT_{it} + AT_{it+1}) ÷2)	Compustat
Segments$_{it}$	The natural log of the number of operating and geographic segments reported in year t	= log(count of $STYPE_{it}$ = "BUSSEG" or "GEOSEG")	Compustat

Panel D: Corporate Governance and Top Management Characteristics

Variable	Description	Calculation	Source(s)
AC Size$_{it}$	The number of directors serving on the company's audit committee for year t	= Σ(*TimeBrd*$_{it}$ if *NED*$_{it}$ = "Independent")	BoardEx
AC Tenure$_{it}$	The average number of years that the audit committee members has served on the audit committee as of the end of year t	= count of directors when *CommitteeName*$_{id}$ includes "Audit" and *RoleStatus*$_{id}$ indicates the director is in the audit committee as of year t	BoardEx
AC Turnover$_{it}$	Indicates if there was any turnover in the company's audit committee during year t or t-1	= 1 if *Comm_Report*$_{it}$ or *Comm_Report*$_{it-1}$ contain "Audit"; otherwise = 0	Audit Analytics
Board Independence$_{it}$	The proportion of independent directors serving on the board of directors for year t, where independence is identified as not being an employee of the company	= Σ(*NED*$_{it}$ = "Independent") ÷ *NumberDirectors*$_{it}$	BoardEx
Board Reputation$_{it}$	The average number of other boards (public, private, or nonprofit) that the independent directors are serving on as of the end of year t	= Σ((*TotCurrNoLstdBrd*$_{it}$ + *TotCurrNoOthLstdBrd*$_{it}$ + *TotCurrNoUnLstdBrd*$_{it}$) if *NED*$_{it}$ = "Independent") ÷ Count of *NED*$_{it}$ = "Independent"	BoardEx
Board Size$_{it}$	The number of directors serving on the company's board for year t	= *NumberDirectors*$_{it}$	BoardEx
Board Tenure$_{it}$	The average number of years that the independent directors have served on the board of directors as of the end of year t	= Σ(*TimeBrd*$_{it}$ if *NED*$_{it}$ = "Independent") ÷ Count of *NED*$_{it}$ = "Independent"	BoardEx
CEO Duality$_{it}$	Indicates if the company's CEO is also the chair of the board of directors in year t	= 1 if *RoleName*$_{it}$ includes "CEO" and "Chair" while excluding "Vice", "Alternate", "Assistant", "Elect", "Designate", "Emeritus", "Senior", "Honorary", "Deputy", "Division", "Regional", "Group", "Global", "Country", or "International"; otherwise = 0	BoardEx
CEO Tenure$_{it}$	The number of years the CEO has retained their position as of the end of year t	= (*Fiscal Year End*$_{it}$ – *DateStartRole*$_{id}$) ÷ 365, where *d* is the CEO as of year t	BoardEx
Mgmt Turnover$_{it}$	Indicates if the company experienced a CEO or CFO change in year t or t-1	= 1 if (*Is CEO*$_{it}$ + *Is CEO*$_{it-1}$ + *Is CFO*$_{it}$ + *Is CFO*$_{it-1}$) > 0; otherwise = 0	Audit Analytics

Panel E: Auditor Characteristics

Variable	Description	Calculation	Source(s)
Audit Fees$_{it}$	The amount of audit fees the company paid in year t, scaled by the square root of year t total assets	= *Audit_Fees*$_{it}$ ÷ √(*AT*$_{it}$×1,000,000)	Audit Analytics; Compustat
Big4$_{it}$	Indicates if one of the largest four audit firms provided the SOX404(b) opinion for year t	= 1 if *Auditor_Fkey*$_{it}$ = "1", "2", "3", or "4"; otherwise = 0	Audit Analytics
Nonaudit Fees$_{it}$	The amount of nonaudit fees the company paid in year t, scaled by the square root of year t total assets	= *Non_Audit_Fees*$_{it}$ ÷ √(*AT*$_{it}$×1,000,000)	Audit Analytics; Compustat

REFERENCES

Allison, P. 2020. Better predicted probabilities from linear probability models. *Statistical Horizons*. https://statisticalhorizons.com/better-predicted-probabilities.

American Institute of Certified Public Accountants (AICPA). 2020a. *Overall objectives of the independent auditor and the conduct of an audit in accordance with Generally Accepted Auditing Standards*. Clarified Statements on Auditing Standards Au-C 200.

———. 2020b. *Consideration of fraud in a financial statement audit.* Clarified Statements on Auditing Standards Au-C 240.

———. 2020c. *Planning an audit.* Clarified Statements on Auditing Standards Au-C 300.

———. 2020d. *Opening balances — Initial audit engagements, including reaudit engagements*. Clarified Statements on Auditing Standards Au-C 510.

———. 2020e. *Terms of engagement.* Clarified Statements on Auditing Standards Au-C 210.

Anantharaman, D., and N. Wans. 2019. Audit office experience with SOX 404(b) filers and SOX 404 audit quality. *The Accounting Review* 94 (4): 1–43.

Asare, S. K., B. C. Fitzgerald, L. E. Graham, J. R. Joe, E. M. Negangard, and C. J. Wolfe. 2013. Auditors' internal control over financial reporting decisions: Analysis, synthesis, and research directions. *Auditing: A Journal of Practice & Theory Practice* 32 (1): 131–66.

Ashbaugh-Skaife, H., D. W. Collins, and W. R. Kinney. 2007. The discovery and reporting of internal control deficiencies prior to SOX-mandated audits. *Journal of Accounting and Economics* 44: 166–92.

Ashbaugh-Skaife, H., D. W. Collins, W. R. Kinney, and R. LaFond. 2008. The effect of SOX internal control deficiencies and their remediation on accrual quality. *The Accounting Review* 83 (1): 217–50.

Ashbaugh-Skaife, H., D. W. Collins, W. R Kinney, and R. Lafond. 2009. The effect of SOX internal control deficiencies on firm risk and cost of equity. *Journal of Accounting Research* 47 (1): 1–43.

Bamber, E. M., and L. S. Bamber. 2009. Discussion of 'Mandatory audit partner rotation, audit quality, and market perception: Evidence from Taiwan.' *Contemporary Accounting Research* 26 (2): 393–402.

Basioudis, I. G., and J. R. Francis. 2007. Big 4 audit fee premiums for national and office-level industry leadership in the United Kingdom. *Auditing: A Journal of Practice & Theory* 26 (2): 143–66.

Bauer, T. D., S. M. Hillison, M. E. Peecher, and B. Pomeroy. 2020. Revising audit plans to address fraud risk: A case of 'Do as I advise, not as I do'? *Contemporary Accounting Research* 37 (4): 2558–89.

Beasley, M. S. 1996. An empirical analysis of the relation between the board of director composition and financial statement fraud. *The Accounting Review* 71 (4): 443–65.

Becker, C. L., M. L. Defond, J. Jiambalvo, and K. R. Subramanyam. 1998. The effect of audit quality on earnings management. *Contemporary Accounting Research* 15 (1): 1–24.

Bedard, J. C. 1989. An archival investigation of audit program planning. *Auditing: A Journal of Practice & Theory* 9 (1): 57–71.

Bedard, J. C., S. M. Chtourou, and L. Courteau. 2004. The effect of audit committee expertise, independence, and activity on aggressive earnings management. *Auditing: A Journal of*

Practice & Theory Practice 23 (2): 13–35.
Bedard, J. C., R. Hoitash, U. Hoitash, and K. Westermann. 2012. Material weakness remediation and earnings quality: a detailed examination by type of control deficiency. *Auditing: A Journal of Practice & Theory* 31 (1): 57–78.
Bedard, J. C, L. E. Graham, R. Hoitash, and U. Hoitash. 2007. Sarbanes-Oxley Section 404 and internal controls. *The CPA Journal* 77 (10): 34–37.
Bills, K. L., Q. T. Swanquist, and R. L. Whited. 2016. Growing pains: Audit quality and office growth. *Contemporary Accounting Research* 33 (1): 288–313.
Bradshaw, M. T., S. A. Richardson, and R. G. Sloan. 2006. The relation between corporate financing activities, analysts' forecasts and stock returns. *Journal of Accounting and Economics* 42 (1–2): 53–85.
Brown, S. V., and W. R. Knechel. 2016. Auditor-client compatibility and audit firm selection. *Journal of Accounting Research* 54 (3): 725–75.
Carey, P., and R. Simnett. 2006. Audit partner tenure and audit quality. *The Accounting Review* 81 (3): 653–76.
Cassell, C. A., S. Dearden, D. Rosser, and J. E. Shipman. 2019. The effect of confirmation bias on auditors risk assessments: Archival evidence. Working paper, The University of Arkansas, The University of Nebraska, and The University of Texas at Arlington.
Chan, K. C., P. Lee, and G. S. Seow. 2008. Why did management and auditors fail to identify ineffective internal controls in their initial SOX 404 reviews? *Review of Accounting and Finance* 7 (4): 338–54.
Chen, C. Y., C. J. Lin, and Y. C. Lin. 2008. Audit partner tenure, audit firm tenure, and discretionary accruals: Does long auditor tenure impair earnings quality? *Contemporary Accounting Research* 25 (2): 415–45.
Chen, F., J. R. Francis, and Y. Hou. 2019. Opinion shopping through same-firm audit office switches. Working paper, The University of Toronto, Maastricht University, The University of Technology Sydney, and Queen's University.
Chen, Q., K. Kelly, and S. E. Salterio. 2012. Do changes in audit actions and attitudes consistent with increased auditor scepticism deter aggressive earnings management? An experimental investigation. *Accounting, Organizations and Society* 37 (2): 95–115.
Chen, Y., W. R. Knechel, V. B. Marisetty, C. Truong, and M. Veeraraghavan. 2017. Board independence and internal control weakness: Evidence from SOX 404 disclosures. *Auditing: A Journal of Practice & Theory Practice* 36 (2): 45–62.
Chi, W., and H. Huang. 2005. Discretionary accruals, audit-firm tenure and audit-partner tenure: Empirical evidence from Taiwan. *Journal of Contemporary Accounting & Economics* 1 (1): 65–92.
Chi, W., H. Huang, Y. Liao, and H. Xie. 2009. Mandatory audit partner rotation, audit quality, and market perception: Evidence from Taiwan. *Contemporary Accounting Research* 26 (2): 359–91.
Choi, J. H., C. Kim, J. B. Kim, and Y. Zang. 2010. Audit office size, audit quality, and audit pricing. *Auditing: A Journal of Practice & Theory* 29 (1): 73–97.
Cohen, M. F. 1978. Commission on auditors' responsibilities: Report, conclusion and recommendations. *Cohen Commission Report*.
Core, J. E., R. W. Holthausen, and D. F. Larcker. 1999. Corporate governance, chief executive officer compensation, and firm performance. *Journal of Financial Economics* 51 (3): 371–

406.
Costello, A. M., and R. Wittenberg-Moerman. 2011. The impact of financial reporting quality on debt contracting: Evidence from internal control weakness reports. *Journal of Accounting Research* 49 (1): 97–136.
Cowle, E. N., and S. P. Rowe. 2019. Don't make me look bad: How the audit market penalizes auditors for doing their job. Working Paper, The University of Arkansas.
Craswell, A., D. J. Stokes, and J. Laughton. 2002. Auditor independence and fee dependence. *Journal of Accounting and Economics* 33 (2): 253–75.
Dechow, P. M., R. G. Sloan, and A. P. Sweeney. 1996. Causes and consequences of earnings manipulations : An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research* 13 (1): 1–36.
Dhaliwal, D., C. Hogan, R. Trezevant, and M. Wilkins. 2011. Internal control disclosures, monitoring, and the cost of debt. *The Accounting Review* 86 (4): 1131–56.
Doty, J. R. 2013. The role of the audit in the global economy. https://pcaobus.org//News/Speech/Pages/04182013_ICAS.aspx.
Doyle, J., W. Ge, and S. McVay. 2007a. Accruals quality and internal control over financial reporting. *The Accounting Review* 82 (5): 1141–70.
———. 2007b. Determinants of weaknesses in internal control over financial reporting. *Journal of Accounting and Economics* 44 (1–2): 193–223.
Earley, C. E., V. B. Hoffman, and J. R. Joe. 2008. Reducing management's influence on auditors' judgments: An experimental investigation of SOX 404 assessments. *The Accounting Review* 83 (6): 1461–85.
Elder, R., Y. Zhang, J. Zhou, and N. Zhou. 2009. Internal control weaknesses and client risk management. *Journal of Accounting, Auditing & Finance* 24 (4): 543–79.
Ettredge, M., J. Heintz, C. Li, and S. Scholz. 2011. Auditor realignments accompanying implementation of SOX 404 ICFR reporting requirements. *Accounting Horizons* 25 (1): 17–39.
Fan, Y., J. L. Gunn, C. Li, and N. J. Nagarajan. 2016. How do auditors respond to litigation? An analysis of post-litigation audit fees, auditor market share and portfolio strategies. Working Paper, Hong Kong Polytech University, The University of Pittsburg, and The University of Texas at Arlington.
Fargher, N., H. Y. Lee, and V. Mande. 2008. The effect of audit partner tenure on client managers' accounting discretion. *Managerial Auditing Journal* 23 (2): 161–86.
Fay, R., J. G. Jenkins, and V. Popova. 2015. Effects of awareness of prior-year testing strategies and engagement risk on audit decisions. *Managerial Auditing Journal* 30 (3): 226–43.
Fay, R., and N. R. Montague. 2015. I'm not biased, am I? Avoid 5 common judgement biases that can affect accounting and auditing decisions. *Journal of Accountancy* 219 (2): 26–31.
Ferguson, A., J. R. Francis, and D. J. Stokes. 2003. The effects of firm-wide and office-level industry expertise on audit pricing. *The Accounting Review* 78 (2): 429–48.
Firth, M., O. M. Rui, and X. Wu. 2012. How do various forms of auditor rotation affect audit quality? Evidence from China. *International Journal of Accounting* 47 (1): 109–38.
Fitzgerald, B. C., T. C. Omer, and A. M. Thompson. 2018. Audit partner tenure and internal control reporting quality: U.S. evidence from the not-for-profit sector. *Contemporary Accounting Research* 35 (1): 334–64.
Francis, J. R. 2004. What do we know about audit quality? *British Accounting Review* 36 (4): 345–

68.
Francis, J. R., E. L. Maydew, and H. C. Sparks. 1999. The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory* 18 (2): 17–34.
Francis, J. R., M. N. Mehta, and W. Zhao. 2017. Audit office reputation shocks from gains and losses of major industry clients. *Contemporary Accounting Research* 34 (4): 1922–74.
Francis, J. R., and P. N. Michas. 2013. The contagion effect of low-quality audits. *The Accounting Review* 88 (2): 521–52.
Francis, J. R., P. N. Michas, and M. D. Yu. 2013. Office size of Big 4 auditors and client restatements. *Contemporary Accounting Research* 30 (4): 1626–61.
Francis, J. R., D. J. Stokes, and D. Anderson. 1999. City markets as a unit of analysis in audit research and the re-examination of Big 6 market shares. *Abacus* 35 (2): 185–206.
Francis, J. R., and M. D. Yu. 2009. Big 4 office size and audit quality. *The Accounting Review* 84 (5): 1521–52.
Francis, J. R., K. Reichelt, and D. Wang. 2005. The pricing of national and city-specific reputations for industry expertise in the U.S. audit market. *The Accounting Review* 80 (1): 113–36.
Gartland, D. J. 2017. The importance of audit planning. *Journal of Accountancy* September.
Ge, W., A. Koester, and S. McVay. 2017. Benefits and costs of Sarbanes-Oxley Section 404(b) exemption: Evidence from small firms' internal control disclosures. *Journal of Accounting and Economics* 63 (2–3): 358–84.
Ge, W., and S. McVay. 2005. The disclosure of material weaknesses in internal control after the Sarbanes-Oxley Act. *Accounting Horizons* 19 (3): 137–58.
Ghosh, A. A., and C. Y. Tang. 2015. Auditor resignation and risk factors. *Accounting Horizons* 29 (3): 529–49.
Gipper, B., L. Hail, and C. Leuz. 2020. On the economics of mandatory audit partner rotation and tenure: Evidence from PCAOB data. *The Accounting Review*.
Glover, S. M., and D. F. Prawitt. 2014. Enhancing auditor professional skepticism: The professional skepticism continuum. *Current Issues in Auditing* 8 (2): P1–10.
Goh, B. W. 2009. Audit committees, boards of directors, and remediation of material weaknesses in internal control. *Contemporary Accounting Research* 26 (2): 549–79.
Hallman, N. 2017. Do auditors overemphasize contextual benchmarks? Archival evidence on contrast effects in auditorss assessment of client risk. Working Paper, The University of Texas at Austin.
Hammersley, J. S., L. A. Myers, and C. Shakespeare. 2008. Market reactions to the disclosure of internal control weaknesses and to the characteristics of those weaknesses under Section 302 of the Sarbanes Oxley Act of 2002. *Review of Accounting Studies* 13 (1): 141–65.
Hammersley, J. S., L. A. Myers, and J. Zhou. 2012. The failure to remediate previously disclosed material weaknesses in internal controls. *Auditing: A Journal of Practice & Theory Practice* 31 (2): 73–111.
Hermalin, B. E., and M. S. Weisbach. 1998. Endogenously chosen boards of directors and their monitoring of the CEO. *The American Economic Review* 88 (1): 96–118.
Hermanson, D. R., and Z. Ye. 2009. Why do some accelerated filers with SOX Section 404 material weaknesses provide early warning under Section 302? *Auditing: A Journal of Practice & Theory Practice* 28 (2): 247–71.
Hogan, C. E. 1997. Costs and benefits of audit quality in the IPO market: A self-selection analysis. *The Accounting Review*. Vol. 72.

Hoitash, U., R. Hoitash, and J. C. Bedard. 2009. Corporate governance and internal control over financial reporting: A comparison of regulatory regimes. *The Accounting Review* 84 (3): 839–67.

Hylas, R. E., and R. H. Ashton. 1982. Audit detection of financial statement errors. *The Accounting Review* 42 (4): 751.

Institute of Chartered Accountants in Australia (ICAA). 2002. *Joint Code of Professional Conduct – Professional Statement F1: Professional Independence*.

Janis, I. L. 1982. *Groupthink: Psychological Studies of Policy Decisions and Fiascoes*. New York, NY: Houghton Mifflin Company.

Johnstone, K., C. Li, and K. H. Rupley. 2011. Changes in corporate governance associated with the revelation of internal control material weaknesses and their subsequent remediation. *Contemporary Accounting Research* 28 (1): 331–83.

Joyce, E. J., and G. C. Biddle. 1981. Anchoring and adjustment in probabilistic inference in auditing. *Journal of Accounting Research* 19 (1): 120–45.

Kim, J. B., B. Y. Song, and L. Zhang. 2011. Internal control weakness and bank loan contracting: Evidence from SOX Section 404 disclosures. *The Accounting Review* 86 (4): 1157–88.

Klein, A. 2002. Audit committee, board of director characteristics, and earnings management. *Journal of Accounting and Economics* 33: 375–400.

Koziel, M. 2017. 4 strategies for efficient, effective audit documentation. *Journal of Accountancy* November.

Krishnan, G. V., and G. Visvanathan. 2007. Deficiencies in the Post-Sarbanes-Oxley era : The role of auditors and corporate governance. *International Journal of Auditing* 90: 73–90.

Krishnan, J. 2005. Audit committee quality and internal control: An empirical analysis. *The Accounting Review* 80 (2): 649–75.

Laurion, H., A. Lawrence, and J. P. Ryans. 2017. U.S. audit partner rotations. *The Accounting Review* 92 (3): 209–37.

Lennox, C. S., and X. Wu. 2018. A review of the archival literature on audit partners. *Accounting Horizons* 32 (2): 1–35.

Lennox, C. S., X. Wu, and T. Zhang. 2014. Does mandatory rotation of audit partners improve audit quality? *The Accounting Review* 89 (5): 1775–1803.

Libby, R. 1981. *Accounting and Human Information Processing: Theory and Applications*. Englewood Cliffs, NJ: Prentice-Hall.

Litt, B., D. S. Sharma, T. Simpson, and P. N. Tanyi. 2014. Audit partner rotation and financial reporting quality. *Auditing: A Journal of Practice & Theory Practice* 33 (3): 59–86.

McNally, S. J. 2013. The 2013 COSO framework & SOX compliance. *Strategic Finance*. https://www.coso.org/documents/COSO McNallyTransition Article-Final COSO Version Proof_5-31-13.pdf.

Mock, T. J., and A. M. Wright. 1999. Are audit program plans risk-adjusted? *Auditing: A Journal of Practice & Theory Practice* 18 (1): 55–74.

Munsif, V., K. Raghunandan, and D. V. Rama. 2013. Early warnings of internal control problems: Additional evidence. *Auditing: A Journal of Practice & Theory* 32 (2): 171–88.

Newton, N. J., J. S. Persellin, D. Wang, and M. S. Wilkins. 2016. Internal control opinion shopping and audit market competition. *The Accounting Review* 91 (2): 603–23.

Ogneva, M., K. R. Subramanyam, and K. Raghunandan. 2007. Internal control weakness and cost of equity: Evidence from SOX Section 404 disclosures. *The Accounting Review* 82 (5): 1255–

97.
Public Company Accounting Oversight Board (PCAOB). 2007. *An Audit of Internal Control over Financial Reporting That Is Integrated with an Audit of Financial Statements*. PCAOB Release 2007-005A.
———. 2011. *Concept Release on Auditor Independence and Audit Firm Rotation*. PCAOB Release No. 2011-006.
———. 2012. *Maintaining and Applying Professional Skepticism in Audits*. Staff Audit Practice Alert No. 10.
———. 2015. *Improving the Transparency of Audits: Rules to Require Disclosure of Certain Audit Participants on a New PCAOB Form and Related Amendments to Auditing Standards*. PCAOB Release No. 2015-008.
Ranzilla, S., R. Chevalier, G. Hermann, S. Glover, and D. Prawitt. 2011. Elevating professional judgment in auditing and accounting: The KPMG professional judgment framework. *KPMG*, 22–29.
Reichelt, K. J., and D. Wang. 2010. National and office-specific measures of auditor industry expertise and effects on audit quality. *Journal of Accounting Research* 48 (3): 647–86.
Reynolds, J. Kenneth, and J. R. Francis. 2000. Does size matter? The influence of large clients on office-level auditor reporting decisions. *Journal of Accounting and Economics* 30 (3): 375–400.
Rice, S. C., and D. P. Weber. 2012. How effective is internal control reporting under SOX 404? Determinants of the (non-)disclosure of existing material weaknesses. *Journal of Accounting Research* 50 (3): 811–43.
Robertson, J. C. 2010. The effects of ingratiation and client incentive on auditor judgment. *Behavioral Research in Accounting* 22 (2): 69–86.
Securities and Exchange Commission (SEC). 2003. *§240.12b-2*.
———. 2016. *Order Granting Approval of Proposed Rules to Require Disclosure of Certain Audit Participants on a New PCAOB Form and Related Amendments to Auditing Standards*.
Sundgren, S., and T. Svanström. 2013. Audit office size, audit quality and audit pricing: Evidence from small- and medium-sized enterprises. *Accounting and Business Research* 43 (1): 31–55.
Swanquist, Q. T., and R. L. Whited. 2015. Do clients avoid 'contaminated' offices? The economic consequences of low-quality audits. *The Accounting Review* 90 (6): 2537–70.
Tan, H. 1995. Effects of expectations, prior involvement, and review awareness on memory for audit evidence and judgment. *Journal of Accounting Research* 33 (1): 113–35.
Tversky, A., and D. Kahneman. 1974. Judgment under uncertainty: Heuristics and biases. *Science* 185 (4157): 1124–31.
United States. 2002. *Sarbanes-Oxley Act of 2002: Conference Report (to Accompany H.R. 3763).* Washington, D.C.
United States Securities and Exchange Commission. Office of the Chief Accountant. 1994. Staff Report on Auditor Independence, March 1994. *Federal Publications*, no. 309.
United States Senate Committee on Banking Housing and Urban Affairs. 2002a. Accounting Refort and Investor Protection: Hearings.
———. 2002b. *Public Company Accounting Reform and Investor Protection Act of 2002*. Washington.
Wallman, S. M. H. 1996. The future of accounting, part III: Reliability and auditor independence. *Accounting Horizons* 10 (4): 76–97.

Wason, P. C. 1960. On the failure to eliminate hypotheses in a conceptual task. *Quarterly Journal of Experimental Psychology* 12 (3): 129–40.

Wright, A. 1988. The impact of prior working papers on auditor evidential planning judgments. *Accounting, Organizations and Society* 13 (6): 595–605.

Wright, A., and R. H. Ashton. 1989. Identifying audit adjustments with attention-directing procedures. *The Accounting Review* 64 (4): 710–28.

Ye, P., E. Carson, and R. Simnett. 2011. Threats to auditor independence: The impact of relationship and economic bonds. *Auditing: A Journal of Practice & Theory Practice* 30 (1): 121–48.

Yermack, D. 1996. Higher market valuation for firms with a small board of directors. *Journal of Financial Economics* 40 (40): 185–211.

Zhang, Y., J. Zhou, and N. Zhou. 2007. Audit committee quality, auditor independence, and internal control weaknesses. *Journal of Accounting and Public Policy* 26: 300–327.

TABLE 1: Sample Construction

Panel A: Sample Construction

	Entire Sample		Partner Change Sample	
	Total	ICMW	Total	ICMW
Number of SOX 404(b) Opinions from Audit Analytics (2005 - 2020)[a]	31,848	1,978	5,527	336
Less: observations missing required information from Compustat[b]	–2,929	–256	–306	–40
Less: observations missing corporate governance or top management data	–914	–125	–139	–15
Less: observations missing audit fees data	–23	–4	0	0
Data available	27,982	1,593	5,082	281

[a] For inclusion in my sample, SOX404(b) opinions must be issued by a U.S. auditor for a U.S. company that was not in the utilities or banking industries. Also, companies need one lag SOX404(b) opinion.
[b] Companies with missing values for *AT*, values less than zero for *SALE* and *CSHO*, values less than one for *PRCC_F* are excluded. Additionally, I require one year lag data for *SALE*, *AT*, *IB*, and *RCP*.

Panel B: Data Availability for the *Known ICMW* Model

	Entire Sample		Partner Change Sample	
	Total	ICMW	Total	ICMW
Data available for 2005-2020	27,982	1,593	5,082	281
Less: observations for fiscal years 2018-2020	–3,812	–426	–3,810	–218
Data for the *Known ICMW* Model	24,170	1,167	1,272	63

Panel C: Data Availability for the *Reported ICMW* Model

	Entire Sample		Partner Change Sample	
	Total	ICMW	Total	ICMW
Data available for 2005-2020	27,982	1,593	5,082	281
Less: observations for fiscal years 2005-2006 and 2020	–6,105	–731	–1,570	–116
Data for the *Reported ICMW* Model	21,877	862	3,512	165

I use the sample described in Panel B to estimate *Pred. Existing ICMW* using a cumulative rolling window from 2005-2017. For my primary analyses (2007-2019), I use the sample described in Panel C.

TABLE 2: Descriptive Statistics

Panel A: Descriptive Statistics for the *Known ICMW* Model Variables (2005-2017)

Variable	Mean	Std. Dev.	Minimum	25%	Median	75%	Maximum
Known ICMW	0.07	0.26	0.00	0.00	0.00	0.00	1.00
PY ICMW	0.06	0.25	0.00	0.00	0.00	0.00	1.00
Company Age (Year)[a]	21.10	14.59	1.00	10.00	17.00	30.00	58.00
Market Value ($Mil)[a,b]	$5,700	$17,000	$28	$348	$1,000	$3,400	$190,000
Aggregate Loss	0.26	0.44	0.00	0.00	0.00	1.00	1.00
Altman Z-score[b]	4.24	4.93	–11.33	1.84	3.27	5.30	32.66
Segments (Count)[a]	5.68	3.47	2.00	3.00	5.00	7.00	62.00
Foreign Transactions	0.35	0.48	0.00	0.00	0.00	1.00	1.00
Restructuring Charges[b]	0.01	0.03	0.00	0.00	0.00	0.01	0.36
M&A Value[b]	0.06	0.18	0.00	0.00	0.00	0.03	2.64
Extreme Sales Growth	0.20	0.40	0.00	0.00	0.00	0.00	1.00
Announce Restatement	0.15	0.36	0.00	0.00	0.00	0.00	1.00
Board Size	8.56	2.12	2.00	7.00	8.00	10.00	20.00
Board Independence	0.84	0.09	0.40	0.80	0.90	0.90	1.00
Board Tenure	7.88	3.90	0.10	5.10	7.40	10.10	34.60
Board Reputation	3.17	1.25	1.00	2.30	3.00	3.80	15.50
CEO Duality	0.45	0.50	0.00	0.00	0.00	1.00	1.00
CEO Tenure	5.33	5.34	0.00	1.80	3.70	7.10	53.00
AC Size	3.45	0.95	1.00	3.00	3.00	4.00	9.00
AC Tenure	5.30	2.52	0.50	3.40	5.00	6.80	17.00
Mgmt Turnover	0.42	0.49	0.00	0.00	0.00	1.00	1.00
AC Turnover	0.26	0.44	0.00	0.00	0.00	1.00	1.00

N for all variables = 24,170

[a] These variables are presented in raw format but are logged in the multivariate regressions.

[b] These variables are winsorized at 1% and 99%.

Panel B: Descriptive Statistics for the *Reported ICMW* Model Variables (2007-2019)

Variable	Mean	Std. Dev.	Minimum	25%	Median	75%	Maximum
Reported ICMW	0.04	0.19	0.00	0.00	0.00	0.00	1.00
Firm Change	0.03	0.18	0.00	0.00	0.00	0.00	1.00
Office Change	0.03	0.17	0.00	0.00	0.00	0.00	1.00
Partner Change	0.22	0.41	0.00	0.00	0.00	0.00	1.00
Pred. Existing ICMW	0.07	0.13	0.00	0.02	0.03	0.06	0.94
Company Age (Year)[a]	22.42	15.16	1.00	10.00	19.00	33.00	60.00
Market Value ($Mil)[a,b]	$6,887	$19,808	$28	$398	$1,224	$4,085	$230,000
Aggregate Loss	0.25	0.43	0.00	0.00	0.00	0.00	1.00
Altman Z-score[b]	4.25	4.75	–11.33	1.88	3.25	5.23	32.60
New Xfin	0.03	0.14	–0.30	–0.03	0.00	0.04	0.97
Segments (Count)[a]	5.81	3.53	2.00	3.00	5.00	8.00	62.00
Foreign Transactions	0.37	0.48	0.00	0.00	0.00	1.00	1.00
Restructuring Charges[b]	0.01	0.03	0.00	0.00	0.00	0.01	0.36
M&A Value[b]	0.06	0.18	0.00	0.00	0.00	0.03	2.64
Extreme Sales Growth	0.20	0.40	0.00	0.00	0.00	0.00	1.00
Announce Restatement	0.14	0.35	0.00	0.00	0.00	0.00	1.00
Board Size	8.66	2.13	3.00	7.00	9.00	10.00	19.00
Board Independence	0.85	0.08	0.40	0.80	0.90	0.90	1.00
Board Tenure	8.06	3.93	0.10	5.20	7.60	10.30	35.60
Board Reputation	3.14	1.23	1.00	2.30	3.00	3.80	12.00
CEO Duality	0.43	0.50	0.00	0.00	0.00	1.00	1.00
CEO Tenure	5.40	5.36	0.00	1.80	3.70	7.20	53.00
AC Size	3.47	0.97	1.00	3.00	3.00	4.00	9.00
AC Tenure	5.73	2.66	0.50	3.80	5.40	7.30	20.00
Mgmt Turnover	0.42	0.49	0.00	0.00	0.00	1.00	1.00
AC Turnover	0.27	0.44	0.00	0.00	0.00	1.00	1.00
Big4	0.84	0.36	0.00	1.00	1.00	1.00	1.00
Audit Fees	52.24	28.17	10.30	31.22	47.08	67.17	187.16
Nonaudit Fees	10.13	12.71	0.00	1.56	5.69	13.63	74.08

N for *Partner Change* = 3,512; N for all other variables = 21,877

[a] These variables are presented in raw format but are logged in the multivariate regressions.

[b] These variables are winsorized at 1% and 99%.

Panel C: Means of *Reported ICMW* and Engagement Team Changes by Industry

Industry	SIC Codes	N	*Reported ICMW*	*Firm Change*	*Office Change*	*Partner Change*
Agriculture	0100-0999	83	1.20%	6.02%	6.02%	8.33%
Mining	1000-1299, 1400-1999	718	2.79%	3.48%	3.06%	20.47%
Food	2000-2199	630	5.24%	2.38%	2.70%	18.18%
Textiles	2200-2799	967	3.31%	3.31%	2.69%	21.71%
Drugs	2830-2839, 3840-3851	2,174	3.91%	3.63%	5.24%	21.29%
Chemicals	2800-2829, 2840-2899	765	2.61%	2.22%	2.22%	22.14%
Refining	1300-1399, 2900-2999	1,181	2.96%	4.15%	1.86%	21.30%
Rubber	3000-3499	1,278	4.54%	3.44%	1.49%	22.03%
Industrial	3500-3569, 3580-3659	1,207	3.48%	2.98%	2.32%	19.31%
Electrical	3660-3669, 3680-3699	472	6.36%	5.08%	2.12%	26.76%
Miscellaneous Equipment	3700-3839, 3852-3999	1,730	5.03%	3.93%	2.72%	22.30%
Computers	3570-3579, 3670-3679, 7370-7379	3,197	4.57%	2.82%	4.10%	21.82%
Transportation	4000-4899	1,576	3.68%	3.11%	3.11%	19.16%
Retail	5000-5999	3,013	3.05%	2.59%	2.02%	23.61%
Services	7000-7369, 7380-8999	2,886	4.26%	2.98%	2.98%	22.83%

Panel D: Means of *Reported ICMW* and Engagement Team Changes by Year

Fiscal Year	N	*Reported ICMW*	*Firm Change*	*Office Change*	*Partner Change*
2007	1,886	6.95%	4.19%	2.44%	n/a
2008	1,916	3.24%	3.13%	1.93%	n/a
2009	1,870	2.41%	2.78%	2.83%	n/a
2010	1,795	1.39%	2.62%	3.01%	n/a
2011	1,789	1.96%	2.01%	4.36%	n/a
2012	1,793	3.74%	2.23%	2.79%	n/a
2013	1,766	3.51%	3.28%	2.55%	n/a
2014	1,731	4.74%	4.74%	2.72%	n/a
2015	1,710	4.80%	3.74%	2.11%	n/a
2016	1,674	5.68%	4.12%	3.52%	4.17%
2017	1,632	4.23%	2.94%	5.09%	20.78%
2018	1,595	4.95%	3.01%	3.07%	22.01%
2019	720	3.89%	1.94%	2.36%	23.23%

All the variables used in Panels A-D are defined in the Appendix. Panel A provides descriptive stats for the variables used to estimate *Pred. Existing ICMW* for years 2005-2017. Panels B-D provides descriptive stats for the variables used in the primary analysis for years 2007-2019.

TABLE 3: Pearson and Spearman Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
(1) *Reported ICMW*		**0.11**	**0.02**	**0.03**	**0.17**	**–0.03**	**–0.11**	**0.07**	**–0.06**	–0.01	0.00	**0.03**	**0.03**	0.00	0.01
(2) *Firm Change*	**0.11**		–0.03	**–0.06**	**0.10**	**–0.04**	**–0.10**	**0.04**	–0.01	**0.02**	**–0.02**	–0.01	–0.01	**–0.02**	**0.03**
(3) *Office Change*	**0.02**	**–0.03**		**0.19**	**0.02**	**–0.04**	**–0.03**	**0.03**	**–0.02**	**0.02**	**–0.03**	**–0.02**	**0.02**	0.00	**0.02**
(4) *Partner Change*	**0.03**	**–0.06**	**0.19**		0.01	–0.02	0.00	0.01	0.01	–0.01	–0.01	0.01	0.00	–0.01	–0.01
(5) *Pred. Existing ICMW*	**0.32**	**0.13**	**0.02**	0.03		**–0.24**	**–0.54**	**0.37**	**–0.22**	0.01	0.00	**0.07**	**0.07**	0.00	**0.14**
(6) *Company Age*	**–0.03**	**–0.04**	**–0.04**	–0.02	**–0.10**		**0.26**	**–0.19**	**0.06**	**–0.17**	**0.31**	**0.07**	**0.16**	0.00	**–0.20**
(7) *Market Value*[a]	**–0.05**	**–0.04**	**–0.02**	–0.01	**–0.11**	**0.25**		**–0.35**	**0.14**	0.00	**0.27**	**0.10**	**0.03**	**0.12**	**–0.02**
(8) *Aggregate Loss*	**0.07**	**0.04**	**0.03**	0.01	**0.20**	**–0.18**	**–0.15**		**–0.36**	**0.12**	**–0.13**	–0.01	**0.14**	**–0.07**	**0.07**
(9) *Altman Z-score*[a]	**–0.05**	0.01	–0.01	0.01	**–0.09**	**–0.03**	**0.02**	**–0.22**		**0.03**	**–0.04**	0.00	**–0.25**	**–0.08**	**0.04**
(10) *New Xfin*	–0.01	**0.02**	**0.02**	0.01	**–0.01**	**–0.15**	**–0.05**	**0.18**	0.00		**–0.09**	0.01	**–0.10**	–0.01	**0.13**
(11) *Segments*	0.00	**–0.02**	**–0.03**	–0.02	0.00	**0.29**	**0.18**	**–0.11**	**–0.09**	**–0.11**		**0.37**	**0.28**	**0.13**	**–0.11**
(12) *Foreign Transactions*	**0.03**	–0.01	**–0.02**	0.01	**0.05**	**0.07**	**0.04**	–0.01	**–0.01**	**–0.03**	**0.33**		**0.18**	**0.05**	**–0.02**
(13) *Restructuring Charges*[a]	**0.04**	0.01	**0.01**	0.01	**0.09**	**0.07**	**–0.06**	**0.26**	**–0.19**	**–0.08**	**0.10**	**0.08**		**0.05**	**–0.17**
(14) *M&A Value*[a]	**0.02**	0.00	0.00	0.01	**0.08**	**–0.04**	**–0.04**	**0.05**	**–0.14**	**–0.06**	**0.03**	–0.01	**0.05**		**0.16**
(15) *Extreme Sales Growth*	0.01	**0.03**	**0.02**	–0.01	**0.04**	**–0.19**	**–0.04**	**0.07**	**0.08**	**0.15**	**–0.09**	**–0.02**	**–0.11**	**0.18**	
(16) *Announce Restatement*	**0.15**	**0.06**	0.01	0.00	**0.40**	–0.01	**–0.04**	**0.04**	**–0.06**	**–0.02**	**0.01**	0.01	**0.05**	0.00	**–0.02**
(17) *Board Size*	**–0.07**	**–0.08**	**–0.03**	–0.01	**–0.15**	**0.35**	**0.38**	**–0.15**	**–0.12**	**–0.09**	**0.21**	**0.05**	**0.05**	0.00	**–0.11**
(18) *Board Independence*	–0.01	**–0.04**	–0.01	–0.03	**–0.05**	**0.11**	**0.09**	0.01	**–0.14**	0.01	**0.11**	**0.06**	**0.09**	0.00	**–0.03**
(19) *Board Tenure*	**–0.03**	**–0.03**	**–0.02**	0.00	**–0.11**	**0.36**	0.00	**–0.19**	**0.12**	**–0.12**	**0.07**	0.01	**–0.08**	**–0.05**	**–0.12**
(20) *Board Reputation*	**–0.02**	**–0.03**	0.01	0.00	**–0.05**	**–0.12**	**0.13**	**0.10**	**–0.10**	**0.06**	0.00	**0.04**	**0.03**	**0.02**	**0.06**
(21) *CEO Duality*	**–0.03**	0.00	**–0.02**	0.01	**–0.02**	**0.09**	**0.09**	**–0.10**	0.01	**–0.05**	**0.04**	**–0.02**	**–0.04**	–0.01	**–0.02**
(22) *CEO Tenure*	**–0.02**	0.00	–0.01	–0.01	**–0.06**	**0.04**	**–0.02**	**–0.09**	**0.11**	**–0.03**	–0.01	**0.02**	**–0.09**	**–0.03**	0.00
(23) *AC Size*	**–0.03**	**–0.04**	**–0.02**	0.02	**–0.09**	**0.24**	**0.14**	**–0.13**	**–0.03**	**–0.08**	**0.14**	**0.03**	**0.02**	**–0.02**	**–0.07**
(24) *AC Tenure*	**–0.02**	**–0.03**	**–0.02**	0.00	**–0.15**	**0.23**	**0.04**	**–0.12**	**0.07**	**–0.06**	**0.04**	**0.02**	**–0.07**	**–0.04**	**–0.09**
(25) *Mgmt Turnover*	**0.06**	**0.02**	**0.02**	0.01	**0.13**	**0.02**	0.01	**0.10**	**–0.08**	**–0.02**	**0.02**	**0.02**	**0.13**	0.00	**–0.05**
(26) *AC Turnover*	**0.02**	0.01	0.01	0.00	**0.02**	0.01	**0.05**	**0.02**	**–0.04**	0.01	**0.03**	0.00	**0.04**	**0.01**	0.00
(27) *Big4*	**–0.06**	**–0.11**	**–0.03**	–0.02	**–0.10**	**0.07**	**0.13**	**–0.08**	**–0.10**	**–0.04**	**0.10**	**0.05**	**0.04**	0.00	**–0.06**
(28) *Audit Fees*	**0.19**	–0.01	**0.02**	0.02	**0.23**	**0.07**	**0.07**	**0.13**	**–0.14**	**0.02**	**0.30**	**0.27**	**0.21**	**0.03**	**–0.05**
(29) *Nonaudit Fees*	0.01	**–0.01**	0.00	0.00	0.00	**0.13**	**0.16**	**–0.06**	**–0.07**	**–0.02**	**0.20**	**0.13**	**0.09**	**0.05**	**–0.04**

[a] These variables are winsorized at 1% and 99%.

(continued on next page)

TABLE 3: Pearson and Spearman Correlation Matrix (Cont.)

	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
(1) *Reported ICMW*	**0.15**	**–0.07**	–0.01	**–0.03**	**–0.03**	**–0.03**	**–0.03**	**–0.03**	**–0.03**	**0.06**	**0.02**	**–0.06**	**0.13**	0.00
(2) *Firm Change*	**0.06**	**–0.08**	**–0.05**	**–0.03**	**–0.04**	0.00	**–0.02**	**–0.04**	**–0.03**	**0.02**	0.01	**–0.11**	**–0.02**	**–0.04**
(3) *Office Change*	0.00	**–0.03**	–0.01	**–0.03**	0.00	**–0.02**	–0.01	**–0.02**	**–0.02**	**0.02**	0.01	**–0.03**	**0.02**	0.00
(4) *Partner Change*	0.00	–0.01	–0.01	0.00	0.00	0.01	–0.02	0.03	0.00	0.01	0.00	–0.02	0.02	0.00
(5) *Pred. Existing ICMW*	**0.39**	**–0.34**	**–0.14**	**–0.28**	**–0.12**	**–0.03**	**–0.15**	**–0.18**	**–0.41**	**0.20**	**0.02**	**–0.15**	**0.17**	**–0.07**
(6) *Company Age*	–0.01	**0.31**	**0.10**	**0.46**	**–0.13**	**0.07**	**0.05**	**0.23**	**0.30**	**0.02**	–0.01	**0.05**	**0.05**	**0.12**
(7) *Market Value*[a]	**–0.05**	**0.54**	**0.18**	**0.07**	**0.24**	**0.10**	–0.01	**0.22**	**0.11**	–0.10	**0.07**	**0.35**	0.00	**0.24**
(8) *Aggregate Loss*	**0.04**	**–0.15**	0.00	**–0.20**	**0.08**	**–0.10**	**–0.10**	**–0.13**	**–0.13**	**0.10**	**0.02**	**–0.08**	**0.12**	**–0.07**
(9) *Altman Z-score*[a]	**–0.07**	**–0.09**	**–0.12**	**0.20**	**–0.16**	**0.03**	**0.11**	0.00	**0.12**	**–0.08**	**–0.04**	**–0.06**	**–0.07**	**–0.03**
(10) *New Xfin*	–0.01	**–0.09**	0.00	**–0.12**	**0.06**	**–0.03**	0.00	**–0.08**	**–0.06**	**–0.02**	0.00	**–0.02**	0.01	**–0.02**
(11) *Segments*	**0.02**	**0.23**	**0.14**	**0.12**	**0.04**	**0.04**	**0.02**	**0.15**	**0.08**	**0.03**	**0.03**	**0.12**	**0.38**	**0.26**
(12) *Foreign Transactions*	0.01	**0.05**	**0.07**	0.01	**0.06**	**–0.02**	**0.03**	**0.03**	**0.02**	**0.02**	0.00	**0.05**	**0.30**	**0.16**
(13) *Restructuring Charges*[a]	**0.06**	**0.19**	**0.19**	**–0.04**	**0.07**	**–0.06**	**–0.13**	**0.07**	**–0.03**	**0.16**	**0.06**	**0.11**	**0.34**	**0.20**
(14) *M&A Value*[a]	–0.01	**0.05**	**0.04**	–0.01	**0.05**	**0.02**	**0.02**	**0.01**	**0.00**	**–0.03**	0.00	**0.04**	**0.09**	**0.12**
(15) *Extreme Sales Growth*	**–0.02**	**–0.12**	**–0.04**	**–0.13**	**0.04**	**–0.02**	0.01	**–0.08**	**–0.09**	**–0.05**	**0.00**	**–0.06**	**–0.05**	**–0.03**
(16) *Announce Restatement*		**–0.20**	0.01	**–0.02**	0.00	–0.01	**–0.03**	**–0.02**	**–0.02**	**0.06**	**0.01**	**0.03**	**0.08**	**0.02**
(17) *Board Size*	**–0.02**		**0.28**	**0.06**	**0.19**	**0.02**	**–0.08**	**0.31**	**0.02**	**0.06**	**0.09**	**0.31**	**0.10**	**0.22**
(18) *Board Independence*	0.01	**0.25**		**–0.07**	**0.17**	**–0.06**	**–0.11**	**0.12**	**–0.07**	**0.07**	**0.08**	**0.20**	**0.14**	**0.11**
(19) *Board Tenure*	**–0.02**	**0.02**	**–0.09**		**–0.22**	**0.03**	**0.24**	**0.08**	**0.65**	**–0.11**	**–0.20**	0.00	**–0.07**	**–0.02**
(20) *Board Reputation*	0.00	**0.15**	**0.15**	**–0.23**		**–0.04**	**–0.08**	**–0.01**	**–0.14**	**0.05**	**0.04**	**0.17**	**0.13**	**0.11**
(21) *CEO Duality*	–0.01	**0.03**	**–0.06**	**0.02**	**–0.04**		**0.21**	**0.06**	**0.01**	**–0.17**	–0.01	**0.02**	**–0.02**	**0.06**
(22) *CEO Tenure*	**–0.02**	**–0.09**	**–0.17**	**0.27**	**–0.10**	**0.22**		0.00	**0.22**	**–0.37**	**–0.10**	**–0.03**	**–0.04**	**–0.02**
(23) *AC Size*	**–0.02**	**0.31**	**0.12**	**0.05**	**–0.02**	**0.07**	**–0.03**		**0.11**	–0.01	**0.04**	**0.11**	**0.02**	**0.08**
(24) *AC Tenure*	**–0.02**	0.01	**–0.09**	**0.63**	**–0.15**	0.01	**0.24**	**0.08**		**–0.09**	**–0.22**	0.00	**–0.06**	**–0.03**
(25) *Mgmt Turnover*	**0.06**	**0.06**	**0.08**	**–0.11**	**0.04**	**–0.17**	**–0.26**	–0.01	**–0.09**		**0.08**	**0.02**	**0.10**	**0.03**
(26) *AC Turnover*	**0.01**	**0.09**	**0.07**	**–0.20**	**0.03**	–0.01	**–0.10**	**0.05**	**–0.21**	**0.08**		**0.05**	**0.04**	**0.04**
(27) *Big4*	**0.03**	**0.30**	**0.20**	**–0.03**	**0.14**	**0.02**	**–0.06**	**0.11**	–0.01	**0.02**	**0.05**		**0.18**	**0.24**
(28) *Audit Fees*	**0.10**	**0.10**	**0.12**	**–0.09**	**0.10**	**–0.02**	**–0.06**	**0.03**	**–0.06**	**0.10**	**0.05**	**0.16**		**0.33**
(29) Nonaudit Fees	**0.02**	**0.19**	**0.09**	**–0.03**	**0.08**	**0.05**	**–0.04**	**0.07**	**–0.04**	**0.03**	**0.04**	**0.18**	**0.33**	

[a] These variables are winsorized at 1% and 99%.

This table presents Pearson correlation coefficients in the bottom-left and Spearman correlation coefficients in the top-right for the variables used in the primary analysis for years 2007-2019. All variables are defined in the Appendix. Bolded coefficients indicate that the correlation is significant at $p<0.05$.

TABLE 4: Univariate Tests

Panel A: Comparison of Means by *Reported ICMW*

Variables	*Reported ICMW* = 1 N	Mean	*Reported ICMW* = 0 N	Mean	Difference in Means
Firm Change	862	0.12	21,015	0.03	0.09***
Office Change	862	0.05	21,015	0.03	0.02***
Partner Change	165	0.28	3,347	0.21	0.07**
Pred. Existing ICMW	862	0.29	21,015	0.07	0.22***
Company Age (Year)[a]	862	20.00	21,015	22.52	–2.52***
Market Value ($Mil)[a,b]	862	$2,029	21,015	$7,086	–$5,057***
Aggregate Loss	862	0.40	21,015	0.24	0.16***
Altman Z-score[b]	862	3.15	21,015	4.29	–1.14***
New Xfin	862	0.02	21,015	0.03	–0.01*
Segments (Count)[a]	862	5.77	21,015	5.81	–0.04
Foreign Transactions	862	0.43	21,015	0.37	0.06***
Restructuring Charges[b]	862	0.02	21,015	0.01	0.01***
M&A Value[b]	862	0.08	21,015	0.06	0.02***
Extreme Sales Growth	862	0.22	21,015	0.20	0.02
Announce Restatement	862	0.40	21,015	0.13	0.27***
Board Size	862	7.98	21,015	8.69	–0.71***
Board Independence	862	0.84	21,015	0.85	–0.01
Board Tenure	862	7.53	21,015	8.08	–0.55***
Board Reputation	862	3.03	21,015	3.15	–0.12***
CEO Duality	862	0.37	21,015	0.43	–0.06***
CEO Tenure	862	4.93	21,015	5.42	–0.49***
AC Size	862	3.32	21,015	3.48	–0.16***
AC Tenure	862	5.40	21,015	5.74	–0.34***
Mgmt Turnover	862	0.56	21,015	0.41	0.15***
AC Turnover	862	0.32	21,015	0.27	0.05***
Big4	862	0.74	21,015	0.85	–0.11***
Audit Fees	862	78.16	21,015	51.18	26.98***
Nonaudit Fees	862	10.77	21,015	10.10	0.67

*** p<0.01, ** p<0.05, * p<0.1

[a] These variables are presented in raw format but are logged in the multivariate regressions.

[b] These variables are winsorized at 1% and 99%.

Panel B: Comparison of Means by Form AP Early Adopters

	2016			2017		
Variables	Early Adopter (N = 24)	Non-adopter (N = 1,650)	Difference in Means	Early Adopter (N = 1,174)	Non-adopter (N = 458)	Difference in Means
Firm Change	0.83	0.03	0.80***	0.04	0.01	0.03**
Office Change	0.00	0.04	–0.04	0.05	0.06	–0.01
Reported ICMW	0.21	0.05	0.16***	0.05	0.03	0.02
Pred. Existing ICMW	0.26	0.06	0.20***	0.08	0.06	0.02*
Company Age (Year)[a]	15.25	24.30	–9.05***	23.53	28.38	–4.85***
Market Value ($Mil)[a,b]	$2,855	$8,765	–$5,910	$10,148	$10,431	–$283
Aggregate Loss	0.46	0.28	0.18*	0.29	0.19	0.10***
Altman Z-score[b]	2.74	3.97	–1.23	4.23	4.76	–0.53*
New Xfin	0.11	0.04	0.07*	0.04	0.01	0.03***
Segments (Count)[a]	5.67	5.89	–0.22	5.95	5.77	0.18
Foreign Transactions	0.46	0.39	0.07	0.40	0.40	0.00
Restructuring Charges[b]	0.03	0.01	0.02***	0.01	0.01	0.00
M&A Value[b]	0.06	0.06	0.00	0.05	0.05	0.00
Extreme Sales Growth	0.25	0.18	0.07	0.21	0.14	0.07***
Announce Restatement	0.29	0.15	0.14*	0.14	0.14	0.00
Board Size	9.00	8.77	0.23	8.78	8.91	–0.13
Board Independence	0.87	0.85	0.02	0.86	0.85	0.01
Board Tenure	5.81	8.18	–2.37***	7.87	8.81	–0.94***
Board Reputation	3.04	3.15	–0.11	3.17	2.98	0.19***
CEO Duality	0.21	0.38	–0.17*	0.36	0.34	0.02
CEO Tenure	3.05	5.35	–2.30**	5.27	5.23	0.04
AC Size	3.54	3.50	0.04	3.50	3.54	–0.04
AC Tenure	5.10	6.46	–1.36**	6.43	6.56	–0.13
Mgmt Turnover	0.67	0.45	0.22**	0.46	0.44	0.02
AC Turnover	0.33	0.30	0.03	0.30	0.27	0.03
Big4	0.75	0.82	–0.07	0.82	0.81	0.01
Audit Fees	71.67	54.74	16.93***	57.40	52.58	4.82***
Nonaudit Fees	10.65	10.36	0.29	10.45	9.55	0.90

*** p<0.01, ** p<0.05, * p<0.1

[a] These variables are presented in raw format but are logged in the multivariate regressions.

[b] These variables are winsorized at 1% and 99%.

Panel C: Chi-Square Test for *Partner Change* Unavailable Subsample

	Reported ICMW = 1	*Reported ICMW* = 0	Total	ICMW
Firm Change = 1	89 [22]	484 [551]	573	15.6%
Firm Change = 0	608 [675]	17,184 [17,117]	17,792	3.4%
Total	697	17,668	18,365	

Chi-Square = 223.15***

	Reported ICMW = 1	*Reported ICMW* = 0	Total	ICMW
Office Change = 1	26 [18]	504 [512]	530	4.9%
Office Change = 0	582 [590]	16,680 [16,672]	17,262	3.4%
Total	608	17,184	17,792[a]	

Chi-Square = 3.67*

Expected values in brackets; *** p<0.01, * p<0.01
[a] The *Office Change* table does not include any audit firm changes.

Panel D: Chi-Square Test for *Partner Change* Available Subsample

	Reported ICMW = 1	*Reported ICMW* = 0	Total	ICMW
Firm Change = 1	18 [6]	106 [118]	124	14.5%
Firm Change = 0	147 [159]	3,241 [3,229]	3,388	4.3%
Total	165	3,347	3,512	

Chi-Square = 27.67***

	Reported ICMW = 1	*Reported ICMW* = 0	Total	ICMW
Office Change = 1	13 [5]	110 [118]	123[b]	10.6%
Office Change = 0	134 [142]	3,131 [3,123]	3,265	4.1%
Total	147	3,241	3,388[a]	

Chi-Square = 11.94***

	Reported ICMW = 1	*Reported ICMW* = 0	Total	ICMW
Partner Change = 1	44 [33]	709 [720]	753[b]	5.8%
Partner Change = 0	103 [114]	2,532 [2,521]	2,635	3.9%
Total	147	3,241	3,388[a]	

Chi-Square = 5.28**

Expected values in brackets; *** p<0.01, ** p<0.05

[a] These tables do not include any audit firm changes.

[b] 78 observations experienced both a partner and office change while the firm remained the same. 10 of these observations (12.8%) are related to a reported ICMW.

In Panel A, I analyze the difference in means between firms that report an ICMW and those that do not. The data used in Panel A is the same data used in the primary analysis for years 2007-2019. Panel B compares the variable means for firms that are early adopters to the Form AP filing in 2016 and 2017. Both Panels C and D provide chi-square test for each engagement team change variable: *Firm Change*, *Office Change*, and *Partner Change* (when available). The chi-square tests compare my actual observations to what would be randomly expected to occur. Panel C (D) shows the chi-square tests for the subsample where *Partner Change* is unavailable (available). All variables are defined in the Appendix.

TABLE 5: Estimation of the *Known ICMW* Model

DV = *Known ICMW*	(1) '05	(2) '05-'06	(3) '05-'07	(4) '05-'08	(5) '05-'09	(6) '05-'10	(7) '05-'11	(8) '05-'12	(9) '05-'13	(10) '05-'14	(11) '05-'15	(12) '05-'16	(13) '05-'17
PY ICMW	0.188***	0.198***	0.221***	0.224***	0.223***	0.222***	0.227***	0.222***	0.223***	0.234***	0.244***	0.248***	0.246***
	(0.030)	(0.018)	(0.013)	(0.011)	(0.010)	(0.010)	(0.009)	(0.009)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)
Company Age	0.014	0.004	0.001	0.002	0.002	0.003	0.003	0.003	0.002	0.001	0.002	0.001	0.001
	(0.015)	(0.009)	(0.006)	(0.005)	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)
Market Value	–0.018**	–0.013***	–0.012***	–0.009***	–0.009***	–0.009***	–0.009***	–0.010***	–0.010***	–0.011***	–0.010***	–0.010***	–0.011***
	(0.009)	(0.005)	(0.004)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Aggregate Loss	0.054**	0.060***	0.044***	0.034***	0.029***	0.024***	0.024***	0.023***	0.023***	0.021***	0.019***	0.017***	0.018***
	(0.026)	(0.016)	(0.012)	(0.009)	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)
Altman Z-score	0.001	–0.001	–0.001	–0.001	–0.001	–0.001*	–0.001**	–0.001**	–0.001**	–0.001**	–0.001**	–0.001**	–0.001**
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Segments	0.028	0.025**	0.023***	0.015**	0.014**	0.013**	0.011**	0.011**	0.012***	0.010**	0.009**	0.010***	0.011***
	(0.019)	(0.012)	(0.009)	(0.007)	(0.006)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)
Foreign Transactions	0.031	0.032**	0.022**	0.015*	0.007	0.005	0.003	0.004	0.005	0.007	0.007*	0.007*	0.007*
	(0.022)	(0.013)	(0.010)	(0.008)	(0.007)	(0.006)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Restructuring Charges	–0.160	–0.074	–0.052	–0.189	–0.176*	–0.127	–0.123	–0.130*	–0.152**	–0.117	–0.060	–0.036	–0.040
	(0.552)	(0.316)	(0.228)	(0.116)	(0.093)	(0.086)	(0.081)	(0.076)	(0.074)	(0.072)	(0.068)	(0.066)	(0.063)
M&A Value	0.066	0.048	0.009	–0.023	–0.017	–0.012	–0.011	–0.005	0.003	0.004	0.011	0.020**	0.021**
	(0.071)	(0.040)	(0.027)	(0.014)	(0.013)	(0.012)	(0.011)	(0.011)	(0.011)	(0.010)	(0.010)	(0.010)	(0.009)
Extreme Sales Growth	0.038	0.002	0.015	0.018**	0.018***	0.017***	0.016***	0.017***	0.013**	0.012**	0.011**	0.011**	0.010**
	(0.023)	(0.014)	(0.010)	(0.008)	(0.007)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)
Announce Restatement	0.112***	0.053***	0.057***	0.048***	0.052***	0.050***	0.049***	0.051***	0.049***	0.050***	0.048***	0.044***	0.045***
	(0.034)	(0.017)	(0.012)	(0.010)	(0.008)	(0.007)	(0.007)	(0.006)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)
Board Size	0.001	–0.007**	–0.007***	–0.004**	–0.004**	–0.003**	–0.003**	–0.003**	–0.002**	–0.002	–0.002	–0.001	–0.001
	(0.006)	(0.003)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Board Independence	–0.085	–0.067	–0.044	–0.033	–0.061*	–0.068**	–0.065**	–0.049**	–0.055**	–0.045**	–0.043**	–0.036*	–0.034*
	(0.106)	(0.063)	(0.047)	(0.038)	(0.033)	(0.029)	(0.026)	(0.025)	(0.023)	(0.022)	(0.021)	(0.021)	(0.020)
Board Tenure	–0.003	–0.002	–0.001	–0.001	–0.001	–0.001	–0.001	–0.001	–0.001	–0.001	–0.001	–0.001	–0.001
	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Board Reputation	–0.009	–0.008*	–0.006*	–0.007**	–0.006**	–0.006***	–0.006***	–0.005***	–0.004**	–0.004**	–0.004**	–0.004***	–0.004***
	(0.008)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
CEO Duality	0.017	0.016	0.014*	0.009	0.008	0.006	0.002	0.003	0.003	0.001	0.001	0.001	0.001
	(0.019)	(0.011)	(0.009)	(0.007)	(0.006)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)
CEO Tenure	–0.002	–0.001	–0.000	–0.000	–0.001	–0.001*	–0.001*	–0.001*	–0.001**	–0.001**	–0.001**	–0.001**	–0.001*
	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

(continued on next page)

TABLE 5: Estimation of the *Known ICMW* Model (Cont.)

DV = *Known ICMW*	(1) '05	(2) '05-'06	(3) '05-'07	(4) '05-'08	(5) '05-'09	(6) '05-'10	(7) '05-'11	(8) '05-'12	(9) '05-'13	(10) '05-'14	(11) '05-'15	(12) '05-'16	(13) '05-'17
AC Size	–0.014	–0.005	–0.000	0.002	0.002	0.002	0.003	0.002	–0.000	–0.001	–0.002	–0.002	–0.002
	(0.012)	(0.007)	(0.005)	(0.004)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
AC Tenure	–0.000	0.002	–0.003	–0.008***	–0.008***	–0.008***	–0.006***	–0.004***	–0.004***	–0.003***	–0.003***	–0.002**	–0.002**
	(0.009)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Mgmt Turnover	0.036*	0.010	0.025***	0.021***	0.017***	0.015***	0.013***	0.012***	0.012***	0.011***	0.011***	0.013***	0.012***
	(0.020)	(0.012)	(0.009)	(0.007)	(0.006)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.003)
AC Turnover	–0.013	–0.007	–0.002	–0.005	–0.004	–0.006	–0.005	–0.005	–0.003	–0.005	–0.004	–0.001	–0.000
	(0.023)	(0.013)	(0.009)	(0.008)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
Constant	0.125	0.208*	0.130	0.123*	0.144**	0.144***	0.159***	0.166***	0.185***	0.193***	0.177***	0.161***	0.152***
	(0.220)	(0.117)	(0.087)	(0.071)	(0.060)	(0.052)	(0.046)	(0.042)	(0.039)	(0.037)	(0.035)	(0.034)	(0.032)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,365	3,449	5,540	7,543	9,506	11,401	13,276	15,149	17,002	18,851	20,684	22,450	24,170
R-squared	0.125	0.109	0.117	0.109	0.104	0.100	0.094	0.088	0.086	0.090	0.093	0.092	0.092

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

This table presents the results of the following ordinary least squares regression:

$$Known\ ICMW_{it} = b_1 PY\ ICMW_{it} + b_2 Company\ Age_{it} + b_3 Market\ Value_{it} + b_4 Aggregate\ Loss_{it} + b_5 Altman\ Z\text{-}score_{it} + b_6 Segments_{it} + b_7 Foreign\ Transactions_{it} + b_8 Restructuring\ Charges_{it} + b_9 M\&A\ Value_{it} + b_{10} Extreme\ Sales\ Growth_{it} + b_{11} Announce\ Restatement_{it} + \beta_{12} Board\ Size_{it} + \beta_{13} Board\ Independence_{it} + \beta_{14} Board\ Tenure_{it} + \beta_{15} Board\ Reputation_{it} + \beta_{16} CEO\ Duality_{it} + \beta_{17} CEO\ Tenure_{it} + b_{18} AC\ Size_{it} + b_{19} AC\ Tenure_{it} + b_{20} Mgmt\ Turnover_{it} + b_{21} AC\ Turnover_{it} + \text{Industry Fixed Effects} + c_{it}$$

All variables are defined in the Appendix. The coefficients from these regressions are used to estimated *Pred. Existing ICMW* for the primary analysis. These regressions are estimated using a cumulative rolling window starting with the year 2005. SOX404(b) opinions became mandatory in 2004, and I need one lag SOX404(b) opinion to estimate this regression. The regression stops in 2017 to allow for an out-of-sample estimation for the last year used in my primary analysis, 2019. Industry fixed effects are included for the 15 industries listed in Table 2, Panel C.

TABLE 6: Estimation of the *Reported ICMW* Model

DV = *Reported ICMW*	(1) Full Sample	(2) *Partner Change* Unavailable	(3) *Partner Change* Available
Firm Change	0.072***	0.077***	0.053***
	(0.007)	(0.008)	(0.019)
Office Change	0.011	0.004	0.039**
	(0.007)	(0.008)	(0.019)
Partner Change			0.011
			(0.008)
Pred. Existing ICMW	0.382***	0.402***	0.324***
	(0.011)	(0.012)	(0.024)
Company Age	0.000	–0.000	0.002
	(0.002)	(0.002)	(0.005)
Market Value	–0.001	–0.000	–0.005*
	(0.001)	(0.001)	(0.003)
Aggregate Loss	–0.007*	–0.009**	–0.002
	(0.003)	(0.004)	(0.010)
Altman Z-score	–0.001*	–0.000	–0.001
	(0.000)	(0.000)	(0.001)
New Xfin	–0.028***	–0.026**	–0.034
	(0.009)	(0.010)	(0.025)
Segments	–0.013***	–0.014***	–0.006
	(0.003)	(0.003)	(0.008)
Foreign Transactions	–0.003	–0.004	–0.001
	(0.003)	(0.003)	(0.008)
Restructuring Charges	–0.089*	–0.061	–0.227*
	(0.048)	(0.052)	(0.136)
M&A Value	–0.009	–0.012	–0.003
	(0.007)	(0.008)	(0.021)
Extreme Sales Growth	0.004	0.001	0.016*
	(0.003)	(0.004)	(0.009)
Announce Restatement	0.014***	0.010**	0.034***
	(0.004)	(0.004)	(0.011)
Board Size	–0.002**	–0.001*	–0.003
	(0.001)	(0.001)	(0.002)
Board Independence	0.024	0.027	0.007
	(0.016)	(0.017)	(0.049)
Board Tenure	0.000	0.000	0.002
	(0.000)	(0.000)	(0.001)
Board Reputation	–0.001	–0.001	0.003
	(0.001)	(0.001)	(0.003)
CEO Duality	–0.006**	–0.005*	–0.009
	(0.003)	(0.003)	(0.008)
CEO Tenure	0.000	0.000	0.001
	(0.000)	(0.000)	(0.001)

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

(continued on next page)

TABLE 6: Estimation of the *Reported ICMW* Model (Cont.)

DV = *Reported ICMW*	(1) Full Sample	(2) *Partner Change* Unavailable	(3) *Partner Change* Available
AC Size	–0.000	0.000	–0.001
	(0.001)	(0.001)	(0.003)
AC Tenure	0.002***	0.002***	0.001
	(0.001)	(0.001)	(0.001)
Mgmt Turnover	0.003	0.003	0.002
	(0.003)	(0.003)	(0.007)
AC Turnover	0.009***	0.008**	0.014*
	(0.003)	(0.003)	(0.008)
Big4	–0.022***	–0.023***	–0.011
	(0.004)	(0.004)	(0.010)
Audit Fees	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)
Nonaudit Fees	–0.000**	–0.000	–0.001**
	(0.000)	(0.000)	(0.000)
Constant	–0.034	–0.033	–0.033
	(0.025)	(0.026)	(0.072)
Industry Fixed Effects	Yes	Yes	Yes
Test *Firm Change – Office Change* = 0	0.061***	0.073***	0.014
Test *Firm Change – Partner Change* = 0			0.042**
Test *Office Change – Partner Change* = 0			0.028
Observations	21,877	18,365	3,512
R-squared	0.130	0.132	0.131

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

This table presents the results of the following ordinary least squares regression:

$$Reported\ ICMW_{it} = \beta_{1a} Firm\ Change_{it} + \beta_{1b} Office\ Change_{it} + \beta_{1c} Partner\ Change_{it} + \text{Control Varaibles} + \text{Industry Fixed Effects} + \varepsilon_{it}$$

All variables are defined in the Appendix. For column (1), the full sample period (2005-2019) is used. Column 2 (3) uses the sample observations where *Partner Change* is unavailable (available). *Partner Change* is available for my entire sample in 2018 and 2019 and for the portion of my sample in 2016 and 2017 that were Form AP early adopters. Industry fixed effects are included for the 15 industries listed in Table 2, Panel C.

TABLE 7: Detailed Examination of the Engagement Team Changes

DV = *Reported ICMW*	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Firm Change	0.049***			0.052***	0.052***		0.053***
	(0.019)			(0.019)	(0.019)		(0.019)
Office Change		0.041**		0.043**		0.036*	0.039**
		(0.018)		(0.018)		(0.019)	(0.019)
Partner Change			0.013		0.014*	0.009	0.011
			(0.008)		(0.008)	(0.008)	(0.008)
Pred. Existing ICMW	0.326***	0.335***	0.334***	0.325***	0.324***	0.334***	0.324***
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Company Age	0.002	0.002	0.002	0.002	0.002	0.002	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Market Value	–0.005*	–0.005*	–0.005*	–0.005*	–0.005*	–0.005*	–0.005*
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Aggregate Loss	–0.003	–0.002	–0.003	–0.002	–0.003	–0.002	–0.002
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Altman Z-score	–0.001	–0.001	–0.001	–0.001	–0.001*	–0.001	–0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
New Xfin	–0.033	–0.030	–0.030	–0.034	–0.033	–0.030	–0.034
	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Segments	–0.007	–0.006	–0.006	–0.006	–0.006	–0.006	–0.006
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Foreign Transactions	–0.001	–0.001	–0.001	–0.000	–0.001	–0.001	–0.001
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Restructuring Charges	–0.213	–0.228*	–0.218	–0.227*	–0.216	–0.229*	–0.227*
	(0.136)	(0.136)	(0.136)	(0.136)	(0.136)	(0.136)	(0.136)
M&A Value	–0.002	–0.003	–0.003	–0.003	–0.002	–0.003	–0.003
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Extreme Sales Growth	0.015	0.016*	0.016*	0.016	0.015	0.016*	0.016*
	(0.009)	(0.009)	(0.010)	(0.009)	(0.009)	(0.009)	(0.009)
Announce Restatement	0.034***	0.034***	0.034***	0.034***	0.034***	0.034***	0.034***
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Board Size	–0.003	–0.003	–0.003	–0.003	–0.003	–0.003	–0.003
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Board Independence	0.001	0.010	0.007	0.006	0.003	0.010	0.007
	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)	(0.049)
Board Tenure	0.002	0.002	0.001	0.002	0.001	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Board Reputation	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
CEO Duality	–0.009	–0.009	–0.009	–0.009	–0.010	–0.009	–0.009
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
CEO Tenure	0.001	0.000	0.000	0.000	0.001	0.000	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

(continued on next page)

TABLE 7: Detailed Examination of the Engagement Team Changes (Cont.)

DV = *Reported ICMW*	(1)	(2)	(3)	(4)	(5)	(6)	(7)
AC Size	–0.000	–0.001	–0.001	–0.001	–0.001	–0.001	–0.001
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
AC Tenure	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Mgmt Turnover	0.003	0.003	0.003	0.002	0.002	0.003	0.002
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
AC Turnover	0.014*	0.014*	0.014*	0.014*	0.014*	0.014*	0.014*
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Big4	–0.012	–0.012	–0.013	–0.011	–0.012	–0.012	–0.011
	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Audit Fees	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Nonaudit Fees	–0.001**	–0.001**	–0.001**	–0.001**	–0.001**	–0.001**	–0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant	–0.025	–0.026	–0.022	–0.032	–0.027	–0.027	–0.033
	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Test *Firm Change – Office Change* = 0				0.009			0.014
Test *Firm Change – Partner Change* = 0					0.038*		0.042**
Test *Office Change – Partner Change* = 0						0.027	0.028
Observations	3,512	3,512	3,512	3,512	3,512	3,512	3,512
R-squared	0.130	0.129	0.128	0.131	0.130	0.129	0.131

Standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

This table presents the results of the following ordinary least squares regression:

$$Reported\ ICMW_{it} = \beta_{1a} Firm\ Change_{it} + \beta_{1b} Office\ Change_{it} + \beta_{1c} Partner\ Change_{it} + \text{Control Varaibles} + \text{Industry Fixed Effects} + \varepsilon_{it}$$

All variables are defined in the Appendix. This table uses the sample for which *Partner Change* is available. *Partner Change* is available for my entire sample in 2018 and 2019 and for the portion of my sample in 2016 and 2017 that were Form AP early adopters. In the first three columns, I include *Firm Change*, *Office Change*, and *Partner Change* individually. Columns 4-6 feature different pairings of the engagement team change variables. For comparison, Column 7 includes all three of the engagement team changes. Industry fixed effects are included for the 15 industries listed in Table 2, Panel C.