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Are auditors rewarded for low audit quality? The case of auditor lenience in the insurance industry

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ABSTRACT

Using unique disclosures from the insurance industry, we identify instances where auditors plausibly allow clients to opportunistically utilize discretion in accounting estimates to manipulate losses to reported profits (i.e., auditor lenience). Auditing standards and SEC guidance state that auditors should consider whether a misstatement shifts a loss to a profit as a qualitative factor when evaluating the materiality of misstatements. We find that audit office lenience is positively associated with subsequent market share changes. The effect is driven by increases in the likelihood of keeping existing, non-manipulating clients. In generalizability tests, we find similar inferences in the banking industry when using bank-specific disclosures and across all industries when measuring auditor lenience using likelihood of issuing going-concern opinions. These results highlight settings where auditors may be rewarded for lenience, specifically when management values financial reporting discretion and auditors can avoid publicized audit failures.

1. Introduction

In this study, we utilize the insurance industry as a setting to examine whether auditors are rewarded or punished for allowing clients to use financial reporting discretion opportunistically. Specifically, we examine whether audit offices allowing clients to manipulate losses into reported profits by under-reserving estimated claim losses is associated with subsequent changes in their share of the market of non-manipulating clients. Manipulation of a loss to a profit is a qualitative factor that auditors are required to consider when evaluating the materiality of uncorrected misstatements (AS 2810 and Staff Accounting Bulletin 99). Thus, such allowances by auditors plausibly represent instances of low-quality auditing.

The motivation for this study comes from several literatures. First, auditors are punished when they are associated with publicized instances of audit failures such as restatements (Swanquist and Whited 2015) and accounting scandals (Weber et al. 2008; Skinner and Srinivasan 2012). Second, previous literature has examined settings where auditors are potentially incentivized to appease management but has generally not found evidence of compromised audit quality. For example, in contrast with auditors giving into the demands of influential clients, Reynolds and Francis (2001) find evidence consistent

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with auditors not compromising audit quality when auditing their largest clients. Similarly, the non-audit services literature has extensively examined whether economic dependence due to providing non-audit services to audit clients harms audit quality and has found little evidence of a negative association between non-audit services and audit quality (DeFond and Zhang 2014). Overall, the findings of the previous literature are consistent with auditors being punished for publicized audit failures and seeking to provide high audit quality, or at least audit quality that avoids publicized audit failures.

While we know that auditors are negatively affected by publicized audit failures, we do not know whether auditors face consequences for providing low-quality auditing in the absence of publicized audit failures. A primary reason for this is the difficulty in measuring audit quality outside of using proxies that capture publicized instances of failure (e.g., restatements) or capture audit quality with substantial noise (e.g., abnormal accruals). An innovation of our study is that we identify relatively clear instances of auditors allowing clients to use financial reporting discretion to report profits instead of losses (i.e., auditor lenience), but where public disclosure of a failure (e.g., via a restatement) may be avoided. These instances plausibly represent low-quality auditing given that auditing standards and SEC guidance state that auditors should consider the use of a misstatement to change a loss into a profit as a qualitative factor when evaluating the materiality of uncorrected misstatements (AS 2810.B2 and Staff Accounting Bulletin 99).

We examine estimated claim losses and subsequently realized losses of public insurers to identify instances of auditor lenience. The existence of ex post information allows for precise calculation of the error in the claim loss reserve, enabling us to assess the reliability (accuracy) of clients' estimates of future insurance policy losses. The claim loss reserve is one of the most important accounts for insurance companies and is subject to considerable judgment (Petroni and Beasley 1996). Financial reporting standards require insurance companies to disclose year-by-year revisions to year *t*'s estimated claim loss reserve for 10 years. Thus, as information relating to year *t* claims is revealed in subsequent years, the financial statements of insurance companies reveal any bias in year *t*'s originally estimated claim losses (Beaver et al., 2003). We utilize these subsequent disclosures to identify insurers that under-reserved in year *t* resulting in a reported profit, rather than a loss, in year *t* (we call these insurers "manipulators").[1] Per auditing standards, intentional misstatements, even small ones, can be material if they shift a loss to a profit.[2] Also, the propensity to meet or beat the zero earnings threshold for public companies is indicative of low audit quality, as measured by auditors and the PCAOB (Aobdia 2019). Thus, in these instances the auditor has arguably performed a low-quality audit by allowing the manipulator to exercise discretion to shift a loss to a reported profit. Despite these instances representing low audit quality, they do not carry much financial statement restatement risk.[3]

Using the proportion of manipulating clients within the portfolio of an audit office, we create a continuous measure of auditor lenience at the audit-office level.[4] A higher (lower) value indicates that the audit office has allowed more (less) manipulation of losses into profits and is thus more lenient (stricter) relative to other audit offices in the same MSA-year.[5] We find that the relative extent of manipulation allowed by an audit office in an MSA-year is positively associated with subsequent audit office market share change based on non-manipulating clients. That is, relatively more lenient (stricter) auditors are associated with an increase (decrease) in office-level market share of non-manipulating clients. Additionally, the results are consistent when measuring auditor lenience over a three-year period, suggesting that audit offices that persistently allow their clients to use the claim loss reserve to manipulate losses to reported profits have a larger market share. These results suggest that auditors are rewarded for allowing client management to opportunistically exercise discretion over financial reporting to report profits instead of losses. Economically, a one standard deviation increase in allowed relative manipulation for an audit office in year *t* corresponds to a 4.5 percentage point increase in year *t+1* client-based market share.

We next explore whether the increase (decrease) in market share for more lenient (stricter) audit offices is due to gaining new, non-manipulating clients or keeping (losing) existing, non-manipulating clients. We find that the relative extent of manipulation allowed by an audit office in an MSA-year is not associated with gaining new clients in year *t+1*, but is

[1] Prior research concludes that this type of manipulation is earnings management, that earnings management via the claim loss reserve is pervasive, and that public insurers, in particular, use the claim loss reserve to avoid reporting losses (Petroni and Beasley 1996; Beaver et al., 2003). However, recent research (e.g., Stuber and Hogan 2021) suggests that the Public Company Accounting Oversight Board has pushed auditors to be overly skeptical when auditing estimates, resulting in auditors being overly conservative. Thus, it is possible that "manipulators" represent instances where auditors are more neutral towards their clients. While we do not think this is the case given that we use observable ex post error that shifts a loss to a profit, the reader should keep this possibility in mind when interpreting our analyses and conclusions.

[2] Even a relatively small misstatement, if "made intentionally could be material for qualitative reasons" (AS 2810.17). Eight of the largest U.S. audit firms report that they consider whether a misstatement changes a loss into a profit as a qualitative factor when evaluating misstatements (Eilifsen and Messier 2015).

[3] See section 7.2 for a discussion of restatement and litigation risk and related empirical analyses. Descriptively, we find very little ex post restatement and litigation risk for the auditor that directly relates to the claim loss reserve. Related multiple regression analyses also suggest that auditor lenience related to the claim loss reserve is unrelated to client restatement and litigation risk. Due to the limited number of restatements and lawsuits directly related to the claim loss reserve, the multiple regression analyses utilize all accounting-related client litigation and all severe restatements, measured at the audit-office and client level using public insurer clients. Thus, inferences from these multiple regression analyses are subject to power limitations.

[4] We focus on office-level measures, as prior research indicates that audit quality varies across offices within the same firm (e.g., Choi et al., 2010; Francis and Yu 2009), and clients respond to office-level audit failures (Swanquist and Whited 2015).

[5] Our measure cannot identify with certainty that a specific audit is of low quality, as there could be many legitimate reasons why, at the time of the audit, it is unclear that the claim loss reserve is too low. However, our measure does capture the extent to which an audit office has clients that under-reserve to switch losses to profits relative to other audit offices located within the same MSA. Thus, we believe larger values of our measure capture on average relative low audit quality.

negatively associated with losing existing clients in year *t+1*. In a client-level regression, we find clients of more lenient (stricter) audit offices are less likely (more likely) to dismiss their auditor in year *t+1*. These analyses suggest that our primary results are due to existing, non-manipulating clients choosing to remain with (dismiss) their auditor when their auditor is more lenient (stricter).

While our primary setting of public insurers provides measurement advantages, a natural question is whether our conclusions are generalizable. Thus, we perform four tests of generalizability, two within the insurance industry and two in non-insurance settings. First, we repeat our primary analysis after including public *and* private insurers in the sample. Private insurers have less incentive to manage losses to profits (Beaver et al., 2003). However, advantages of including private insurers are (1) a larger sample size of insurers and audit offices providing increased power and (2) a broader measure of insurance-industry market share. Our primary inferences are robust to including private insurers.

Second, we define manipulators using the setting of Insurance Regulatory Information System (IRIS) ratios, which insurance regulators use to oversee the financial health of insurers. Insurers have incentives to manage these ratios such that they appear healthy. Prior research defines insurers as financially weak if they have more than three unusual ratios (e.g., Gaver and Paterson 2007). Thus, we define manipulators as those insurer-years where the insurer would have reported more than three unusual IRIS ratios but did not due to misestimating claim losses in year *t*. These represent instances where the insurer opportunistically utilizes discretion in the claim loss reserve to appear financially healthier. We find that the relative number of IRIS manipulators an audit office has in year *t* is positively associated with subsequent audit office market share growth. These results are robust to examining public and private insurers.

Third, we utilize a sample of bank clients and consider the difference in the loan loss provision and subsequent charge-offs to estimate the bias in the allowance for loan losses. This approach is subject to more noise than our primary measure using the insurance industry because, unlike claim losses, the disclosure of subsequent realizations of loan losses is not tied to specific estimation periods. Using this estimate of bias, we estimate the extent to which an audit office allows bank clients to manipulate losses to profits. Consistent with our results in the insurance industry, we find that more lenient (stricter) audit offices are associated with increases (decreases) in their market share of non-manipulating bank clients.

Fourth, to examine a broad cross-section of industries, we construct a measure of audit office lenience based on propensity of the audit office to issue going concern opinions. We find that lenient offices (i.e., those least likely to issue going concern opinions) are positively associated with subsequent increases in market share. Overall, these tests suggest that audit office lenience is rewarded in different settings using alternative measures of audit office lenience.

Next, in an exploratory analysis we examine potential determinants of audit office lenience. First, we find that industry experts are less likely to be lenient auditors. Second, audit offices are less lenient following restatement announcements, consistent with audit offices becoming stricter in response to litigation and reputation risk from restatements.

Finally, using our primary sample of public insurers, we explore whether audit offices that allow clients to manipulate losses to reported profits are associated with client restatements or litigation. Both clients and auditors want to avoid the negative consequences of restatements and litigation. As restatements and litigation directly related to the claim loss reserve are relatively rare, we consider all accounting-related client litigation and all severe restatements, measured at the audit-office and client level using public insurer clients.[6] We find no association between auditor lenience and severe misstatement likelihood and between auditor lenience and accounting-related client litigation likelihood at the audit-office or insurer level. Overall, we do not find evidence suggesting that auditor lenience related to the claim loss reserve is associated with a significant increase in the likelihood of publicized audit failure.

We contribute to the literature on market effects of audit quality. Previous studies provide evidence of negative market share consequences for auditors when they are associated with publicized audit failures (e.g., Weber et al., 2008; Skinner and Srinivasan 2012; Swanquist and Whited 2015). While auditors have strong incentives to provide high-quality audits and numerous studies provide evidence consistent with these incentives, auditors may also have profit and market share incentives that could, at times, conflict with reputation and litigation incentives for providing high-quality audits. Extant literature has examined settings such as influential clients, non-audit services, and auditor tenure where auditors could have strong profit and market share incentives and has generally not found evidence of auditors providing low audit quality (DeFond and Zhang 2014). Using the insurance setting, we provide evidence that is consistent with auditors being rewarded for providing low audit quality in a setting where management likely values significant discretion over financial reporting and the auditor can avoid publicized audit failures. Further analyses provide some evidence that our inferences generalize to settings where similar incentives may exist outside of the insurance industry.

Our evidence is particularly interesting given concurrent work that finds evidence consistent with auditors being punished for providing high-quality internal control audits (Cowle and Rowe 2019). This evidence should be of interest to regulators (e.g., the PCAOB) and audit committees, whose aim is to ensure high audit quality, and to investors who rely on financial statements. Specifically, for PCAOB inspections, our findings underscore the importance of the auditor's consideration of qualitative materiality factors and ex post realizations when auditing estimates and related internal controls (AS 2501.06). Additionally, audit committee members and investors could consider such evidence of low audit quality during audit tendering and when evaluating the reliability of the financial statements.

[6] We define severe (i.e., "Big R") restatements as those misstatements with 8-K item 4.02 disclosures. We find similar inferences when we consider all restatements (i.e., both "Big R" and "little r" restatements).

We also contribute to the literature that focuses on the property-casualty insurance industry. This literature documents pervasive earnings management (Beaver et al., 2003; Gaver and Paterson 2004), yet also finds that auditors allow less discretion for their most important clients (Gaver and Paterson 2007). Beyond client incentives to manage earnings, it is plausible that some auditors of insurers are lenient with respect to earnings management, especially when punishment is less likely. Thus, auditor lenience could be a contributing factor to why evidence of earnings management remains. Additionally, we contribute to the literature on auditor materiality (e.g., Acito et al., 2019; Choudhary et al., 2019) by providing evidence that suggests that auditors may, at times, overlook qualitative factors when evaluating misstatements and are rewarded with increased market share for doing so. Finally, our results contribute to the opinion shopping literature (Lennox 2000; Newton et al., 2016) by focusing on auditor market share of non-manipulating clients versus focusing on responses of individual clients to their own audit opinions.

2. Related literature and hypothesis development

2.1. Auditor's incentives to provide high-quality auditing

Theory suggests that reputation and litigation incentives motivate auditors to provide high-quality audits (DeAngelo 1981; Palmrose 1988). Prior literature documents the negative effects of failing to provide high audit quality. For example, after PwC's Japanese affiliate, ChuoAoyama, was associated with a massive client fraud, the audit firm lost approximately 25 percent of its clients (Skinner and Srinivasan 2012). Similarly, KPMG Germany experienced increased client losses after being associated with the ComROAD AG accounting scandal (Weber et al., 2008). In the U.S., audit firms' market share decreases with higher levels of client restatements (Swanquist and Whited 2015). There is also evidence that auditors respond to instances of publicized audit failure by improving audit quality (e.g., Lennox and Li 2014). Overall, the literature suggests that auditors seek to avoid publicized audit failures.

The literature has also examined factors, including client size, non-audit services, and auditor tenure, where there are potential incentives for auditors to provide low-quality auditing (i.e., in these settings, it is possible that auditor and client incentives are aligned). For example, as the audit office is the "decision-making unit of the [audit] firm" (Reynolds and Francis 2001, 376), it is possible that audit offices cater to their most influential (e.g., largest) clients due to economic dependence. However, Reynolds and Francis (2001) find evidence that suggests auditors recognize larger clients represent greater litigation risk and these concerns lead auditors to execute more conservative audits for the most important office-level clients.

Regarding non-audit services, auditors could experience knowledge spillovers when providing non-audit services to their audit clients, because these services provide greater knowledge about the company as a whole. This would improve audit quality. However, it is also possible that these services impair the auditor's independence, because the auditor becomes dependent on the revenue from the non-audit services. There is an extensive literature on non-audit services, and, in general, the literature fails to find evidence that non-audit services impair auditors' independence (DeFond and Zhang 2014). In other words, auditor incentives when providing non-audit services do not, on average, seem to result in the auditor deciding to allow the client to opportunistically utilize significant financial reporting discretion.

Regulators have expressed concerns that long-standing auditor-client relationships impair auditor independence because the auditor becomes too familiar with the client. These concerns led to mandatory tendering requirements in the European Union. However, the evidence on auditor tenure generally finds that longer tenure leads to better audits, suggesting that positive effects of client-specific knowledge gained through a long-standing auditor-client relationship are greater than negative effects due to familiarity with the client (DeFond and Zhang 2014).

Thus, the literature has documented instances of publicized auditor failure, consequences of such failure, and a general tendency of auditors to try to provide high-quality auditing. The literature has also generally not found, on average, low-quality auditing in situations where auditors could have incentives to acquiesce to management's wishes such as when dealing with influential clients, providing non-audit services, or having long-standing relationships with clients.

There are several potential reasons for the lack of evidence that auditors, at times, willingly provide low-quality auditing. First, it is possible that auditors do not provide low-quality auditing, even in scenarios where they may have incentives to do so, because incentives to avoid publicized audit failures to mitigate reputation and litigation damage dominate. Second, it could be that auditors do provide low-quality auditing in some instances, but academics have been unable to document this because existing measures of non-publicized audit failures, which might not trigger reputation or litigation penalties, are noisy (e.g., abnormal accruals) and independent variables of interest, such as auditor tenure or non-audit service fees, are endogenously determined.[7] The insurance industry is unique in that it provides a setting where (1) financial reporting requirements allow for relatively precise measurement of the use of estimates to switch losses into profits, and (2) the use of

[7] There is also a literature on opinion shopping, which suggests that auditors could be rewarded for providing clients (or potential clients) a desired opinion. Specifically, opinion shopping occurs when clients choose their auditor based on perceived likelihood of obtaining a desired opinion. There is some evidence that clients engage in audit opinion shopping using non-U.S. data (e.g., Lennox 2000) and using U.S. data prior to but not after SOX (Newton et al., 2016). Additionally, Newton et al. (2016) find evidence of internal control opinion shopping in the U.S. using data after SOX. However, Ettredge et al. (2011) provide evidence that clients that switch auditors after receiving adverse internal control opinions switch to higher quality auditors, suggesting that auditors are not rewarded for providing low-quality internal control audits.

estimates to switch losses into profits is unlikely to trigger restatements, meaning that auditors can avoid publicized audit failures. These unique features allow us to overcome some of the potential limitations of proxies used in prior studies, enabling us to take an important step forward in better understanding situations when auditors may be incentivized to provide low audit quality.

2.2. Related literature within the property-casualty insurance industry

The property-casualty insurance industry literature that is relevant to our research question focuses on the bias of the estimated claim loss reserve. The bias in year *t* can be calculated objectively because of ex post disclosures on actual claim losses that relate to year *t*. Using this information, prior literature documents pervasive earnings management via the loss reserve estimate. Earnings management using the claim loss reserve is present throughout the earnings distribution, and small-profit firms (firms with the highest earnings) have the most income-increasing (-decreasing) reserve estimates (Beaver et al., 2003). Using a sample of 197 property-casualty insurer observations from 1979 to 1983, Petroni and Beasley (1996) find evidence of numerous material errors in claim loss reserves. "Ninety percent of all sample insurer-years exhibit material errors. For those that exceed planning materiality, the mean error is over 17 times materiality in absolute terms and over 5 times materiality in signed terms" (Petroni and Beasley 1996, 152). In addition to managing reserves to avoid losses, insurers manage reserves to avoid violating more than three IRIS ratios, as more than three violations increases the likelihood of regulatory intervention (Gaver and Paterson 2004).

2.3. Hypothesis development

While auditors are motivated to provide high-quality audits to protect their reputation, avoid litigation, and adhere to regulatory requirements, clients have incentives which are, at times, at odds with high audit quality. For example, clients have incentives to meet earnings benchmarks, such as reporting profits. Thus, while clients may generally desire high financial reporting quality, which is harmonious with high audit quality, when clients are in a loss position, they have strong incentives to use financial reporting discretion to report a profit instead. In our setting, insurance clients are most likely to use the estimate of claim losses to manipulate a potential reported loss into a reported profit (Beaver et al., 2003). Despite being a qualitative factor that auditors are directed to consider when evaluating the materiality of misstatements, this type of manipulation does not typically trigger subsequent restatements in practice.

Auditors and clients want to avoid clear, publicized signals of audit and financial reporting failures, such as restatements (Hennes et al. 2008, 2014). If these publicized signals of failures can be avoided, it is possible that auditors could be rewarded for allowing clients to exercise the financial reporting discretion they so desire. If a client values financial reporting discretion, then the client is more likely to hire and less likely to dismiss an auditor that allows such discretion.[8]

However, there are reasons why auditors could be punished for allowing clients significant financial reporting discretion. First, auditing standards and SEC guidance specifically mention that auditors should consider whether misstatements shift a reported loss to a reported profit when evaluating the materiality of misstatements (AS 2810; SAB 99). Thus, if stakeholders can accurately assess an auditor's quality, then clients may want to avoid hiring auditors known to allow clients to have significant financial discretion (i.e., clients could suffer consequences for hiring an auditor that is known to provide low audit quality). Also, there is ample evidence of auditors being penalized for providing low audit quality, as captured by publicized audit failures (i.e., restatements). Finally, the propensity to allow clients to manipulate losses to profits is positively correlated with low audit quality as captured by PCAOB Part I inspection deficiencies and deficiencies identified in audit firms' internal inspections (Aobdia 2019).[9] Thus, it is possible that auditors could also be penalized for providing low audit quality that does not result in publicized audit failures. Given the competing predictions, we state our hypothesis in the null as follows:

H1. Audit office lenience is not associated with subsequent changes in audit office market share.

3. Research design

3.1. Variable measurement

3.1.1. Measure of profit manipulator intensity

We are able to measure the error in estimated claim losses due to the financial reporting requirements that require insurers to disclosure year-by-year revisions to year *t*'s estimated claim loss reserve for 10 years. We use the disclosure of estimate revision to calculate the error in the originally recorded estimate (Petroni 1992; Petroni and Beasley 1996; Gaver and Paterson, 2001, 2004, 2007). We utilize a five-year lookback period, as prior literature indicates that the majority of claims

[8] This is the same logic used in the opinion-shopping literature (e.g., Newton et al., 2016).

[9] In contrast to Aobdia (2019), Lennox et al. (2016) use audit adjustment data from China and do not find evidence that auditors affect the propensity of clients to meet or beat zero earnings.

have been paid in that period.[10] We then subtract the amount of error in the claim loss reserve from reported net income to determine the net income that should have been reported if an accurate claim loss reserve had been recorded in year t (*Adjusted Net Income*). The calculation is as follows:

$$Adjusted\ Net\ Income_{it} = Recorded\ Net\ Income_{it} - [(Claim\ Loss\ Error_{it}) \times (1 - Tax\ Rate_{it})] \quad (1)$$

where:

i = identifier for public insurer audited by office j

t = time period.

$Recorded\ Net\ Income_{it}$ = the amount of net income recorded for insurer i in year t.

$Claim\ Loss\ Error_{it}$ = the amount of error in the claim loss reserve for insurer i in year t, based on a five-year lookback period. See Appendix B for specific details on the calculation and an example.

$Tax\ Rate_{it}$ = income tax expense divided by net income before tax for insurer i in year t. Any value less (more) than zero (one) is assigned a value of zero (one) (Dyreng et al., 2008).

If the reported net income is positive, but the adjusted net income is negative we consider the insurer to be a profit manipulator (*Profit Manipulator*). While we acknowledge that there is some level of error in any estimate, true error should not result in a systematic bias, but rather a relatively equal distribution of errors above and below the true value. Prior literature has shown that insurers opportunistically use the claim loss reserve to manipulate their earnings (e.g., Beaver et al., 2003); thus, audit offices that are characterized by higher levels of profit manipulators are likely to be those that allow management more financial reporting discretion, and ultimately, provide lower audit quality.[11] Therefore, we use the profit manipulator indicator to calculate our proxy for office-level audit quality (*Profit Manipulator Intensity*) as follows:

$$Profit\ Manipulator\ Intensity_{jt} = \left(\sum_{i=1}^{N} Profit\ Manipulator_{it} \right) \quad (2)$$

where:

j = office identifier

i = identifier for public insurers audited by office j

t = time period.

$Profit\ Manipulator_{it}$ = indicator variable equal to 1 if insurer i reports a positive net income but has a negative *Adjusted Net Income* in time t, and zero otherwise.

N = number of insurer clients audited by office j in year t.

Stuber and Hogan (2021) find evidence in the banking industry suggesting that auditors respond to PCAOB inspections and calls for increased professional skepticism by becoming more conservative, resulting in less accurate estimates. Thus, in our setting, it is possible that audit offices that are characterized by higher levels of profit manipulators are more neutral (i.e., higher-quality) auditors. While this is a possibility, we do not interpret our proxy in this way, because the profit manipulator variable is defined using observable ex post error that shifts a loss to a profit and auditing standards state that a misstatement that shifts a loss to a profit can be considered material (AS 2810; Eilifsen and Messier 2015). However, the reader should keep this possibility in mind when interpreting our analyses and conclusions.

Consistent with Swanquist and Whited (2015), we expect that the market-share effects of audit-office level characteristics are based on the nature of the office relative to other offices located within the same MSA. The extent to which audit quality affects the market share of an office is likely based on the evaluation of that office's quality relative to the other options available to an insurer within a local area. Thus, we demean our measure of profit manipulator intensity by the level of intensity for all other offices in a given MSA. The calculation is performed as follows:

$$Relative\ Lenience_{jt} = \frac{1}{N} Profit\ Manipulator\ Intensity_{jt} - \frac{1}{M} Profit\ Manipulator\ Intensity_{mt} \quad (3)$$

j = office identifier

m = MSA identifier for office j

[10] The five-year time period is consistent with prior studies examining the accuracy of the claim loss reserve estimate (e.g., Petroni 1992; Gaver and Paterson 2004; Gaver and Paterson 2007; Petroni and Beasley 1996; Gaver and Paterson 2001).

[11] We focus our primary analysis on the zero earnings benchmark as opposed to regulatory ratios for several reasons. First, auditing standards and SEC guidance specifically identify manipulating losses to profits as a qualitative materiality factor, and literature suggests that allowing public clients to manipulate losses to profits represents low audit quality (Aobdia 2019). Additionally, while clients also have incentives to manage the claim loss reserve estimate to meet regulatory ratio thresholds (Gaver and Paterson 2004), the direct effect of estimate error on the overall ratios is less salient to auditors relative to the zero earnings threshold. For example, while understating the claim loss reserve always increases income, it does not always improve regulatory ratios. We perform an analysis using the regulatory ratio setting later in this paper.

t = time period.
Profit Manipulator Intensity$_{jt}$ = total number of profit manipulators audited by office j in year t.
Profit Manipulator Intensity$_{mt}$ = total number of profit manipulators located in MSA m not audited by office j in year t.
N = number of insurer clients audited by office j in year t.
M = number of insurers in MSA m not audited by office j.

Thus, *Relative Lenience* is a measure of the level of profit manipulating allowed within a given audit office, relative to the profit manipulating by other offices in an MSA. A positive (negative) value of *Relative Lenience* indicates that an auditor is more lenient (stricter) relative to other auditors in the same MSA-year.

3.1.2. Measure of change in market share

To determine the consequences of allowing clients to use a complex estimate to manipulate losses to reported profits, we examine the change in an individual audit office's market share within an MSA based on an office's share of non-manipulating public insurer clients.[12]

$$\Delta Market\ Share_{jt+1} = \left[\left(\frac{Office\ Size_{jt+1}}{MSA\ Size_{mt+1}}\right) - \left(\frac{Office\ Size_{jt}}{MSA\ Size_{mt}}\right)\right] \Big/ \left(\frac{Office\ Size_{jt}}{MSA\ Size_{mt}}\right) \quad (4)$$

j = office identifier
m = MSA identifier for office j
t = time period.
Office Size$_{jt}$ = number of insurers audited by office j in year t.
MSA Size$_{mt}$ = number of insurers within MSA m in year t.

Our measure of audit office change in market share is similar to prior literature (e.g., Swanquist and Whited 2015), except (1) we are unable to remove auditor resignations because the NAIC database does not provide information on the reason for an auditor change and (2) we exclude the manipulating clients from our market share change calculation. We make this latter exclusion for two reasons. First, this exclusion allows us to capture how non-manipulating clients respond to low-quality audits. This is arguably much more interesting than how manipulating clients respond, as it seems rather straight forward that a manipulating client would want an auditor that would allow the manipulation. Second, we expect that the manipulating clients are subject to a unique set of incentives and pressures that are not representative of an audit office's overall client portfolio. For example, manipulating clients could be financially unhealthy (hence, why they need to manipulate), and as such, the auditor could be more likely to resign from such clients. Overall, focusing our market share measures on non-manipulating clients helps to more cleanly test our hypothesis.

3.2. Research design

To examine the effect of allowing clients financial reporting discretion on an audit office's share of the local audit market, we estimate the following model:

$$\Delta Market\ Share_{jt+1} = \beta_0 + \beta_1 Relative\ Lenience_{jt} + \beta X_{jt} + fixed\ effects + \varepsilon_{jt} \quad (5)$$

where Δ*Market Share* and *Relative Lenience* are defined as described in section 3.1. X_{jt} is a vector of control variables. We include variables to control for the proportion of the audit office's insurer portfolio that is public (*Public*), the number of clients in the portfolio (*Clients*), whether an auditor is both a national and local expert (*Expert*), auditor market share in t (*Market Share*), and the lagged change in market share (Δ*Market Share*). We include controls for the mean asset size (*Mean Office Client Size*), profitability (*Mean Office Client ROA* and *Mean Office Client Loss*), risk (*Mean Office Client Leverage*), liquidity (*Mean Office Client Cash*), and growth (*Mean Office Client Growth*) of the public insurer-clients in an office's portfolio. Because Swanquist and Whited (2015) demonstrate that high levels of restatements can negatively affect an office's market share we also control for an office's restatement disclosure rate relative to the restatements disclosed in the MSA (*Relative Restate Announce*). We include the mean level of absolute bias in the claim loss reserve (*Mean Office Client Absolute Bias*) to control for the average level of error across all clients within an office. We also control for the average fees charged by the audit office relative to the average fees charged by other offices within the MSA (*Relative Fee*).[13] We estimate model (5) with audit firm × year fixed effects to control for time-invariant and time-varying audit firm characteristics and overall trends in market share during the sample period. We also include MSA fixed effects to control for time-invariant MSA characteristics. We cluster standard errors by audit office.

[12] As noted in the sample selection section, we obtain data on insurers from statutory filings, which do not separate audit fees from legal fees. Thus, we do not consider market share based on audit fees. To be clear regarding the market-share calculation, if a client manipulates in year t, then we exclude that client's observations from year t and $t+1$ for the calculation of $\Delta Market\ Share_{jt+1}$ noted in model (4). The manipulating client-year is also removed from all associated control variables included in model (5). In other words, for a given audit-office-year observation in model (5), we remove the manipulating client-year from the calculations of all audit-office-year variables that are included in model (5) with the exception of *Relative Lenience*.

[13] As noted in footnote 12, the statutory filings do not separate audit fees from legal fees. Thus, *Relative Fee* is undoubtedly a noisy approximation of relative audit fees. Results are robust to the exclusion of this control variable.

Table 1
Sample selection.

Panel A: Sample for Calculation of Relative Manipulation Intensity	
Observations in NAIC Regulatory Data from 2002 to 2014	33,925
Less:	
Non-public insurer-years	(21,770)
Missing information on assets, fees, or premiums written	(3377)
Missing auditor information	(112)
Missing MSA	(87)
Missing 5 years of reserve development data	(510)
Insurer-year observations for calculation of manipulation intensity	8069
Less:	
Profit Manipulators	(718)
Insurer-years audited by offices with no competitors or only one insurer client	(746)
Insurer-years with insufficient data to calculate controls	(760)
Singleton observations	(120)
Final insurer-year sample	5725
Panel B: Sample for Office-Level Analysis	
Unique office-years with public clients from 2002 to 2014	1348
Less:	
Office-years with no competitors or only one insurer client	(513)
Office-years with insufficient data to calculate controls	(81)
Singleton observations	(87)
Final office-year sample	667

4. Sample selection and descriptive statistics

We obtain data on property and casualty insurance companies from insurance statutory filings with the National Association of Insurance Commissioners (NAIC) through the S&P Market Intelligence Database and A.M. Best from 2002-2019.[14] Five years of future data are required to compute the loss reserve error, resulting in a sample period of 2002−2014. We remove all observations missing auditor identity, MSA, or other data necessary to calculate variables of interest. We remove all non-public insurers for our primary analysis, resulting in a sample of 8,069 insurer-year observations for calculating office-level variables, as shown in Table 1, Panel A.[15] For our primary analyses we focus on public insurers because they have greater incentives than private insurers to manage earnings to switch losses to profits (Beaver et al., 2003).[16]

As detailed in Table 1, Panel B, the 8069 observations represent 1348 unique audit office-years. We remove all audit office-years for which there are no competitors (i.e., no other offices auditing public insurers within an MSA) and all office-years with only one public insurer client. We also remove office-years with insufficient data to calculate control variables. Finally, to avoid bias in standard errors we remove singleton observations (deHaan, 2020), resulting in a sample of 667 audit office-years for our test of H1.

Table 2, Panel A provides descriptive statistics at the audit-office-year level. The mean office holds 39.3 percent of the market share within an MSA. The mean auditor public insurer portfolio is profitable (*Mean Office Client ROA* of 0.039) and clients within this portfolio are growing on average (*Mean Office Client Growth* of 0.056). Ninety-two percent of our sample are offices of Big 4 audit firms (untabulated), and 14.5 percent are identified as both local and national expert offices. On average, audit offices gain 0.367 clients and lose 0.357 clients in a given year (untabulated).[17] We also present descriptive statistics for *Big R Misstate*$_{it}$, *Misstate*$_{it}$, and *Client Litigation*$_{it}$, which require merging data from NAIC with Audit Analytics. As is further described in Section 7.2 and footnote 35, there are some cases where individual insurers are associated with the same publicly-traded parent. This inflates the means of these three variables (e.g., a single restatement or lawsuit associated with a publicly-traded parent would be assigned to multiple individual insurers if they share the same publicly-traded parent). The means of *Big R Misstate*$_{it}$, *Misstate*$_{it}$, and *Client Litigation*$_{it}$, are 0.041, 0.102, and 0.065, respectively. Once we limit the sample to one observation per publicly-traded parent, the means are 0.029, 0.092, and 0.046, respectively.[18]

[14] All financial statutory filing data was obtained from S&P Market Intelligence. Auditor identification from 2006 to 2014 was obtained from S&P Market Intelligence. Auditor identity prior to 2006 was obtained from A.M. Best.

[15] We identify insurers as public if the insurer or parent of the insurer is publicly-traded (Hanley et al., 2018).

[16] See section 6.1.1 for consideration of a sample of both public and private insurers.

[17] Because of skewness in the underlying data, *Clients Gained* and *Clients Lost* are logged values. The multiple regression analyses are robust to using raw values instead of logged values.

[18] As we discuss further in Section 7.2, *Client Litigation* is equal to one for years where an insurer is subsequently named as a defendant based on the alleged violation occurring in year *t*. In other words, *Client Litigation* is based on violation years, not lawsuit filing date. This methodology is consistent with Jayaraman and Milbourn (2015), who examine a broad cross-section of industries. In untabulated analysis, when litigation exposure is limited to only the filing year, we find that the mean exposure for our sample is 0.019. For comparison, the mean for the insurance industry used in Kim and Skinner (2012) is 0.026.

Table 2
Descriptive statistics.

Panel A: Descriptive Statistics

	n	mean	sd	p25	p50	p75
Variables of interest						
Relative Lenience$_{jt}$	667	−0.015	0.198	−0.072	0.000	0.000
3yr Relative Lenience$_{jt}$	581	−0.012	0.154	−0.067	0.000	0.029
Mean Manipulator Bias$_{jt}$	667	0.000	1.000	−0.215	−0.215	−0.070
Dependent variables						
Δ*Market Share*$_{jt+1}$	667	0.024	0.296	−0.116	0.000	0.111
Market Share$_{jt+1}$	667	0.393	0.257	0.198	0.333	0.556
Δ*Market Share Full*$_{jt+1}$	1567	0.006	0.320	−0.125	0.000	0.107
Clients Gained$_{jt+1}$	667	0.189	0.420	0.000	0.000	0.000
Clients Lost$_{jt+1}$	667	0.178	0.422	0.000	0.000	0.000
Δ*Market Share Bank*$_{jt+1}$	533	−0.018	0.271	−0.167	0.000	0.125
Relative Big R Misstate$_{jt}$	667	−0.005	0.078	0.000	0.000	0.000
Relative Misstate$_{jt}$	667	−0.008	0.185	0.000	0.000	0.000
Relative Client Litigation$_{jt}$	667	0.005	0.093	0.000	0.000	0.000
Dismiss$_{it+1}$	5725	0.039	0.194	0.000	0.000	0.000
Big R Misstate$^{\wedge}_{it}$	3063	0.041	0.199	0.000	0.000	0.000
Misstate$^{\wedge}_{it}$	3063	0.102	0.302	0.000	0.000	0.000
Client Litigation$^{\wedge}_{it}$	3063	0.065	0.247	0.000	0.000	0.000
Control variables from model (5)						
Public$_{jt}$	667	0.637	0.268	0.400	0.667	0.857
Mean Office Client ROA$_{jt}$	667	0.039	0.043	0.015	0.038	0.063
Mean Office Client Cash$_{jt}$	667	0.125	0.102	0.057	0.096	0.171
Mean Office Client Leverage$_{jt}$	667	0.560	0.105	0.489	0.571	0.631
Mean Office Client Loss$_{jt}$	667	0.199	0.235	0.000	0.129	0.333
Mean Office Client Growth$_{jt}$	667	0.056	0.121	−0.002	0.050	0.111
Mean Office Client Size$_{jt}$	667	12.189	1.044	11.391	12.205	12.865
Expert$_{jt}$	667	0.145	0.353	0.000	0.000	0.000
Clients$_{jt}$	667	2.054	0.791	1.386	1.946	2.565
Relative Restate Announce$_{jt}$	667	−0.003	0.050	0.000	0.000	0.000
Mean Office Client Absolute Bias$_{jt}$	667	0.016	0.037	0.000	0.000	0.014
Relative Fee$_{jt}$	667	0.000	0.004	−0.001	0.000	0.001

Panel B: Auditor Level Descriptive Statistics

Auditor	Total Offices	Office-Years	Insurer-Years
PricewaterhouseCoopers LLP	21	170	1984
KPMG LLP	22	163	1688
Ernst & Young LLP	22	161	1138
Deloitte & Touche LLP	15	125	781
BDO USA LLP	6	22	52
Johnson Lambert LLP (& Co)	4	20	58
WeiserMazars LLP	2	6	24
Total	**92**	**667**	**5725**

Panel C: Time Series Descriptive Statistics

Year	(1) Offices	(2) Insurers	(3) *Relative Lenience* (mean)	(4) *Relative Lenience* (median)	(5) Δ*Market Share*
2002	53	392	−0.03	0.00	0.05
2003	59	427	0.00	0.00	0.04
2004	52	429	0.00	0.00	−0.10
2005	47	397	−0.04	0.00	−0.02
2006	56	460	−0.02	0.00	−0.04
2007	55	482	−0.03	0.00	0.00
2008	56	486	0.00	0.00	0.02
2009	54	473	0.00	0.00	0.01
2010	50	470	−0.02	0.00	0.01
2011	49	442	−0.04	0.00	0.00
2012	46	418	−0.01	0.00	0.03
2013	44	417	−0.02	0.00	0.03
2014	46	432	−0.01	0.00	−0.04
	667	**5725**			

Table 2, Panel A presents descriptive statistics for the sample and for the primary variables used in the analyses. The primary sample period covers audit-office-years from 2002 to 2014. There are samples based on insurer-years and alternative sample years as described in the manuscript. In this panel, ^ designates descriptive statistics that are reported at the insurer-level but that include multiple subsidiaries of the same publicly-traded parent to allow for merging with Audit Analytics as discussed in Section 4 and in footnote 35. The means (standard deviations) for these variables after limiting the sample to one observation per publicly-traded parent are as follows: *Big R Misstate*$_{it}$ 0.029 (0.169), *Misstate*$_{it}$ 0.092 (0.290), and *Client Litigation*$_{it}$ 0.046 (0.210). Panel B presents descriptive statistics related to total offices, office-years, and insurer-years for the auditors in the final sample. Panel C presents time series descriptive statistics. See Appendix A for variable definitions.

Table 2, Panel B provides more detailed auditor-level descriptive statistics. The mean number of audit offices per audit firm in our sample is 13.14. There is a mean of 95.29 office-year observations and 818 insurer-year observations per audit firm.[19] Panel C of Table 2 provides time series information for the number of offices and insurers, as well as for the mean and median of our variable of interest, *Relative Lenience,* and the mean change in market share. There are no discernible time trends in *Relative Lenience* or Δ*Market Share*. In our sample, 156 (242) audit office-years have a positive (negative) value for *Relative Lenience*, indicating that these are more lenient (stricter) offices relative to other offices located in the same MSA.[20] Table 3 provides correlations between the variables used in our office-level insurer analyses.

5. Results

5.1. Primary results

Table 4 presents the results of estimating model (5) in column (1). We find a positive and significant coefficient on $Relative\ Lenience_{jt}$, indicating that audit offices that are more lenient (stricter) relative to other offices in the same MSA-year are associated with a statistically significant increase (decrease) in market share in year *t+1*. Economically, we find that a one standard deviation increase (decrease) in the measure of relative auditor lenience is associated with a 4.5 percentage point increase (decrease) in market share. These results suggest that audit offices that allow higher levels of profit manipulation are rewarded by gaining a larger proportion of the local market share.

We next examine whether audit firms are rewarded with higher market share when they allow higher levels of profit manipulation over an extended period by estimating the following model, using the level of market share, rather than the change in market share as the dependent variable:

$$Market\ Share_{jt+1} = \beta_0 + \beta_1 3yr\ Relative\ Lenience_{jt} + \beta X_{jt} + fixed\ effects + \varepsilon_{jt} \quad (6)$$

where 3yr $Relative\ Lenience_{jt}$ is the average of *Relative Lenience* for audit office *j* from *t-2* to *t*. The model is estimated with controls and fixed effects consistent with model (5). The results of estimating model (6) in Table 4, column (2) show a positive and significant coefficient of 0.064 on 3yr $Relative\ Lenience_{jt}$, indicating that a one standard deviation increase in the average three-year relative profit manipulation allowed from *t-2* to *t* is associated with a 1.0 percentage point higher market share in year *t+1*. Together, these results are consistent with audit offices that allow clients greater financial reporting discretion being rewarded in both the short- and long-run by gaining local market share.

5.2. Market share component analysis

An audit office's gain in market share through allowing greater levels of financial reporting discretion can occur in two ways: 1) gaining more clients or 2) losing fewer clients relative to stricter offices located in a given MSA. To examine both avenues, we estimate the following model at the audit-office level:

$$Clients\ Gained_{jt+1} \text{ or } Clients\ Lost_{jt+1} = \beta_0 + \beta_1\ Relative\ Lenience_{jt} + \beta X_{jt} + fixed\ effects + \varepsilon_{jt} \quad (7)$$

where $Clients\ Gained_{jt+1}$ ($Clients\ Lost_{jt+1}$) is the natural log of 1 plus the count of clients acquired (lost) by office *j* in year *t+1*. The model is estimated with controls and fixed effects consistent with model (5).

Table 5, Panel A, column (1) presents the results of estimating model (7) using $Clients\ Gained_{jt+1}$ as the dependent variable and shows an insignificant coefficient on $Relative\ Lenience_{jt}$. In column (2), however, we find a negative and significant coefficient on $Relative\ Lenience_{jt}$ when estimating model (7) using $Clients\ Lost_{jt+1}$ as the dependent variable. These results suggest that relatively more lenient audit offices are not more likely to gain clients compared to stricter audit offices, but are significantly less likely to lose existing, non-manipulating clients. Specifically, a one standard deviation increase (decrease) in $Relative\ Lenience_{jt}$ is associated with a 3.9 percentage point reduction (increase) in client attrition. This finding is consistent with audit clients desiring financial reporting discretion and remaining with an auditor that is known for allowing such discretion or leaving an auditor that does not allow such discretion. This also suggests that a client manipulating a loss to a profit via the claim loss reserve is not necessarily a signal to the broader audit market that the auditor is lenient. Rather, it is likely that clients gain an understanding of how lenient or strict their auditor is through interactions that take place during the normal course of an audit. Thus, the results suggest that existing, non-manipulating clients are more likely to remain with a lenient versus a strict auditor.

[19] In untabulated analyses, we find that our results are robust to limiting the sample to only Big 4 audit firms.

[20] There are also 269 audit-office-year observations in the sample that have a zero value for *Relative Lenience*, indicating that these offices have the same proportion of manipulators as the rest of the offices located in an MSA. Our results are robust to the exclusion of these offices from our primary analysis.

Table 3
Correlation matrix.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	$\Delta Market\ Share_{jt+1}$	1.00																				
2	$Relative\ Lenience_{jt}$	**0.19**	1.00																			
3	$3yr\ Relative\ Lenience_{jt}$	**0.16**	**0.69**	1.00																		
4	$Mean\ Manipulator\ Bias_{jt}$	−0.02	**0.21**	**0.23**	1.00																	
5	$Clients\ Gained_{jt+1}$	−0.06	−0.01	−0.04	0.01	1.00																
6	$Clients\ Lost_{jt+1}$	**−0.24**	−0.03	−0.03	0.05	**0.18**	1.00															
7	$Relative\ Big\ R\ Misstate_{jt}$	−0.01	−0.02	−0.01	0.00	0.07	−0.04	1.00														
8	$Relative\ Litigation_{jt}$	−0.01	0.02	0.04	0.00	0.03	0.02	**0.08**	1.00													
9	$Market\ Share_{jt}$	**−0.14**	0.02	0.02	−0.02	0.02	0.05	0.04	0.06	1.00												
10	$Public_{jt}$	−0.05	−0.07	**−0.10**	0.02	0.05	0.04	−0.03	0.06	**0.28**	1.00											
11	$Mean\ Office\ Client\ ROA_{jt}$	**0.10**	−0.05	0.00	−0.06	**−0.08**	−0.06	0.01	0.04	−0.06	−0.07	1.00										
12	$Mean\ Office\ Client\ Cash_{jt}$	−0.02	−0.06	−0.04	**0.09**	0.02	0.00	0.07	−0.05	−0.03	−0.03	−0.07	1.00									
13	$Mean\ Office\ Client\ Leverage_{jt}$	0.03	−0.06	−0.08	0.02	0.01	0.03	−0.07	0.03	−0.04	0.05	**−0.09**	**−0.19**	1.00								
14	$Mean\ Office\ Client\ Loss_{jt}$	−0.04	**−0.10**	−0.08	0.06	0.07	0.04	0.03	0.00	0.00	−0.02	**−0.67**	**0.21**	0.01	1.00							
15	$Mean\ Office\ Client\ Growth_{jt}$	**0.08**	**0.09**	**0.16**	**0.09**	−0.05	−0.01	−0.04	−0.01	−0.02	−0.01	0.03	0.07	**0.12**	0.00	1.00						
16	$Mean\ Office\ Client\ Size_{jt}$	0.02	−0.06	**−0.08**	−0.07	−0.03	0.00	−0.02	0.04	**−0.12**	**0.12**	0.09	**−0.13**	**0.23**	**−0.18**	**−0.08**	1.00					
17	$Expert_{jt}$	−0.02	−0.04	−0.06	0.05	0.07	**0.10**	**0.08**	−0.03	**0.23**	0.02	0.05	0.03	0.02	0.02	−0.07	**0.09**	1.00				
18	$Clients_{jt}$	**−0.13**	0.02	0.00	0.06	**0.27**	**0.28**	−0.06	0.05	**0.39**	**0.39**	**−0.08**	**−0.16**	**0.11**	−0.06	−0.10	**0.15**	**0.21**	1.00			
19	$Relative\ Restate\ Announce_{jt}$	0.05	0.00	0.01	0.00	−0.01	0.04	0.00	−0.12	0.01	−0.05	−0.06	0.01	−0.01	**0.08**	−0.06	0.04	0.06	**−0.08**	1.00		
20	$Mean\ Office\ Client\ Absolute\ Bias_{jt}$	**0.09**	**0.28**	**0.24**	**0.43**	0.00	−0.04	**0.09**	0.01	−0.04	**0.10**	**−0.16**	**0.08**	**0.09**	**0.17**	0.05	**−0.08**	−0.01	**−0.13**	0.04	1.00	
21	$Relative\ Fee_{jt}$	0.03	**0.13**	**0.16**	**0.14**	0.07	0.03	0.01	−0.04	**−0.22**	−0.01	−0.07	**0.12**	0.02	**0.10**	−0.02	**−0.09**	0.08	−0.01	0.03	**0.18**	1.00

Table 3 presents Pearson correlations between select variables of interest. Coefficients in bold are significant at the 0.05 level. See Appendix A for variable definitions.

Table 4
Relative lenience and change in market share.

Variables	(1)	(2)
	$\Delta Market\ Share_{jt+1}$	$Market\ Share_{jt+1}$
$Relative\ Lenience_{jt}$	0.226***	–
	(3.39)	
3yr $Relative\ Lenience_{jt}$	–	0.064**
		(2.02)
$\Delta Market\ Share_{jt}$	−0.066*	−0.029*
	(−1.84)	(−1.95)
$Market\ Share_{jt}$	−0.246*	0.786***
	(−1.89)	(10.95)
$Public_{jt}$	0.065	0.042
	(0.73)	(1.17)
$Mean\ Office\ Client\ ROA_{jt}$	0.884**	0.286*
	(2.21)	(1.88)
$Mean\ Office\ Client\ Cash_{jt}$	−0.070	−0.059
	(−0.46)	(−1.10)
$Mean\ Office\ Client\ Leverage_{jt}$	0.028	0.036
	(0.22)	(0.69)
$Mean\ Office\ Client\ Loss_{jt}$	0.146*	0.030
	(1.84)	(0.94)
$Mean\ Office\ Client\ Growth_{jt}$	0.124	0.004
	(1.06)	(0.08)
$Mean\ Office\ Client\ Size_{jt}$	0.032 (1.54)	0.009
	(1.54)	(0.87)
$Expert_{jt}$	0.019	−0.001
	(0.37)	(−0.04)
$Clients_{jt}$	−0.037	0.038
	(−0.82)	(1.59)
$Relative\ Restate\ Announce_{jt}$	−0.351	−0.199
	(−1.17)	(−1.44)
$Mean\ Office\ Client\ Absolute\ Bias_{jt}$	0.450	0.075
	(0.70)	(0.35)
$Relative\ Fee_{jt}$	−1.495	0.971
	(−0.50)	(0.41)
Audit Firm × Year FE	Yes	Yes
MSA FE	Yes	Yes
Observations	667	571
R-squared	0.26	0.86

Table 4 examines the relationship between auditor lenience and subsequent changes in market share by estimating model (5). The sample period covers audit-office-years from 2002 to 2014, and variables are calculated using audit offices' public insurer-client portfolio. $\Delta Market\ Share\ Full_{jt+1}$ is the percentage change in market share of public and private insurers audited by office *j* from *t* to *t+1*, excluding manipulating clients. $\Delta Market\ Share_{jt+1}$ is the percentage change in market share of public insurers audited by office *j* from *t* to *t+1*, excluding manipulating clients. $Market\ Share_{jt+1}$ is the market share of public insurers audited by office *j* in *t+1*, excluding manipulating clients. $Relative\ Lenience_{jt}$ is the proportion of public profit manipulators audited by office *j* in year *t*, less the proportion of public profit manipulators audited by other offices in MSA *m* in year *t*. 3yr *Relative Lenience*$_{jt}$ is the average of *Relative Lenience* for *t-2*, *t-1*, and *t*, for office *j*. Detailed variable definitions are provided in Appendix A. *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively. Models are estimated using OLS with standard errors clustered by audit office. T-statistics are presented in parentheses below the coefficients.

We next examine the likelihood of client retention at the insurer level by estimating the following model:

$$Dismiss_{it+1} = \beta_0 + \beta_1 Relative\ Lenience_{jt} + \beta X_{it} + fixed\ effects + \varepsilon_{jt} \quad (8)$$

where $Dismiss_{it+1}$ is an indicator equal to 1 if the client engages a new auditor in year *t+1*, and zero otherwise.[21] Consistent with Swanquist and Whited (2015), we control for audit office size (*Clients*), the number of auditors located in an MSA (*MSA Size*) and insurer-level variables for profitability (*ROA* and *Loss*), liquidity (*Cash*), leverage (*Leverage*), asset growth (*Growth*), and size (*Size*). Consistent with model (5), we control for the insurer's absolute error in the claim loss reserve estimate (*Absolute Bias*), the relative restatement disclosure rate of the audit office (*Relative Restate Announce*), whether the audit office is both a local and national leader (*Expert*) and the relative fee charged by the office (*Relative Fee*). We include audit firm × year and MSA fixed effects and cluster standard errors by insurer.

[21] The NAIC database does not provide information on the reason for an auditor change; thus, we are not able to differentiate dismissals of auditors compared to audit firm resignations. Our variable *Dismiss*, therefore, captures both auditor resignations and dismissals.

Table 5
Relative lenience and clients gained and lost.

Panel A: Audit Office Clients Gained and Lost		
Variables	(1)	(2)
	Clients Gained$_{jt+1}$	*Clients Lost*$_{jt+1}$
Relative Lenience$_{jt}$	−0.067	−0.199**
	(−0.62)	(−2.16)
Controls	Yes	Yes
Audit Firm × Year FE	Yes	Yes
MSA FE	Yes	Yes
Observations	667	667
R-squared	0.36	0.29

Panel B: Insurer Level Analysis	
Variables	*Dismiss*$_{it+1}$
Relative Lenience$_{jt}$	−0.033*
	(−1.84)
Clients	0.005
	(0.76)
MSA Size	−0.006***
	(−3.19)
ROA	−0.079
	(−1.30)
Cash	0.095***
	(3.10)
Leverage	0.017
	(0.95)
Loss	0.013
	(1.30)
Growth	−0.080***
	(−3.81)
Size	−0.008***
	(−4.44)
Expert	−0.023*
	(−1.86)
Relative Restate Announce	0.041
	(0.47)
Absolute Bias	2.215
	(1.45)
Relative Fee	−0.001***
	(−3.67)
Audit Firm × Year FE	Yes
MSA FE	Yes
Observations	5725
R-squared	0.07

Table 5 examines the relationship between auditor lenience and subsequent client turnover. Panel A presents the results of estimating model (7) for a sample of audit office-years from 2002 to 2014 where variables are calculated using audit offices' public insurer-client portfolios, with standard errors clustered by audit office. Panel B presents the results of estimating model (8) for a sample of public insurer-years from 2002 to 2014 with standard errors clustered by insurer. *Clients Gained*$_{jt+1}$ is the natural log of 1 plus the count of public insurer clients gained by audit office *j* in year *t+1*. *Clients Lost*$_{jt+1}$ is the natural log of 1 plus the count of public insurer clients lost by audit office *j* in year *t+1*. *Dismiss*$_{it+1}$ is an indicator variable equal to 1 if insurer *i* engages a new auditor in year *t+1*, zero otherwise. *Relative Lenience*$_{jt}$ is the proportion of public profit manipulators audited by office *j* in year *t*, less the proportion of public profit manipulators audited by other offices in MSA *m* in year *t*. Detailed variable definitions are provided in Appendix A. *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively. Models are estimated using OLS and t -statistics are presented in parentheses below the coefficients.

Table 5, Panel B reveals a negative and significant coefficient on *Relative Lenience*$_{jt}$, indicating that more lenient (stricter) audit offices are less (more) likely to lose individual insurers as clients. Together, both the office- and insurer-level analyses are consistent with greater auditor lenience being associated with greater client retention.

6. Generalizability

While our primary analysis is designed to provide the strongest measurement to address our research question, our research design choices limit our analyses to a relatively small sample of audit offices that audit public insurers. Such a limited sample naturally leads to the question of whether our inferences are specific to this sample or generalize to other settings. To

Table 6
Alternative measures of lenience.

Variables	(1)	(2)	(3)	(4)
	$\Delta Market\ Share\ Full_{jt+1}$	$\Delta Market\ Share_{jt+1}$	$\Delta Market\ Share\ Full_{jt+1}$	$\Delta Market\ Share\ Bank_{jt+1}$
Relative Lenience Full$_{jt}$	0.160**	–	–	–
	(2.08)			
Relative Lenience Ratio$_{jt}$	–	0.166*	–	–
		(1.81)		
Relative Lenience Ratio Full$_{jt}$	–	–	0.157***	–
			(2.65)	
Relative Lenience Bank$_{jt}$	–	–	–	0.222**
				(1.98)
Controls	Yes	Yes	Yes	Yes
Audit Firm × Year FE	Yes	Yes	Yes	Yes
MSA FE	Yes	Yes	Yes	Yes
Observations	1567	661	1547	533
R-squared	0.20	0.23	0.21	0.39

Table 6 examines the relationship between auditor lenience and subsequent changes in market share, using alternative measures of auditor lenience. The sample period for columns (1), (2), and (3) covers audit-office-years from 2002 to 2014. The sample period for column (4) covers audit-office-years from 2006 to 2018. Columns (1) and (3) present the results of analyzing a sample of audit-office-year observations, where variables are calculated using audit offices' combined public and private insurer-client portfolio. Column (2) presents results of analyzing a sample of audit-office-year observations where variables are calculated using audit offices' public insurer-client portfolio. Column (4) presents the results of analyzing a sample of audit-office-year observations where variables are calculated using audit offices' combined public and private bank-client portfolios. $\Delta Market\ Share\ Full_{jt+1}$ is the percentage change in market share of public and private insurers audited by office *j* from *t* to *t+1*, excluding manipulating clients. $\Delta Market\ Share_{jt+1}$ is the percentage change in market share of public insurers audited by office *j* from *t* to *t+1*, excluding manipulating clients. $\Delta Market\ Share\ Bank_{jt+1}$ is the percentage change in market share of public and private bank clients audited by office *j* from *t* to *t+1*, excluding manipulating clients. *Relative Lenience Full*$_{jt}$ is the proportion of public and private profit manipulators audited by office *j* in year *t*, less the proportion of public and private profit manipulators audited by other offices in MSA *m* in year *t*. *Relative Lenience Ratio*$_{jt}$ is the proportion of public ratio manipulators audited by office *j* in year *t*, less the proportion of public ratio manipulators audited by other offices in MSA *m* in year t. *Relative Lenience Ratio Full*$_{jt}$ is the proportion of public and private ratio manipulators audited by office *j* in year *t*, less the proportion of public ratio manipulators audited by other offices in MSA *m* in year t. *Relative Lenience Bank*$_{jt}$ is the proportion of bank profit manipulators audited by office *j* in year *t*, less the proportion of bank profit manipulators audited by other offices in MSA *m* in year *t*. Detailed variable definitions are provided in Appendix A. *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively. Models are estimated using OLS with standard errors clustered by audit office. T-statistics are presented in parentheses below the coefficients.

examine the generalizability of our inferences, we conduct four additional analyses, two within the insurance industry and two utilizing settings outside of the insurance industry.

6.1. Additional insurance-industry analyses

6.1.1. Inclusion of private insurers

We utilize public insurers in our primary analyses because they have stronger incentives than private insurers to report positive earnings (Beaver et al., 2003). Nonetheless, this research design choice necessarily limits us to only those audit offices that have public-insurer clients. As a first test of the generalizability, we include private insurers in our sample, which increases the sample size of insurers and audit offices and allows for a broader measure of auditor market share, with the caveat that these insurers may lack strong incentives to report positive earnings.

We create a measure of relative lenience and market share based on the full public and private portfolio of an audit office's clients (*Relative Lenience Full* and $\Delta Market\ Share\ Full$). We then estimate model (5) utilizing these alternate measures.[22] In Table 6, column (1) we find a positive and significant coefficient on *Relative Lenience Full*, consistent with more lenient auditors experiencing a larger increase in overall market share. The coefficient on *Relative Lenience Full* is smaller in magnitude and has lower significance compared to the coefficient on *Relative Lenience* in Table 4, consistent with our expectations that the ability to manage earnings to report a profit is less salient to private versus public insurers. In an untabulated analysis, we estimate model (5) utilizing measures based only on the private insurer-client portfolios of auditors and find no significant relationship between auditor lenience and changes in market share. Overall, these results suggest that our primary inferences are robust to the inclusion of private insurers, but that private insurers may be less concerned with reporting a profit relative to public insurers.

6.1.2. Ratio manipulators

Prior research finds that insurers use the claim loss reserve to manage Insurance Regulatory Information System (IRIS) ratios (e.g., Gaver and Paterson 2004). The NAIC uses a set of 12 IRIS ratios to monitor the health of insurers. Any insurer in violation of more than three of these ratios is classified as “troubled” by the NAIC and is subjected to stricter regulatory oversight. Nearly all 12 ratios are affected by the claim loss reserve; thus, the reserve can effectively be used to manipulate the ratios. Therefore, as an alternative measure of the extent of financial reporting discretion that an audit office allows, we

[22] Control variables are re-calculated as the mean value for each specific sample.

estimate model (5) using *Relative Lenience Ratio*$_{jt}$ as the variable of interest. *Relative Lenience Ratio*$_{jt}$ is constructed in the same manner as *Relative Lenience*$_{jt}$ (described in section 3.1); however, rather than counting the number of clients that manipulate from a loss to a profit position, the measure captures the relative number of clients that use the claim loss reserve to manage from a sick to a healthy position based on their regulatory ratios (i.e., use the claim loss reserve to switch from reporting more than three ratio violations to reporting three or fewer ratio violations).

Table 6, columns (2) and (3) presents the results. For column (2) we include public insurers in the sample, while in column (3) we include both public and private insurers in the sample. We find a positive and significant coefficient on *Relative Lenience Ratio*$_{jt}$ in column (2) and on *Relative Lenience Ratio Full*$_{jt}$ in column (3). Consistent with our primary analysis, these findings suggest that auditors are rewarded for allowing client management to opportunistically exercise discretion over financial reporting.[23]

6.2. Additional non-insurance-industry analyses

6.2.1. Banking-industry analysis

Similar to the claim loss reserve in the insurance industry, the allowance for loan loss is an important, material estimate that banks use to manage reported earnings and capital (e.g., Ahmed et al., 1999; Beatty et al., 1995; Beatty et al., 2002). Unlike in the insurance industry, the disclosures provided by banks are insufficient to precisely calculate the bias in the estimation of loan losses. However, we can observe ex post bank information to infer the quality of the original estimate.

Following Beatty et al. (2019), we assess the bias in the allowance for loan loss by comparing the allowance for loan losses in *t* to the charge-offs in *t+1* for a sample of bank-years from 2006-2018.[24] Using the difference in the allowance and subsequent charge-offs as an estimate of the bias of the allowance for loan loss, we follow the research design in our primary analysis to calculate an adjusted net income and a continuous measure of auditor lenience based on using the bias to switch losses to profits, *Relative Lenience Bank*.[25] We acknowledge that this approach is subject to more noise than our primary measure using the insurance industry because of a lack of information that ties loan charge-offs to the period when the losses were included in the allowance for loan loss.[26]

We then estimate model (5) using *Relative Lenience Bank* as the variable of interest and Δ*Market Share Bank* as the dependent variable.[27] In Table 6, column (4) we find a positive and significant coefficient on *Relative Lenience Bank*, consistent with more lenient bank auditors being rewarded with a greater increase in market share relative to stricter auditors.[28]

6.2.2. Going concern analysis

Finally, to expand our analysis to a broad set of industries, we utilize an audit office's likelihood of issuing a going concern opinion as a proxy for auditor lenience. There are two limitations of this analysis. First, auditor lenience in evaluating financial reporting (e.g., evaluating the materiality of misstatements) is different than lenience in issuing a going-concern opinion. Thus, while this going-concern analysis provides the benefit of examining auditor lenience within a much larger set of clients than those from a single industry, the inferences from this analysis are subject to the caveat that auditor lenience in going-concern reporting may not apply to auditor lenience in financial reporting. For example, it is unclear whether lenience with respect to issuing a going-concern opinion is related to low audit quality. Second, it is impossible to identify the "manipulators" in a going-concern setting.[29] To deal with the second limitation, we conduct the following analysis in two ways: (1) including all clients of an audit office when estimating auditor lenience and (2) excluding the focal client (i.e., the client that is potentially opinion shopping) when estimating auditor lenience.

We discuss the design and results in detail in the Internet Appendix. To summarize, using a sample of public companies and associated audit offices from 2003 to 2018, obtained from Audit Analytics, we find evidence that suggests that auditors

[23] Consistent with private insurers being concerned with managing around regulatory ratio thresholds, in an untabulated analysis, we find a positive and significant coefficient on auditor lenience when estimating model (5) using only an audit office's private insurer-client portfolio.

[24] Our final insurer sample includes data from 2002 to 2014 for use in our multiple regression analyses. We gather bank data from the FDIC Bank Database for 2005−2019, merged with FR Y-9C data to obtain bank auditor identity. We start in 2005 because this is when auditor data for banks is first available, and we end in 2019 because this is the last year of available data at the time of collection. For our analysis, we need data from *t-1* and *t+1* to calculate necessary variables, resulting in a final sample of bank-years from 2006 to 2018. Also, we exclude banks in the top one percent of assets (Stuber and Hogan 2021).

[25] Manipulating bank-years (i.e., those where the bias switches a loss to a profit) are used to determine *Relative Lenience Bank*, but these manipulating bank-years are not included in calculation of Δ*Market Share Bank* and control variables. In other words, just like in our primary analysis, we utilize manipulators to determine audit-office lenience, but we exclude manipulating bank-years from market share calculations because we are interested in how non-manipulating clients respond to auditor lenience.

[26] In an untabulated analysis, we follow Beatty et al. (2002) and estimate a measure of discretionary LLP to calculate adjusted income and ultimately an alternative measure of *Relative Lenience Bank*. Using this alternative measure, we find results consistent with those presented in Table 6, column (4).

[27] Control variables are consistent with those used in model (5), with two exceptions: *Relative Fee* is omitted, and *Expert* is calculated based on assets audited rather than audit fees due to lack of data on audit fees in the bank regulatory data.

[28] For our bank analysis, we include both public and private bank-years. We do this for two reasons. First, private banks have an extensive structure of external monitors such as uninsured depositors that monitor the financial health of banks through their financial reports, similar to public banks (Calomiris and Kahn 1991; Diamond and Rajan 2001; Lo 2015). Thus, we expect private banks to be like public banks in that they are incentivized to report profits. Second, from a practical perspective, our sample of public banks is very small (i.e., corresponding to 307 audit-office-year observations). Thus, using only public banks significantly limits the power of the test.

[29] In this case, a manipulator would be a client that uses the auditor's lenience to avoid receiving a going-concern opinion. This is unobservable.

Table 7
Determinants of audit office lenience.

Variables	*Relative Lenience*$_{jt}$
Local and National Leader$_{jt}$	−0.048*
	(−1.80)
Low Competition$_{mt}$	0.009
	(0.55)
Restate Announce$_{jt}$	−0.043***
	(−3.44)
Office Size$_{jt}$	0.012
	(0.27)
Distance to Regulator$_{jt}$	−0.001
	(−0.25)
Distance to HQ$_{jt}$	−0.004
	(−1.41)
Avg Distance to Clients$_{jt}$	0.005
	(1.11)
Year FE	Yes
Observations	754
R-squared	0.03

Table 7 examines the potential determinants of audit office lenience for a sample of audit office-years from 2002 to 2014 where variables are calculated using audit offices' public insurer-client portfolios. *Relative Lenience*$_{jt}$ is the proportion of public profit manipulators audited by office *j* in year *t*, less the proportion of public profit manipulators audited by other offices in MSA *m* in year *t*. Detailed variable definitions are provided in Appendix A. *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively. Models are estimated using OLS with standard errors clustered by MSA. T-statistics are presented in parentheses below the coefficients.

are rewarded with increases in market share when they are less likely to issue a going concern opinion relative to other audit-offices in the same MSA-year.

7. Additional analyses

7.1. Determinants analysis

Next, we conduct an exploratory analysis to attempt to provide insight into why some audit offices are more lenient (stricter) relative to other offices. We estimate a model where *Relative Lenience* is the dependent variable, and the independent variables are audit-office and MSA characteristics that could affect audit office lenience. Specifically, *Local and National Leader* is an indicator variable equal to 1 if the audit office is both a local and national leader by assets audited, zero otherwise. Ex ante, we expect there to be a negative relation between auditor expertise and lenience. This follows for two reasons. First, expert auditors should be more likely to properly consider qualitative factors that relate to materiality because, by definition, they should be better than non-expert auditors at auditing insurer clients. Second, expert auditors have more reputation capital to lose from being associated with low-quality auditing, and, thus, should be less willing to allow misstatements that could be qualitatively important to the client (and, thus, investors). *Low Competition* is an indicator variable equal to 1 if the audit office is located in an MSA in the bottom third of competition based on a Herfindahl-Hirschman Index (HHI), zero otherwise.[30] When there is low competition (i.e., few auditors within an MSA), we expect auditors to be less likely to overlook misstatements because clients have fewer alternative auditors to switch to. Thus, we expect a negative sign on *Low Competition. Restate Announce* is an indicator equal to 1 if audit office *j* had any client announce a restatement in year *t*, zero otherwise. We expect audit offices to become stricter if they are associated with a client restatement. *Office Size* is the natural log of 1 plus the number of clients audited by office *j* in year *t*. Larger offices have greater reputation capital, and, thus, we expect larger offices to be less likely to be relatively more lenient. Finally, because prior literature suggests that distance from regulators, audit firm headquarters, and clients could affect audit quality (e.g., Kedia and Rajgopal 2011; Chen and Choudhary 2020; Francis et al., 2020), we consider the distance between the audit office and each of these entities. *Distance to Regulator*, *Distance to HQ,* and *Avg Distance to Clients* are the distance between audit office *j* and the state insurance regulator, the audit firm headquarters, and the average distance from audit office *j*'s public insurer clients, respectively. We estimate this model with year fixed effects and cluster standard errors by MSA.[31]

[30] $HHI_{mt} = \sum_{j=1}^{n} (MarketShare_{jt})^2$ for all n audit offices located in MSA-year m. Higher values of HHI indicate lower competition. Thus, Low Competition is an indicator equal to 1 if an MSA is in the top third in HHI for year t, zero otherwise.

[31] We do not include MSA and audit firm fixed effects in the determinants model, as the inclusion of these fixed effects would control for variation of interest in the model (e.g., MSA-level competition). Note that the sample size in Table 7 is larger than in previous analyses that examine audit-office-years because there are fewer singleton observations due to a different fixed effects structure.

Table 8
Relative lenience and likelihood of misstatements and accounting-related litigation.

Panel A: Likelihood of Restatement

Variables	(1)	(2)	(3)	(4)
	Relative Big R Misstate$_{jt}$	*Big R Misstate*$_{it}$	*Relative Misstate*$_{jt}$	*Misstate*$_{it}$
Relative Lenience$_{jt}$	0.022	0.048	0.079	0.080
	(0.91)	(1.26)	(1.28)	(1.28)
Controls	Yes	Yes	Yes	Yes
Audit Firm × Year FE	Yes	Yes	Yes	Yes
MSA FE	Yes	Yes	Yes	Yes
Ultimate Parent FE	No	Yes	No	Yes
Observations	667	3063	667	3063
R-squared	0.26	0.89	0.18	0.62

Panel B: Likelihood of Litigation

Variables	(1)	(2)
	Relative Client Litigation$_{jt}$	*Client Litigation*$_{it}$
Relative Lenience$_{jt}$	0.017	−0.027
	(0.38)	(−0.70)
Controls	Yes	Yes
Audit Firm × Year FE	Yes	Yes
MSA FE	Yes	Yes
Ultimate Parent FE	No	Yes
Observations	667	3063
R-squared	0.18	0.67

Table 8 examines the relationship between auditor lenience and litigation and restatements. The sample period covers 2002−2014. In Panel A, columns (1) and (3) present the results of examining a sample of audit office-years where variables are calculated using audit offices' public insurer-client portfolio and standard errors are clustered by audit office. Columns (2) and (4) present the results of examining a sample of public insurer-years where standard errors are clustered by insurer. In Panel B, column (1) presents the results of examining a sample of audit office-years where variables are calculated using audit offices' public insurer-client portfolio and standard errors are clustered by audit office. Column (2) presents the results of examining a sample of public insurer-years where standard errors are clustered by insurer. *Relative Big R Misstate*$_{jt}$ is the proportion of clients of office *j* with subsequent significant ("Big R") restatements of year *t* financial statements, less the proportion of clients in MSA *m* not audited by office *j* with subsequent Big R restatements of year *t* financial statements. *Big R Misstate*$_{it}$ is an indicator variable equal to 1 if insurer *i* had a subsequent significant ("Big R") restatement of year *t* financial statements, zero otherwise. *Relative Misstate*$_{jt}$ is the proportion of insurance clients of office j with subsequent significant ("Big R") or insignificant ("little r") restatements of year *t* financial statements, less the proportion of clients in MSA *m* not audited by office *j* with subsequent Big R or little r restatements of year t financial statements. *Misstate*$_{it}$ is an indicator variable equal to 1 if insurer *i* had a subsequent significant ("Big R") or insignificant ("little r") restatement of year *t* financial statements, zero otherwise. *Relative Client Litigation*$_{jt}$ is the proportion of clients of office *j* that are subsequently named as defendants in accounting-related related litigation where the alleged violation occurred in year *t*, less the proportion of clients in MSA *m* not audited by office *j* that are subsequently named as defendants in accounting-related litigation where the alleged violation occurred in year *t*. *Client Litigation*$_{it}$ is an indicator variable equal to 1 if insurer *i* is subsequently named as a defendant in accounting-related litigation where the alleged violation occurred in year *t*, zero otherwise. *Relative Lenience*$_{jt}$ is the proportion of public profit manipulators audited by office *j* in year *t*, less the proportion of public profit manipulators audited by other offices in MSA *m* in year *t*. Detailed variable definitions are provided in Appendix A. *, **, *** Indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively. Models are estimated using OLS. T-statistics are presented in parentheses below the coefficients.

Table 7 presents the results. Results suggest that industry-expert audit offices are less lenient, consistent with expert auditors generally exhibiting higher quality and less lenience, on average. Consistent with auditors becoming stricter in response to a publicized audit failure, we find that audit offices are less lenient in the year of a restatement announcement.[32] Finally, we find no evidence that lenience is related to MSA-level competition, audit office size, or the distance between an audit office and its state insurance regulator, firm headquarters, or clients.

7.2. Restatement and litigation analyses

A maintained assumption in our primary analyses is that auditors are potentially willing to provide clients financial reporting discretion and are rewarded for allowing this discretion because the auditor also avoids significant reputation and litigation risk from publicized audit failures related to claim loss reserve manipulation. We next test the reasonableness of this assumption by examining whether our measure of auditor lenience is associated with subsequent publicized audit failures. We use two proxies for publicized audit failures: (1) severe restatements, as auditors can experience market-share consequences when they are associated with relatively higher levels of restatements

[32] While these factors determine audit-office lenience, these determinants are controlled for in our analyses in Tables 4–7, and thus do not explain our findings. We control for office expertise and restatement announcements through the inclusion of *Expert* and *Relative Restate Announce* in our analyses.

Table 9
Effect of size of bias on auditor-level market share and insurer likelihood to dismiss.

Variables	(1)	(2)
	$\Delta Market\ Share_{jt+1}$	$Dismiss_{it+1}$
$Relative\ Lenience_{jt}$	0.234***	−0.034*
	(3.27)	(−1.83)
$Mean\ Manipulator\ Bias_{jt}$	−0.047***	−0.007**
	(−2.73)	(−2.07)
$Relative\ Lenience \times Mean\ Manipulator\ Bias_{jt}$	0.103*	0.045
	(1.80)	(1.16)
Controls	Yes	Yes
Audit Firm × Year FE	Yes	Yes
MSA FE	Yes	Yes
Observations	667	5725
R-squared	0.27	0.07

Table 9 examines whether the relationship between auditor lenience and subsequent changes in market share or client turnover is moderated by the size of the claim loss reserve bias. In column (1), the sample period covers audit-office-years from 2002 to 2014, and variables are calculated using audit offices' public insurer-client portfolio. In column (2), the sample period covers public insurer-years from 2002 to 2014. $\Delta Market\ Share_{jt+1}$ is the percentage change in market share of public insurers audited by office j from t to $t+1$, excluding manipulating clients. $Dismiss_{it+1}$ is an indicator variable equal to 1 if insurer i engages a new auditor in year $t+1$, zero otherwise. $Relative\ Lenience_{jt}$ is the proportion of public profit manipulators audited by office j in year t, less the proportion of public profit manipulators audited by other offices in MSA m in year t. $Mean\ Manipulator\ Bias_{jt}$ is a standardized measure of the mean bias of profit manipulators audited by office j in year t. Detailed variable definitions are provided in Appendix A. *, **, *** indicate two-tailed significance at the 0.10, 0.05, and 0.01 levels, respectively. Models are estimated using OLS with standard errors clustered by audit office in column (1) and by insurer in column (2). T-statistics are presented in parentheses below the coefficients.

(e.g., Swanquist and Whited 2015), and (2) client litigation, as auditors are exposed to potential reputational damage when clients have higher levels of litigation risk.

To examine the relation between auditor lenience and severe restatements (client litigation), we use a measure of the proportion of audit-office-level insurer misstatements (client litigation) relative to the proportion of property-casualty insurer misstatements (client litigation) within the MSA using data available from Audit Analytics (NAICS Code = 524126). Restatements and client litigation that directly relate to the claim loss reserve and that result in auditor liability are relatively rare, which precludes an analysis of restatements and client litigation that directly relate to the claim loss reserve in a multiple regression analysis.[33] Thus, we include all insurer restatements, regardless of the accounts affected in this analysis, and we include all insurer accounting-related litigation regardless of whether the auditor is named as a defendant and regardless of whether the complaints mention the claim loss reserve as being under- or over-stated.[34] However, including such restatements and client litigation can contribute to a lack of power due to less measurement precision in the multiple regression analyses, reducing our ability to draw inferences on whether it is costly for auditors to be lenient with respect to the claim loss reserve.

We then estimate model (5) at the audit-office level using $Relative\ Big\ R\ Misstate_{jt}$ ($Relative\ Client\ Litigation_{jt}$) as the dependent variable. $Relative\ Big\ R\ Misstate_{jt}$ is based on subsequent restatements with an 8-K item 4.02 disclosure of year t financial statements (i.e., "Big R" restatement), and $Relative\ Client\ Litigation_{jt}$ is based on clients being subsequently named as defendants in accounting-related litigation where the alleged violation occurred in year t. As a second test of the association between auditor lenience and restatements (client litigation), we estimate the likelihood of a restatement (client litigation) at the insurer level using model (8) with $Big\ R\ Misstate_{it}$ ($Client\ Litigation_{it}$) as the dependent variable. $Big\ R\ Misstate_{it}$ and $Client\ Litigation_{it}$ are defined for individual clients (i) rather than for audit offices (j). We recalculate controls at the insurer-level for this estimation.[35] Additionally, because we found two "little r" restatements that potentially relate to the claim loss reserve (see footnote 33), we also estimate both restatement analyses after including "little r" restatements in the dependent variable (*Relative Misstate* and *Misstate*) as a robustness test.

[33] On February 22, 2021, we downloaded all restatements and lawsuits filed between January 1, 2000 and December 31, 2020 from Audit Analytics for the insurance industry (NAICS Code = 524126). Only eight of the resulting 128 restatements mention the claim loss reserve in the restatement text, and six of those eight restatements are due to something other than a misstatement of the claim loss reserve. The underlying causes for the other two are unclear, and both are "little r" restatements. There are 223 unique lawsuits where the insurer is a defendant. Forty of 223 mention the claim loss reserve as being under- or over-stated. However, only eight of the lawsuits name the auditor as a defendant, and the auditor was dismissed or terminated in five of those eight cases. In the three settled cases, the auditor paid $695,000. Overall, this evidence is consistent with auditors bearing little ex post restatement and litigation risk related to the claim loss reserve.

[34] We identify accounting-related lawsuits based on the Audit Analytics classifications of "Accounting and Auditing Enforcement Release", "Accounting Malpractice", and "Financial Reporting". This results in 34 unique lawsuits for our sample. Inferences remain unchanged when analyses are limited to the subset of accounting-related lawsuits that are class actions. Inferences also remain unchanged if we include non-accounting-related lawsuits.

[35] Given that our restatement and litigation variables are defined at the level of the publicly-traded parent to allow for merging with Audit Analytics, there are some cases where there are several individual insurers that are associated with the same publicly-traded parent. Therefore, in addition to audit firm x year and MSA fixed effects, we include publicly-traded parent fixed effects in our insurer-level restatement and litigation analyses.

We present the results of our analyses of the association between auditor lenience and client restatements (litigation) in Table 8, Panel A (Panel B). We find insignificant coefficients on *Relative Lenience* in all columns of both Panels A and B, suggesting that auditor lenience is not associated with an increase in the likelihood of misstatements or accounting-related litigation at either the audit-office level or client level.[36] Subject to the limitations noted above, the evidence from the regressions and the descriptive evidence of limited ex post restatement and litigation risk related to the claim loss reserve are consistent with auditors that allow manipulation of the claim loss reserve being able to avoid publicized audit failures.

7.3. Magnitude of claim loss bias

In our primary design, we measure auditor lenience based on auditors allowing clients to under-reserve to report profits instead of losses. We next examine whether the combination of under-reserving to report profits instead of losses and the size of the bias (i.e., the amount of under-reserving) used to report profits instead of losses moderates our primary findings. This analysis captures a quantitative aspect of the manipulation. It is possible that auditor lenience is increasing in the amount of under-reserving used to shift losses to profits and that clients are more willing to remain with auditors who not only allow the shifting of losses to profits but also allow clients to manipulate by under-reserving the claim loss reserve to a greater extent.

To examine this possibility, we estimate model (5) after adding *Mean Manipulator Bias* and an interaction between *Relative Lenience* and *Mean Manipulator Bias,* where *Mean Manipulator Bias* is a standardized measure of the mean bias of profit manipulators for an audit office.[37] As shown in Table 9, column (1) we find a positive and significant coefficient on the interaction of *Relative Lenience* × *Mean Manipulator Bias*, indicating that the effect of auditor lenience on auditor market share is increasing in the magnitude of the allowed manipulation used to switch losses to profits.[38]

We next examine whether the size of the bias moderates the effect of an individual insurer's decision to retain or dismiss their auditor by estimating model (8) after adding *Mean Manipulator Bias* and an interaction between *Relative Lenience* and *Mean Manipulator Bias*. Consistent with the findings presented in Table 5, we find a negative and significant coefficient on *Relative Lenience* in column (2) of Table 9; however, the coefficient on *Relative Lenience* × *Mean Manipulator Bias* is insignificant, indicating that the effect of auditor lenience on the likelihood of an individual insurer dismissing their auditor is not affected by the magnitude of the mean manipulator bias.[39]

8. Conclusion

We utilize the insurance industry as a setting to examine whether audit firms are rewarded or punished for allowing clients to opportunistically use financial reporting discretion. Following prior literature (e.g., Petroni and Beasley 1996; Beaver et al., 2003), we utilize subsequent disclosures of year-by-year revisions to year *t*'s estimated claim loss reserve to identify, with precision, insurers that under-reserved in year *t* to report a profit in year *t* (we call these insurers "manipulators"). Manipulators would have reported a loss in year *t* if they had accurately reported their claim loss reserve. Auditing standards and the SEC state that misstatements that shift a loss to a profit represent a qualitative factor that should be considered when determining if a misstatement is material. Thus, these instances arguably represent instances of low-quality auditing.

While we know from prior literature that auditors are negatively affected by publicized audit failures, we do not know whether auditors face consequences for providing low-quality auditing in the absence of publicized auditing failures. If auditors can avoid consequences from publicized audit failures, then they could be willing to allow clients significant financial reporting discretion, and clients could reward auditors for allowing such behavior. Alternatively, it is possible that auditors are punished for low-quality auditing by regulators (e.g., the PCAOB) or by clients who do not want to be associated with an auditor that provides low-quality auditing.

Using a sample of public insurers from 2000 to 2014, we find that the relative extent of manipulation allowed by an audit office in an MSA-year is positively associated with subsequent audit office market share growth, measured by change in

[36] Note that the number of observations for column (2) in Panel A and B and for column (4) in Panel A is smaller than 5725 (our sample of insurer-years) because we limit our sample to insurers who are included in Audit Analytics or whose parent companies are included in Audit Analytics. We do this because the restatement and litigation data come from Audit Analytics. While all of our sample of public insurers files with the U.S. insurance regulator, the NAIC, some of the insurers (or their public parent companies) do not have to file annual reports with the SEC, and thus, do not have information included in Audit Analytics.

[37] We standardize the mean bias measure to aid in the economic interpretation of the coefficient of interest.

[38] If managers in our setting are, on average, miscalibrated (i.e., underestimate the variance of claim losses), then they may generally desire to underestimate claim losses (Ben-David et al., 2013). Thus, managers may value auditor lenience regardless of how close their firms are to the zero earnings benchmark. In an untabulated analysis, we fail to find a relationship between total bias (not limited to manipulating clients) and changes in subsequent audit office market share of non-manipulating clients. This result combined with our primary results suggests that managers value the ability to under-reserve estimated claim losses when they can opportunistically report profits instead of losses. That is, it is the auditor, on average, allowing more clients to manipulate losses into reported profits, rather than simply tolerating more optimistic estimates alone, that is associated with an increase in auditor market share.

[39] In untabulated analyses, we do find a negative and significant coefficient on the interaction between a standardized measure of an insurer's own bias and *Relative Lenience*, which suggests that the effects of auditor lenience on an insurers' likelihood of dismissing their auditor may be magnified by an insurer's own level of claim loss manipulation, even if such manipulation falls below the threshold of profit manipulating. An insurer that is under-reserving to a greater extent is possibly more likely to need to under-reserve in the future to switch a loss to a profit. This insurer would then have incentives to remain with their current, lenient auditor.

number of non-manipulating clients. We find similar inferences when measuring the propensity to allow clients significant financial reporting discretion over a three-year period. Results are driven by existing clients remaining with (leaving) audit offices that allow (do not allow) manipulation. We find consistent evidence of lenient auditors being associated with subsequent increases in non-manipulating client market share when including both public and private insurer clients, measuring manipulation based on solvency (IRIS) ratios, examining the banking industry, and examining a cross section of all public clients audited by an audit office within a going-concern-opinion setting.

In an exploratory analysis, we find that expert audit offices and offices with a recently announced restatement are less lenient. In further analyses, we find no association between auditor lenience and misstatement likelihood or client litigation likelihood, measured at either the audit-office or client level. Thus, we do not find evidence suggesting that auditor lenience related to the claim loss reserve is associated with a significant increase in the likelihood of publicized audit failure.

We contribute to the literature on market effects of audit quality. While auditors have strong incentives to provide high-quality audits and numerous studies provide evidence consistent with these incentives, auditors may also have profit and market share incentives that could, at times, conflict with incentives for providing high-quality audits. Using the insurance industry as a setting, we provide evidence that is consistent with auditors being rewarded for providing low audit quality when auditors are able to avoid publicized audit failures. Our focus on the public-insurer setting provides measurement advantages, and additional tests provide some support that results generalize to additional settings. However, the insurer setting and the settings of our tests of generalizability all have limitations. Thus, we encourage further research on whether and when auditors may act in accordance with profit and market share incentives.

Our paper should be of interest to those responsible for ensuring audit quality such as the PCAOB and audit committees. For example, the PCAOB could increase focus on qualitative materiality factors during inspections of audit firms, and audit committees could consider evidence of auditors overlooking such factors during audit tendering. Additionally, investors could potentially consider the extent to which an auditor may have overlooked qualitative materiality factors when assessing the reliability of financial statements.

We also contribute to the literature that focuses on the property-casualty insurance industry that documents pervasive earnings management (Beaver et al., 2003; Gaver and Paterson 2004). It is possible that auditor lenience could be a contributing factor to why evidence of earnings management remains. Additionally, we contribute to the literature on auditor materiality by providing evidence that is consistent with auditors, at times, being rewarded for overlooking qualitative materiality factors due to market-share incentives.

APPENDIX A. Variable Definitions

Variable Name	Description
Variables of Interest:	
Mean Manipulator Bias$_{jt}$	standardized measure of the mean bias of profit manipulators audited by office *j* in year *t*.
Relative Lenience$_{jt}$	proportion of public profit manipulators audited by office *j* in year *t*, less proportion of public profit manipulators audited by other offices in MSA *m* in year *t*. See model (3).
3yr *Relative Lenience*$_{jt}$	average of *Relative Lenience* for *t-2*, *t-1*, and *t*, for office *j*.
Relative Lenience Bank$_{jt}$	proportion of bank profit manipulators audited by office *j* in year *t*, less proportion of bank profit manipulators audited by other offices in MSA *m* in year *t*.
Relative Lenience Full$_{jt}$	proportion of public and private profit manipulators audited by office *j* in year *t*, less proportion of public and private profit manipulators audited by other offices in MSA *m* in year *t*.
Relative Lenience Ratio$_{jt}$	proportion of public ratio manipulators audited by office *j* in year *t*, less proportion of public ratio manipulators audited by other offices in MSA *m* in year t.
Relative Lenience Ratio Full$_{jt}$	proportion of public and private ratio manipulators audited by office *j* in year *t*, less proportion of public ratio manipulators audited by other offices in MSA *m* in year t.
Dependent Variables:	
Clients Gained$_{jt+1}$	natural log of 1 plus the count of public insurer clients gained by audit office *j* in year *t+1*.
Clients Lost$_{jt+1}$	natural log of 1 plus the count of public insurer clients lost by audit office *j* in year *t+1*.
Dismiss$_{it+1}$	indicator variable equal to 1 if insurer *i* engages a new auditor in year *t+1*, zero otherwise.
Δ*Market Share*$_{jt+1}$	percentage change in market share of public insurers audited by office *j* from *t* to *t+1*, excluding manipulating clients. See model (4).
Market Share$_{jt+1}$	market share of public insurers audited by office *j* in *t+1*, excluding manipulating clients.
Δ*Market Share Bank*$_{jt+1}$	percentage change in market share of public and private bank clients audited by office *j* from *t* to *t+1*, excluding manipulating clients.
Δ*Market Share Full*$_{jt+1}$	percentage change in market share of public and private insurers audited by office *j* from *t* to *t+1*, excluding manipulating clients.
Relative Big R Misstate$_{jt}$	proportion of clients of office *j* with subsequent significant ("Big R") restatements of year *t* financial statements, less the proportion of clients in MSA *m* not audited by office *j* with subsequent Big R restatements of year *t* financial statements. [source: Audit Analytics]
Relative Client Litigation$_{jt}$	proportion of clients of office *j* that are subsequently named as defendants in accounting-related related litigation where the alleged violation occurred in year *t*, less the proportion of clients in MSA *m* not audited by office *j* that are subsequently named as defendants in accounting-related litigation where the alleged violation occurred in year *t*. [source: Audit Analytics]

(*continued*)

Variable Name	Description
Relative Misstate$_{jt}$	proportion of insurance clients of office j with subsequent significant ("Big R") or insignificant ("little r") restatements of year *t* financial statements, less the proportion of clients in MSA *m* not audited by office *j* with subsequent Big R or little r restatements of year t financial statements. [source: Audit Analytics]
Big R Misstate$_{it}$	indicator variable equal to 1 if insurer *i* had a subsequent significant ("Big R") restatement of year *t* financial statements, zero otherwise. [source: Audit Analytics]
Misstate$_{it}$	indicator variable equal to 1 if insurer *i* had a subsequent significant ("Big R") or insignificant ("little r") restatement of year *t* financial statements, zero otherwise. [source: Audit Analytics]
Client Litigation$_{it}$	indicator variable equal to 1 if insurer *i* is subsequently named as a defendant in accounting-related litigation where the alleged violation occurred in year *t*, zero otherwise. For example, if an alleged violation started on November 17, 2008 and ended on February 15, 2010 for an insurer with a year-end of December 31st, then the litigation indicator for this insurer would equal 1 for the 2008, 2009, and 2010 insurer-years. We define accounting-related litigation as those with Audit Analytics categories of "Accounting and Auditing Enforcement Release", "Accounting Malpractice", and "Financial Reporting". [source: Audit Analytics]
Other Variables:	
Absolute Bias$_{it}$	absolute value of the claim loss error scaled by total assets of insurer *i* in year *t*.
Adjusted Net Income$_{it}$	net income as reported less claim loss error, net of tax for insurer *i* in year *t*. See model (1).
Mean Office Client Absolute Bias$_{it}$	mean of *Absolute Bias*$_{it}$ for non-manipulating clients audited by audit office-year *j* in year *t*.
Mean Office Client Cash$_{it}$	mean of *Cash*$_{it}$ for non-manipulating clients audited by audit office-year *j* in year *t*.
Mean Office Client Growth$_{it}$	mean of *Growth*$_{it}$ for non-manipulating clients audited by audit office-year *j* in year *t*.
Mean Office Client Leverage$_{it}$	mean of *Leverage*$_{it}$ for non-manipulating clients audited by audit office-year *j* in year *t*.
Mean Office Client Loss$_{it}$	mean of *Loss*$_{it}$ for non-manipulating clients audited by audit office-year *j* in year *t*.
Mean Office Client ROA$_{it}$	mean of *ROA*$_{it}$ for non-manipulating clients audited by audit office-year *j* in year *t*.
Mean Office Client Size$_{it}$	mean of *Size*$_{it}$ for non-manipulating clients audited by audit office-year *j* in year *t*.
Avg Distance to Clients$_{jt}$	natural log of 1 plus the average distance in miles between audit office *j* and the headquarters of the insurance clients audited by office *j* in year *t*.
Cash$_{it}$	cash and short-term investments divided by assets for insurer *i* in year *t*.
Claim Loss Error$_{it}$	difference between reported claim loss reserve for insurer *i* in *t* and revised claim loss reserve based on a five-year reserve development period. See Appendix B.
Clients$_{jt}$	natural log of 1 plus the number of public insurer clients audited by office *j* in year *t*.
Distance to Regulator$_{j}$	natural log of 1 plus the distance in miles from audit office *j* to the insurance regulator for the state where office *j* is located. [source: https://content.naic.org/state_web_map.htm]
Distance to HQ$_{j}$	natural log of 1 plus the distance in miles from audit office *j* to the audit firm headquarters of audit office *j*.
Expert$_{jt}$	indicator variable equal to 1 if office *j* is both the local and national leader for auditing of public insurers (defined as most audit fees) in year *t*, zero otherwise.
Growth$_{it}$	growth in total assets of insurer *i* in year *t*. [(Total Assets$_{t}$ - Total Assets$_{t-1}$)/Total Assets$_{t-1}$]
Leverage$_{it}$	total liabilities divided by total assets for insurer *i* in year *t*.
Local and National Leader$_{jt}$	indicator variable equal to 1 if audit office *j* is both the local MSA and national leader in total insurance assets audited in year *t*, zero otherwise.
Loss$_{it}$	indicator variable equal to 1 if insurer *i* reports a loss in year *t*, zero otherwise.
Low Competition$_{mt}$	indicator variable equal to 1 if audit office MSA *m* is in bottom third in competition based on a Herfindahl-Hirschman Index (HHI) in year *t*, zero otherwise. $HHI_{mt} = \sum_{j=1}^{n} (MarketShare_{jt})^2$ for all *n* audit offices located in MSA-year *m*.
MSA Size$_{mt}$	count of auditors in MSA *m* in year *t*.
Public$_{jt}$	proportion of public insurers in the full insurer client portfolio of office *j* in year *t*.
Office Size$_{jt}$	natural log of 1 plus number of audit clients of office *j* in year *t*. [source: Audit Analytics]
Profit Manipulator$_{it}$	indicator variable equal to 1 if insurer *i* reports positive net income, but has negative adjusted net income in *t*, zero otherwise.
Profit Manipulator Intensity$_{jt}$	proportion of profit manipulating clients divided by total clients audited by office *j* in year *t*. See model (2).
Recorded Net Income$_{it}$	the amount of net income recorded for insurer *i* in year *t*.
Relative Fee$_{jt}$	total legal and audit fees paid by insurer-clients of audit office *j* scaled by total assets audited by audit office *j*, relative to the total legal and audit fees for other audit offices in MSA *m* scaled by total assets audited for other audit offices in MSA *m* in year *t*. [(Total Audit Fees$_{jt}$/Total Assets Audited$_{jt}$) - (Total Fees$_{mt}$ -Total Fees$_{jt}$)/(Total Assets Audited$_{mt}$ -Total Assets Audited$_{jt}$)] Note: statutory filings do not separate audit fees from legal fees.
Relative Restate Announce$_{jt}$	proportion of clients audited by audit office *j* with restatement announcements in year *t*, less proportion of public clients audited by other offices in MSA *m* with restatement announcements in year *t*, as defined by Swanquist and Whited (2015). [source: Audit Analytics]
Restate Announce$_{jt}$	indicator variable equal to 1 if audit office *j* had any client announce a restatement in year *t*, zero otherwise. [source: Audit Analytics]
ROA$_{it}$	net income before dividends and tax divided by total assets of insurer *i* in year *t*.
Size$_{it}$	natural log of assets of insurer *i* in year *t*.
Tax Rate$_{it}$	income tax expense divided by net income before tax for insurer *i* in year *t*. Any value less (more) than zero (one) is assigned a value of zero (one).

All data obtained from NAIC Regulator Reports unless otherwise noted.

APPENDIX B. Claim Loss Reserve Error Calculation

Insurance company regulatory filings include a summary of estimated net incurred losses and cumulative payments on net losses in Schedule P. Each year, insurers refine the estimation of previous years' incurred losses based on new information. The difference between the original revised estimate and the original estimate of losses is called the reserve development. The direction and magnitude of the reserve development provide information on the accuracy and bias of the original reserve estimate, where a positive value indicates that the insurer was originally under-reserved (i.e., net income was biased in a positive direction). Prior research on the claim loss reserve generally focuses on a five-year window and assumes that the five-year reserve development is an accurate indicator of the true original claim loss reserve error (e.g., Petroni 1992; Gaver and Paterson 2004).

We follow prior research in calculating our variable *Claim Loss Error* (Petroni 1992; Gaver and Paterson 2004). Figure 1 shows the calculation of *Claim Loss Error* for year 2006 for St. Paul Fire and Marine Insurance Company. Because our calculation of *Claim Loss Error* requires 5 years of future data, we use the financial statements from 2011 to calculate the 2006 *Claim Loss Error*. Panel A presents the summary of estimated losses as of year-end. Column (6) summarizes the losses for 2006 as estimated in 2006 ($21.10 million). Panel B, column (6) details the actual cumulative cash payments made for losses in 2006 ($11.47 million). The actual claim loss reserve recorded in 2006 is $9.63 million, which is the difference between the estimated total losses and the cumulative cash paid as of year-end ($21.10 million − $11.47 million).

Column (11), rows 1–6 in Panel A presents the estimated losses through 2006 based on updated information available as of year-end 2011 ($20.08 million). Based on this information, the amount that should have been recorded as the claim loss reserve in 2006 ("developed reserve") is $8.61 million ($20.08 million − $11.47 million). Thus, the five-year reserve error (*Claim Loss Error*) is -$1.02 million ($8.61 million − $9.63 million). A negative (positive) value for the reserve error indicates that an insurer was initially over-reserved (under-reserved), thus reported net income was understated (over-stated). To calculate *Adjusted Net Income*, we subtract *Claim Loss Error* from reported net income, as shown in model (1).

APPENDIX B – FIGURE 1

A: Summary of estimated incurred lossess reported at year-end

	1	2	3	4	5	6	7	8	9	10	11
Accident year		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	Prior	6,628,351	7,064,062	7,694,403	8,029,161	**8,261,158**	8,356,318	8,461,072	8,449,565	8,442,280	**8,474,874**
2	2002	2,624,040	2,414,120	2,494,419	2,534,505	**2,549,017**	2,53		,514,936	2,469,102	**2,465,258**
3	2003		2,658,036	2,513,800	2,585,576	**2,576,959**	2,58		,531,781	2,507,631	**2,493,473**
4	2004			2,897,272	2,626,946	**2,509,944**	2,43		,299,151	2,262,904	**2,228,053**
5	2005				2,943,210	**2,713,161**	2,61		,351,219	2,291,737	**2,268,922**
6	2006					**2,486,349**	2,403,395	2,278,058	2,220,220	2,179,801	**2,150,664**
7	2007						2,566,659	2,509,773	2,449,789	2,442,863	2,374,627
8	2008							2,942,721	2,965,951	2,949,232	2,879,189
9	2009								2,746,997	2,734,808	2,715,375
10	2010									2,914,254	3,009,940
11	2011										3,565,850

21,096,588 {A} estimate of 2006 losses as of 2006

20,081,244 {D} revised estimate of 2006 losses as of 2011

Estimated Losses for 2006 **21,096,588 {A}**

B: Summary of cumulative payments to policyholders at year-end

	1	2	3	4	5	6	7	8	9	10	11
Accident Year		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
1	Prior	0	1,668,708	2,546,794	3,334,953	**3,918,939**	4,369,548	**4,850,757**	5,110,584	5,360,240	5,563,222
2	2002	714,705	1,222,203	1,527,918	1,771,645	**1,957,033**	2,078		,02,740	2,229,723	2,246,973
3	2003		759,038	1,309,188	1,659,380	**1,867,690**	2,032		81,637	2,222,699	2,253,724
4	2004			747,937	1,285,539	**1,544,087**	1,738		30,863	1,983,720	2,013,317
5	2005				805,848	**1,408,702**	1,639		02,184	1,974,841	2,010,814
6	2006					**775,026**	1,220		21,202	1,746,055	1,805,445
7	2007						845,516	**1,348,909**	1,624,500	1,813,192	1,934,123
8	2008							**1,109,683**	1,706,300	2,020,395	2,233,742
9	2009								1,036,050	1,609,463	1,902,717
10	2010									1,156,108	1,799,995
11	2011										1,594,868

11,471,477 {B} cumulative cash paid for losses in 2006

Cumulative Cash Paid for Losses in 2006 **11,471,477 {B}**

Balance Sheet Loss Reserve for 2006 **{A}-{B} 9,625,111 {C}**

2006 Reserve "should have been" **{D}-{B} 8,609,767 {E}**

2006 *CLAIM_LOSS_ERROR* **-1,015,344 {E}-{C}**

Appendix C. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.jacceco.2021.101424.

References

Acito, A., Burks, J., Johnson, W.B., 2019. The materiality of accounting errors: evidence from SEC comment letters. Contemp. Account. Res. 36 (2), 839–868.
Ahmed, A.S., Takeda, C., Thomas, S., 1999. Bank loan loss provisions: a reexamination of capital management, earnings management and signaling effects. J. Account. Econ. 28 (1), 1–25.
Aobdia, D., 2019. Do practitioner assessments agree with academic proxies for audit quality? Evidence from PCAOB and internal inspections. J. Account. Econ. 67, 144–174.
Beatty, A., Chamberlain, S.L., Magliolo, J., 1995. Managing financial reports of commercial banks: the influence of Taxes, Regulatory Capital, and Earnings. J. Account. Res. 33 (2), 231–261.
Beatty, A.L., Ke, B., Petroni, K.R., 2002. Earnings management to avoid earnings declines across publicly and privately held banks. Account. Rev. 77 (3), 547–570.
Beatty, A., Liao, S., Zhang, H., 2019. The effect of banks' financial reporting on syndicated-loan structures. J. Account. Econ. 67, 496–520.
Beaver, W., McNichols, M., Nelson, K., 2003. Management of the loss reserve accrual and the distribution of earnings in the property-casualty insurance industry. J. Account. Econ. 35, 347–376.
Ben-David, I., Graham, J.R., Harvey, C.R., 2013. Managerial miscalibration. Q. J. Econ. 128 (4), 1547–1584.
Calomiris, C., Kahn, C., 1991. The role of demandable debt in structuring optimal banking arrangements. Am. Econ. Rev. 81 (4), 497–513.
Chen, J., Choudhary, P., 2020. The impact of national office governance on audit quality (Working paper).
Choi, J.H., Kim, C.F., Kim, J.B., Zang, Y., 2010. Audit office size, audit quality, and audit pricing. Audit J. Pract. Theor. 29 (1), 79–97.
Choudhary, P., Merkley, K., Schipper, K., 2019. Auditors' quantitative materiality judgments: properties and implications for financial reporting reliability. J. Account. Res. 57 (5), 1303–1351.
Cowle, E., Rowe, S., 2019. Don't make me look bad: how the audit market penalizes auditors for doing their job (Working paper).
DeAngelo, L.E., 1981. Auditor size and audit quality. J. Account. Econ. 3, 183–199.
DeFond, M., Zhang, J., 2014. A review of archival auditing research. J. Account. Econ. 58, 275–326.
deHaan, E., 2020. Practical guidance on using and interpreting fixed effects models (Working paper).
Diamond, D., Rajan, R., 2001. Banks and liquidity. Am. Econ. Rev. 91 (2), 422–425.
Dyreng, S.D., Hanlon, M., Maydew, E.L., 2008. Long-run corporate tax avoidance. Account. Rev. 83 (1), 61–82.
Eilifsen, A., Messier, W., 2015. Materiality guidance of the major public accounting firms. Audit J. Pract. Theor. 34 (2), 3–26.
Ettredge, M., Heintz, J., Li, C., Scholz, S., 2011. Auditor realignments accompanying implementation of SOX 404 ICFR reporting requirements. Account. Horiz. 25 (1), 17–39.
Francis, J.R., Golshan, N., Hallman, N., 2020. Does audit partner location matter? (Working paper).
Francis, J., Yu, M., 2009. Big 4 office size and audit quality. Account. Rev. 88 (2), 1626–1661.
Gaver, J., Paterson, J., 2001. The association between external monitoring and earnings management in the property-casualty insurance industry. J. Account. Res. 39 (2), 269–282.
Gaver, J., Paterson, J., 2004. Do insurers manipulate loss reserves to mask solvency problems? J. Account. Econ. 37, 393–416.
Gaver, J., Paterson, J., 2007. The influence of large clients on office-level auditor oversight: evidence from the property-casualty insurance industry. J. Account. Econ. 43, 299–320.
Hanley, K.W., Jagolinzer, A.D., Nikolova, S., 2018. Strategic estimation of asset fair values. J. Account. Econ. 66, 25–45.
Hennes, K., Leone, A., Miller, B., 2008. The importance of distinguishing errors from irregularities in restatement research: the case of restatements and CEO/CFO turnover. Account. Rev. 83 (6), 1487–1519.
Hennes, K., Leone, A., Miller, B., 2014. Determinants and market consequences of auditor dismissals after accounting restatements. Account. Rev. 89 (3), 1051–1082.
Jayaraman, S., Milbourn, T., 2015. CEO equity incentives and financial misreporting: the role of auditor expertise. Account. Rev. 90 (1), 321–350.
Kedia, S., Rajgopal, S., 2011. Do the SEC's enforcement preferences affect corporate misconduct? J. Account. Econ. 51, 259–278.
Kim, I., Skinner, D.J., 2012. Measuring securities litigation risk. J. Account. Econ. 53, 290–310.
Lennox, C., 2000. Do companies successfully engage in opinion-shopping? Evidence from the UK. J. Account. Econ. 29, 321–337.
Lennox, C., Li, B., 2014. Accounting misstatements following lawsuits against auditors. J. Account. Econ. 57 (1), 58–75.
Lennox, C., Wu, X., Zhang, T., 2016. The effect of audit adjustments on earnings quality: evidence from China. J. Account. Econ. 61, 545–562.
Lo, A., 2015. Accounting credibility and liquidity constraints: evidence from reactions of small banks to monetary tightening. Account. Rev. 90 (3), 1079–1113.
Newton, N., Persellin, J., Wang, D., Wilkins, M., 2016. Internal control opinion shopping and audit market competition. Account. Rev. 91 (2), 603–623.
Palmrose, Z., 1988. An analysis of auditor litigation and audit service quality. Account. Rev. 63 (1), 55–73.
Petroni, K., 1992. Optimistic reporting in the property-casualty insurance industry. J. Account. Econ. 15, 485–508.
Petroni, K., Beasley, M., 1996. Errors in accounting estimates and their relation to audit firm type. J. Account. Res. 34 (1), 151–171.
Reynolds, J., Francis, J., 2001. Does size matter? The influence of large clients on office-level auditor reporting decisions. J. Account. Econ. 30, 375–400.
Skinner, D., Srinivasan, S., 2012. Audit quality and auditor reputation: evidence from Japan. Account. Rev. 87 (5), 1737–1765.
Stuber, S.B., Hogan, C.E., 2021. Do PCAOB inspections improve the accuracy of accounting estimates? J. Account. Res. 59 (1), 331–370.
Swanquist, Q., Whited, R., 2015. Do clients avoid 'contaminated' offices? The economic consequences of low-quality audits. Account. Rev. 90 (6), 2537–2570.
Weber, J., Willenborg, M., Zhang, J., 2008. Does auditor reputation matter? The case of KPMG Germany and ComROAD AG. J. Account. Res. 46 (4), 941–972.