

The Effect of Financial Audits on Governance Practices: Evidence from the Nonprofit Sector

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ABSTRACT: I evaluate the effect of financial statement audits on the governance practices of nonprofit organizations. Using a regression discontinuity design that exploits revenue-based exemption thresholds, I find that financial audits cause organizations to implement governance mechanisms, such as conflict of interest policies, whistleblower policies, and formal approval of the CEO's compensation by a committee. Consistent with these governance practices curtailing managers' private benefits, I document reductions in nepotism and CEO-to-employee pay ratio. The results are more pronounced for organizations (1) whose audit is overseen by an audit committee, (2) that already have an independent board, and (3) that face high charity-level demand for oversight. Collectively, these findings shed light on how financial audits shape the governance practices of small, less sophisticated organizations like nonprofits in ways that go beyond financial statements' direct use in decision-making and contracting.

JEL Classifications: M42; G34; M48; L31.

Keywords: auditing; governance; real effects; nonprofit organizations.

I. INTRODUCTION

Each year, CPAs perform thousands of financial statement audits for various types of clients, including numerous nonprofit organizations. These organizations are often small, less sophisticated, and led by individuals who may not have formal business training. There is much to learn about how financial audits shape charitable organizations beyond audits' primary role of conferring assurance over financial reporting quality (AICPA 2022, SAS 1; DeFond and Zhang 2014). Intersecting literatures on audits, governance, and nonprofits, I propose that financial audits incidentally shape governance practices within these organizations (i.e., outside of financial statements' direct use in decision-making and contracting). Specifically, I evaluate whether financial audits cause charities to implement governance mechanisms that constrain managers' ability to extract private benefits and that would not, *a priori*, be directly expected as an outcome of such audits.¹ This exercise can be informative to (1) practitioners' cost-benefit assessments of an audit and (2) policy debates about audit mandates.

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¹ Following Larcker and Tayan (2015), I define governance as the "collection of control mechanisms that an organization adopts to prevent or dissuade potentially self-interested managers from engaging in activities detrimental to the welfare of shareholders and stakeholders." The governance mechanisms I study include conflict of interest policies, whistleblower policies, and formal approval of CEO compensation.

Although the research question is relevant to multiple settings, I focus on the charitable setting for both economic and empirical reasons. Indeed, public charities in the U.S. constitute an important sector of the economy, representing approximately 300,000 organizations and receiving over \$1.7 trillion in annual income (McKeever 2015). These organizations rely on financial support from the public and are tax exempt under Section 501(c)(3) of the Internal Revenue Code. Relevantly, charities face agency conflicts between managers (who can extract private benefits) and stakeholders (who are represented by the board of directors) (Fama and Jensen 1983; Andreoni 2006; Core, Guay, and Verdi 2006). As far as empirical reasons are concerned, the charitable setting offers extensive margin variation in financial audits (i.e., certain charities obtain an audit, whereas others do not), standardized data on governance mechanisms, and plausibly exogenous variation in financial audits due to exemption thresholds in state-level audit mandates.

Drawing on the institutional features of the audit process, I predict that, although financial audits aim to confer assurance over financial reporting, they can also shape governance mechanisms within organizations. Indeed, auditors usually assess their client's internal controls *over financial reporting* (AICPA 2022, AU 315)—I argue that certain governance mechanisms can also act as such controls. For example, auditors may find a conflict of interest policy desirable because it helps them gain assurance over the completeness of related party transaction disclosures. A conflict of interest policy, however, also constrains managers' ability to engage in nepotistic behaviors. Although nepotism typically translates into agency costs, it is of little concern to auditors because it has a limited effect on the reliability of financial reporting. In addition, auditors may evaluate governance practices that do not qualify as internal controls over financial reporting if they believe that these practices foster a "culture of honesty and ethical behavior," which audit guidance links to decreased audit risk (AICPA 2022).

Given this link between audits and governance policies, charities may implement governance mechanisms either as a form of defensive posturing or in response to comments from the auditor. For instance, charities may proactively "put the house in order" because they anticipate that an audit could reveal issues with internal processes and adherence to best practices. At the same time, auditors can use their communication channel with "those charged with governance" as an opportunity to recommend specific governance measures (AICPA 2022, AU 380.25). The board may then follow such recommendations because they (1) learn about best practices in general or organization-specific areas where managers can act against stakeholders' interests, (2) believe it can reduce future audit fees (Bell, Landsman, and Shackelford 2001; Lyon and Maher 2005; Hribar, Kravet, and Wilson 2014), or (3) can use the auditor's recommendation to support governance reform when directors and managers historically disagreed on the matter.

Despite the arguments above, the null hypothesis that a financial audit has no significant effect on governance mechanisms is plausible for several reasons. First, the purpose of a financial audit is to assure that financial statements conform to GAAP, not to reform governance practices (AICPA 2022, SAS 1). In addition, both auditors and directors have incentives to remain on managers' good sides and may thus be reluctant to propose measures that curtail managers' private benefits. Another reason is that audit standards urge auditors not to expect "small, less complex organizations" to have formal governance mechanisms in place (AICPA 2022, AU-C 315.A77).

Given these opposing theoretical arguments, understanding whether financial audits cause organizations to implement governance mechanisms is an empirical question. However, it is challenging to evaluate due to endogeneity concerns (Lennox, Francis, and Wang 2012). For instance, a recent fraud scandal in the nonprofit sector may prompt charities to both obtain an audit and strengthen their governance, resulting in a spurious association. Similarly, size is a potential confounding factor because audits and governance mechanisms, which both have fixed-cost components, simultaneously become more affordable as an organization grows.

To alleviate these concerns, I propose a regression discontinuity (RD) design that exploits regulatory thresholds that trigger the requirement to obtain a financial audit. These thresholds stem from state-level audit mandates, where each state enacts a single size threshold that exempts smaller charities within their jurisdiction. As of the end of my sample period, 23 states have such an audit mandate, and the exemption threshold ranges from \$300,000 to \$3,000,000 in revenue depending on the state. New York (post-2014) and California also require that the audit be overseen by an audit committee. In other words, exceeding the threshold triggers an audit requirement, and in some cases, the audit must be overseen by an audit committee. Given this nuance, my RD design captures a blend of the effect of a mandatory audit (1) overseen by an audit committee due to a requirement, (2) overseen by an audit committee by choice, and (3) not overseen by an audit committee.² The RD design mitigates endogeneity concerns by comparing above- and below-threshold charities that are similar in their other characteristics. The design restricts the estimation sample to a window around the threshold (i.e., the bandwidth) and flexibly controls for differences in size that could influence the propensity to implement governance mechanisms. In support of the identifying assumption, I find no evidence of threshold gaming

² See Section V "The Role of the Audit Committee" for a test that exploits this feature. See Table C2 for a robustness test that excludes New York and California.

behavior (Lee 2008; Lee and Lemieux 2010; Bernard, Burgstahler, and Kaya 2018; Breuer, Hombach, and Müller 2018). I believe this is plausible because charities may have a limited ability to manipulate their revenue, which consists primarily of donations.

To identify governance mechanisms to use as the dependent variables, I inspect the IRS's Form 990 (i.e., the standard form charities must file annually) for questions about measures that prevent managers from engaging in activities that are detrimental to stakeholders (Larcker and Tayan 2015). Focusing on internal processes, I find that organizations are required to indicate whether they have a conflict of interest policy, a whistleblower policy, and formal approval of CEO compensation by a committee.

I document that undergoing a financial statement audit increases the probability that charities have a conflict of interest policy (by 20 percentage points), a whistleblower policy (by 23 percentage points), and formal approval of CEO compensation (by 19 percentage points).

I then explore how the effect of audits on governance varies depending on whether the audit is (1) overseen by an audit committee due to a requirement, (2) overseen by an audit committee by choice, and (3) not overseen by an audit committee. I find audit committees are associated with stronger effects (i.e., for all three governance mechanisms) and more so if the audit committee is required (i.e., for whistleblower policies and formal approval of CEO compensation).

Next, I turn to outcomes that proxy for managers' ability to extract private benefits. I focus on nepotism and the CEO-to-employee pay ratio because these proxies are less likely to change due to better compliance with GAAP. For both proxies, I find a negative association with financial audits.

In addition, I carry out additional analyses to gain deeper insights into the effect of audits on governance. For instance, I consider the independence of the board of directors. I do not find that audits raise board independence, consistent with auditors' weaker incentives to evaluate a charity's governing body. However, conditional on having an independent board in the first place, the effect of audits on governance mechanisms is more pronounced (i.e., for whistleblower policies and for approval of the CEO's compensation). I also show that the result is not confined to charities for whom audits improve financial reporting, as proxied by the Form 990's accounting basis. Finally, I document that the effect of audits on governance is positively (negatively) associated with charity-level demand for oversight (state-level regulatory oversight).

To ensure my results are robust, I perform a placebo test using states without audit mandates and where I assign placebo thresholds to charities (Roberts and Whited 2013). Comfortingly, I observe no discontinuity in the outcome variables around the placebo thresholds. I also test that my results are robust to alternative specifications.

My paper first contributes to the nonprofit audit literature. This body of work encompasses various papers that evaluate determinants and consequences of nonprofit financial audits. As far as consequences are concerned, Kitching (2009) shows that auditor quality and donations are positively correlated. Duguay (2022) documents that audits affect the allocation of donations at the aggregate level. Although Duguay (2022) evaluates a very different outcome than the current study, he also exploits thresholds from state-level audit requirements. Various studies find that nonprofit audits are associated with better financial reporting quality, higher program ratios, and fewer diversions of funds (e.g., Desai and Yetman 2015; Harris, Petrovits, and Yetman 2017; Garven, Beck, and Parsons 2018). Moving to the determinants of nonprofit audits, Harris, Tate, and Zimmerman (2019) identify governance quality as one of the determinants for hiring a nonprofit industry specialist. Tate (2007) and Vermeer, Raghunandan, and Forgione (2009) document factors that drive nonprofit auditor change and audit fees, respectively. My paper differs from these studies by examining the effect of financial statement audits on charities' governance practices. Endogeneity concerns have been a barrier to investigating this question. Indeed, the decisions to obtain an audit, implement governance mechanisms, or adopt best managerial practices naturally emerge together in the data. For example, charities that wish to attract outside funding to finance growth often put in place all these measures simultaneously, blurring the effect that an audit would have if it was implemented exogenously. My paper overcomes this hurdle by exploiting exemption thresholds in state-level regulation to capture the causal effect of audits on governance mechanisms. It is also the first to document that nonprofit audits have real effects in terms of nepotism and CEO-to-employee pay ratio.³

My paper also adds to the literature that views audits and governance as substitutes or complements. Several papers document the effect of governance on audit-related outcomes, such as hiring a Big-N or industry-specialist auditor, audit fees, and audit committee independence (Beasley and Petroni 2001; Klein 2002b; Engel, Hayes, and Wang 2010; Cassell, Giroux, Myers, and Omer 2012; Srinidhi, He, and Firth 2014; DeFond and Zhang 2014; Q. Jin, Y. Jin, Tian, and Xuan 2021). Another stream shows that audit committee independence and expertise are associated with high

³ Outside of the nonprofit audit literature, papers explore the effect of nonprofit governance on donations, donor advisories, and accuracy in financial reporting (M. Yetman and R. Yetman 2012; Harris, Petrovits, and Yetman 2015; Saxton and Neely 2019).

financial reporting quality (Klein 2002a; Xie, Davidson, and DaDalt 2003; Agrawal and Chadha 2005; Krishnan 2005; U. Hoitash, R. Hoitash, and Bedard 2009; Cassell, Myers, Schmardebeck, and Zhou 2018; Hansen, Lisic, Seidel, and Wilkins 2021). However, limited work evaluates how audits affect governance (i.e., the causal relation that runs in the other direction). One example is Johnstone, Li, and Rupley (2011), who find that the revelation of internal control material weaknesses (ICMWs) from internal control audits leads to governance changes in the form of turnover of directors and top executives. My paper adds to this budding literature by directly investigating the effects of financial statement audits on governance mechanisms (i.e., focusing on extensive margin variation in audits) and by doing so in the nonprofit sector. Studying the nonprofit sector is important because it plays a major role in the economy (e.g., nonprofits address a myriad of social needs, 67 percent to 89 percent of U.S. households give to charity every year, and the nonprofit sector receives \$1.7 trillion in revenue annually; List 2011; McKeever 2015). It also answers Leuz and Wysocki (2016)'s call for "researchers to look for ways to study disclosure regulation outside the traditional settings in order to generate new insights." Finally, learning about extensive margin variation in audits matters because it can inform policy debates about mandatory audits as well as practitioners' cost-benefit assessment of an audit in the nonprofit sector.

II. INSTITUTIONAL SETTING AND CONCEPTUAL UNDERPINNINGS

Institutional Setting

The organizations I study are public charities that receive financial support from the public and that enjoy tax-exempt status under Section 501(c)(3) of the Internal Revenue Code. The purpose of these entities is described as "charitable, religious, educational, scientific, literary, [promoting] public safety, fostering national or international amateur sports competition, or preventing cruelty to children or animals" (IRS 2021).

Every year, public charities must file a Form 990 with the IRS, which then makes the form available to the public. The current version of Form 990 has existed since the 2008 tax year. In addition to reporting detailed balance sheet and income statement information, charities must also check boxes indicating whether or not they have specific policies in place. To identify the governance mechanisms to include in my tests, I inspect the Form 990 for questions related to governance (as defined in this paper) and find that organizations must indicate whether they have a conflict of interest policy, a whistleblower policy, and formal approval of the CEO's compensation by a committee. I also find that charities must report on board independence.

States decide whether to impose mandatory financial statement audits on charities located in their jurisdiction as well as charities that solicit their constituents. These audit mandates always exempt smaller charities that fall under a revenue threshold. As of the end of my sample period, 23 states have a nonprofit audit mandate and the state-specific exemption threshold ranges from \$300,000 to \$3,000,000 in revenue (see Appendix A). These audit requirements are based on revenue in the year for which the annual filing is submitted.⁴ The healthcare and education sectors are generally excluded from these regulations because they are subject to industry-specific audit regulations (Neely 2011; Desai and Yetman 2015; Duguay 2022).

Conceptual Underpinnings

Financial statement audits are intended to provide assurance over financial reporting, yet they may also shape governance practices that, *a priori*, would not be directly expected as an outcome of such audits. One reason is that the generally accepted auditing standards (GAAS) instruct auditors to gain an understanding of the entity, its environment, and the risks of misstatement (AICPA 2022, AU 315). In doing so, auditors typically identify internal controls *over financial reporting* (Lawrence, Minutti-Meza, and Vyas 2018). I posit that certain governance mechanisms may act as such controls. For instance, conflict of interest policies constitute a governance mechanism because they curtail managers' ability to extract private benefits through nepotism. Although auditors do not typically worry about nepotism because it is unlikely to threaten the financial reporting process, auditors may believe that a conflict of interest policy can reduce their audit risk to the extent that it can decrease the likelihood of incomplete related party transaction disclosures.

Furthermore, auditors may care about governance practices because they collectively contribute to a "culture of honesty and ethical behavior" that deters malfasant managers and decreases audit risk (AICPA 2022, AU 315). In addition, auditors may sometimes bundle their audit services with informal consulting, especially when catering to less

⁴ In some cases, the laws use expression like "any fiscal year," which can be ambiguous. For those cases, I consult the regulator's website, which contains clarifying instructions, and confirm that the audit requirements are indeed based on revenue in the year for which the annual filing is submitted.

sophisticated organizations.⁵ Although this informal advisory role might predominately focus on operations and accounting, it may also extend to recommending governance mechanisms.⁶

One natural question is why charity directors wait until their organization undergoes a financial audit to implement new governance mechanisms. After all, directors who seek to maximize stakeholder value should adopt governance measures as long as the ensuing reduction in agency costs outweighs the cost of implementation (Larcker and Tayan 2015). The answer is likely that directors revise their assessment of the costs and benefits of implementing governance mechanisms in light of the audit process. This may occur in response to comments from the auditor or as a form of defensive posturing.

For instance, the board may learn about organization-specific areas where managers can act against stakeholders' interests. Indeed, outside board members are generally at an informational disadvantage because they are not involved in the day-to-day running of an organization. Through their insider access and professional expertise, auditors can identify issues the board is not aware of. Directors will then revise their beliefs about the costs and benefits of implementing specific governance mechanisms. Similarly, directors can learn from auditors about best governance practices. In fact, many nonprofit directors may have limited knowledge of governance due to a lack of business training or managerial experience (i.e., their expertise often pertains to social work, education, public health, etc.).

Also, directors and managers may disagree about the optimal level of governance. For example, directors may propose the implementation of tighter governance mechanisms, but management may disagree, arguing the suggested changes are not justified from a cost-benefit angle. Such a deadlock may be resolved in favor of the directors when the auditor recommends governance mechanisms.

Aside from acting on the auditor's comments, charities may also proactively "put the house in order," in part by implementing governance mechanisms, because they fear an audit will uncover issues with internal processes or poor alignment with best practices.

Relatedly, they may believe that implementing governance mechanisms can reduce future audit fees because a stronger control environment can mitigate audit risk. Indeed, when auditors face lower audit risk, they can restrict the scope of their work (e.g., by performing fewer substantive procedures; AICPA 2022, AU 312) or charge a smaller compensatory fee premium (Bell et al. 2001; Lyon and Maher 2005; Hribar et al. 2014; Duguay, Minnis, and Sutherland 2020). This leads to my hypothesis:

H1: Financial statement audits cause charities to implement governance mechanisms.

Despite these arguments, there are several reasons why a financial statement audit may have no significant effect on organizations' governance mechanisms. First, auditors face strong financial incentives to gain the favor of management, as managers have considerable influence over auditors' appointments and retention (Duflo, Greenstone, Pande, and Ryan 2013; Aobdia, Choudhary, and Sadka 2020; Fung, Jiang, Pittman, and Yang 2021). Auditors also know that managers will be less inclined to hire auditors with a reputation for recommending measures that keep management from extracting private benefits (Cook, Kowaleski, Minnis, Sutherland, and Zehms 2020). Auditors can still address audit risk by suggesting controls that are unrelated to managers' private benefits or by raising audit fees (Hribar et al. 2014).

Second, the auditing standards for evaluating a client's control environment contain considerations for smaller, less complex entities, such as those studied in this paper. These considerations urge auditors not to expect smaller organizations to adopt formal governance-related controls. For example, the standards say that "smaller entities might not have a written code of conduct but, instead, develop a culture that emphasizes the importance of integrity and ethical behavior through oral communication" (AICPA 2022, AU-C 315.A77).

Finally, auditors may see little value in assessing the governance practices of relatively small nonprofit clients where the litigation and reputational risk is limited (Venkataraman, Weber, and Willenborg 2008; Minutti-Meza 2014; Chi,

⁵ I caveat that such informal consulting is not observable in the data. As anecdotal evidence, a Google search of the keywords "CPA," "audit," and "nonprofit" reveal many examples. For instance, in marketing their audit services, audit firms write, "Our advisors develop insights through financial statement audits...to help not-for-profits strengthen internal controls and identify areas to improve operations" (Anders CPAs 2022; emphasis added); "Audits, reviews, and compilations are a guilty pleasure with us. We get to know your business intimately so we can offer you an expert assessment with an insider's knowledge. Whether you need us to...listen to your new business plan, we'll lend you a hand" (Perkins & Co 2022); "When you select Raffa-Marcum's Nonprofit & Social Sector to perform and manage your audit, you get seasoned professionals who provide value beyond this assurance. As an experienced audit firm and trusted partner and advisor" (Marcum 2022; emphasis added); and "When you work with LaPorte you'll have access to services that go beyond compliance. With a focus on best practices and solutions, our practitioners work as proactive business advisors" (LaPorte CPAs 2022; emphasis added). Finally, a guide on how to select an auditor recommends that nonprofit organizations ask prospective auditors to "describe any other areas...your approach can add value to our organization" (Wallace Foundation 2022).

⁶ The governance mechanisms I evaluate as main outcome variables have to do with internal processes or checks and balances (e.g., conflict of interest policies), in contrast to properties of the governing body, like board independence. I do not predict that audits affect board independence because (1) the auditing standards dictate that "those charged with governance in smaller entities may not include independent or outside members" (AICPA 2022, AU §314.126) and (2) the way in which the audit guidance instructs auditors to report to those charged with governance implies that auditors can treat the governing body as given, suggesting auditors may not be concerned with board independence (AICPA 2022, AU-C §260). See Section V "The Role of the Board of Directors" for tests pertaining to board independence.

Lisic, Myers, Pevzner, and Seidel 2019; Kowaleski 2020; Lennox and Li 2020; Vetter 2020). Indeed, private litigation is uncommon among charities because they receive funding from small, dispersed donors with whom they have no formal contracts (Duguay 2022). Class action lawsuits against charities are also rare because donors almost never incur damage from misappropriation of donated funds (the beneficiaries do). Notably, the audits I study are triggered by state-level regulations rather than requests from contracting parties. Audits are unlikely to change governance practices if auditors, managers, and directors view the audits as a compliance exercise. Thus, whether financial audits prompt organizations to implement governance mechanisms remains an empirical question.

III. RESEARCH DESIGN, DATA, AND SAMPLE

Research Design

To evaluate the effect of financial audits on charities' governance practices, I propose a research design that exploits revenue-based exemption thresholds.⁷ As discussed in Section II, states with audit mandates always prescribe an exemption threshold for smaller organizations. This institutional feature allows me to use an RD design. Specifically, the design is a fuzzy RD because charities under the threshold can still voluntarily obtain an audit and there are cases of charities that do not obtain an audit despite exceeding the threshold (e.g., in many states, the regulator is allowed to waive the audit requirement "for good cause shown").⁸

A fuzzy regression discontinuity design is equivalent to using an instrumental variable (Angrist and Pischke 2009). Thus, I express my main specification as a two-stage model.

$$\left. \begin{aligned} \text{Audit}_{it} &= \beta' \text{Audit Required}_{it} + \phi' f(\text{Distance to threshold}_{it}) + \gamma' X + \varepsilon'_{it} && \text{1st Stage} \\ Y_{it} &= \beta \widehat{\text{Audit}}_{it} + \phi f(\text{Distance to threshold}_{it}) + \gamma X + \varepsilon_{it} && \text{2nd Stage} \end{aligned} \right] \quad (1)$$

Y_{it} is the dependent variable and varies across specification (e.g., Y_{it} represents governance practices in the main analysis). $\text{Audit Required}_{it}$ is the instrument and is a binary variable equal to 1 when charity i exceeds the audit exemption threshold in tax year t . The treatment variable is Audit_{it} , a binary variable equal to 1 when a charity obtains an audit. An important statistical condition for this model is to have a strong positive association between $\text{Audit Required}_{it}$ and Audit_{it} in the first stage (i.e., the relevance condition). $\widehat{\text{Audit}}_{it}$ is the variable of interest because it captures the local average treatment effect on Y_{it} . $f(\text{Distance to threshold}_{it})$ flexibly controls for revenue (i.e., the running variable). Because thresholds vary across states, I center revenue at the threshold by calculating the log difference between the revenue and the threshold (Breuer et al. 2018; Zimmerman 2019). The applicable threshold is the one prescribed by the state in which a charity is located, unless a charity registers in other states because it solicits out-of-state donations. In such a case, the applicable threshold is the lowest among the states in which the charity is registered or located. X represents covariates. I include LnAssets and LnAge as covariates because these are likely important determinants for the adoption of governance practices. For instance, assets capture size. Governance mechanisms have a fixed-cost component that make them more affordable to larger organizations due to economies of scale. As far as age is concerned, young organizations usually need to direct resources to setting up their operations and programs, leaving little resources to implement governance mechanisms.⁹

To estimate the model, I use the Calonico, Cattaneo, and Titiunik (2014) method because it presents two advantages. First, it reduces researcher discretion while optimizing the RD parameters. Indeed, the method relies on a

⁷ Although this paper and Duguay (2022) both rely on the nonprofit audit setting, they propose different research designs because they study fundamentally different research questions. An RD design is appropriate for this study because (1) it measures organization-level outcomes and (2) allows me to exploit the threshold-based requirements as a source of variation in audits (i.e., the treatment is at the charity level and consists of an audit). In contrast, Duguay (2022) relies on a differential exposure design (1) to measure the allocation of donations among aggregate clusters of charities and (2) to derive an instrument for exposure to audit mandates (i.e., the treatment is at the aggregate level and consists of exposure to audit mandates).

⁸ As long as the threshold significantly increases the probability of obtaining an audit, the RD can capture a causal effect, despite this fuzziness. The fact that voluntary audits and charities' compliance are nonrandom does not raise an endogeneity concern but rather affects generalizability (Angrist and Pischke 2015). In other words, the RD estimates capture the effect of audits on charities that were pushed to obtain an audit by the threshold—however, I cannot speak to the effect that audits would have on charities that do not obtain an audit despite exceeding the threshold (e.g., because they receive a waiver) or on charities that would always obtain an audit even if there were no audit mandate.

⁹ I add state and year fixed effects in a robustness test (see Section IV) rather than the base model because fixed effects impose stringent functional form assumptions to the RD model (which can impair the estimation of the relation between the running variable and the outcomes; Lee and Lemieux 2010). Importantly, the RD method is distinct from other strategies based on treatment-control comparisons (e.g., difference-in-differences) in that its goal is not to use fixed effects and control variables to maximize treatment-control overlap but rather to extrapolate the relation between the running variable and the outcome (Angrist and Pischke 2009). In other words, the specification with fixed effects helps support the validity of the RD design as opposed to improving it (Lee and Lemieux 2010).

data-driven approach to identify the most efficient bandwidth and the best functional form for the running variable given the bias-variance tradeoff (Imbens and Kalyanaraman 2012). Second, it fosters conservative inferences because it produces bias-corrected estimates and relies on a robust variance estimator.¹⁰

I cluster standard errors by charity to account for across-time correlation within charities. Note that my RD design does not require clustering by state, unlike a difference-in-differences (DiD) design that exploits time-series variation in states' decision to adopt an audit mandate. Such a DiD design would raise concerns over across-charity dependence within each state because (1) the decision to pass an audit mandate is taken at the state level and (2) the design compares charities in treated states with those in untreated states (Cascino, Tamayo, and Vetter 2021). In contrast, the RD design relies on cross-sectional variation by comparing charities around the revenue threshold. Furthermore, because only 23 states have audit mandates, clustering by state would result in too few clusters, potentially biasing my inferences (Conley, Gonçalves, and Hansen 2018).

One important assumption in this research design is the absence of omitted variables that correlate with the exemption threshold and affect the outcomes of interest. For example, if exceeding the threshold triggered not only the audit requirement but also the obligation to, say, provide a social-impact report, then I could not attribute the observed effect solely to financial audits. To address this concern, I carefully read the law to search for regulatory provisions other than the audit requirement that might become applicable upon exceeding the threshold. I also contacted the state regulators and asked them whether the revenue threshold that triggers the audit requirement in their state also triggers other regulatory requirements.¹¹ I find that the audit thresholds do not trigger other requirements, except that New York (post-2014) and California require that the audit be overseen by an audit committee. Given this nuance, my coefficient estimates capture a blend of the effect of a mandatory audit (1) overseen by an audit committee due to a requirement, (2) overseen by an audit committee by choice, and (3) not overseen by an audit committee (see Section V "The Role of the Audit Committee" for a test that breaks down the estimates depending on whether the mandatory audit involves oversight by an audit committee).¹²

Test for Threshold Gaming Behavior

Having described the research design, I now evaluate whether charities manipulate their revenue to avoid a mandatory audit. My inferences would be threatened if there was bunching under the threshold and the charities that engaged in this avoidance behavior were more likely to have poor governance (e.g., because they had something to hide). Under such a scenario, the difference in governance between above and below threshold would not be attributable to audits (Lee 2008; Lee and Lemieux 2010; Breuer et al. 2018). I use two approaches to test for manipulation. First, in Figure 1, Panel A, I present a simple histogram of the density of observations around the audit thresholds, centering the state-specific thresholds at zero (e.g., Angrist and Pischke 2009; Breuer et al. 2018; Zimmerman 2019; Duguay, Rauter, and Samuels 2023). I find no visual evidence of an abnormal mass to the left of the threshold. Second, I perform a formal statistical test using the local density estimator method from Cattaneo, Jansson, and Ma (2020). This method is especially conservative, because it implements a bias correction and relies on a triangular kernel that gives more weight to observations close to the threshold.¹³ The test fails to reject the null hypothesis of no discontinuity (p-value of 0.677). Figure 1, Panel B illustrates the test by plotting the local density estimates with confidence intervals. The substantial overlap between the confidence bandwidths on both sides of the threshold suggests the absence of bunching.

The lack of threshold gaming behavior is plausible due to charities' limited ability to manipulate their revenue, which mainly consists of donations. In terms of real revenue management, charities cannot time the delivery of goods, unlike for-profit firms. Charities could time their fundraising activities, but such a strategy would be imprecise because donated amounts are uncertain *ex ante*. In terms of accounting manipulation, revenue recognition for donations leaves little room for discretion in comparison to revenue from complex commercial activities.

¹⁰ Refer to Calonico et al. (2014) for a technical discussion of why conventional RD estimates fail to account for the bias that can result from the poor quality of the distributional approximations of the estimator.

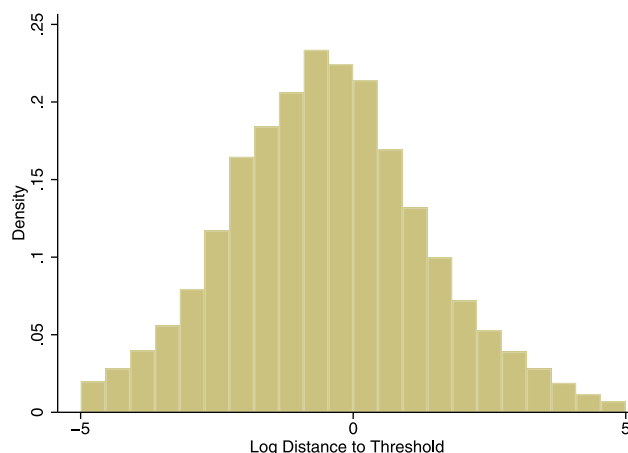
¹¹ This study received an exemption determination from Yale University's Institutional Review Board.

¹² Note that the New York Non-Profit Revitalization Act (which came into effect at the end of my sample period) included a whistleblower policy requirement; however, different thresholds triggered the audit and whistleblower policy requirements during my sample period. Specifically, the threshold for the audit requirement was \$500,000, whereas the threshold for whistleblower policy was \$1,000,000. This should not be a threat, because the RD performs a local estimation of the jump around the audit threshold at \$500,000. In fact, the bandwidth that the RD implements around the \$500,000 threshold does not reach New York observations at the \$1,000,000 threshold. Similarly, the Act included a conflict of interest requirement that was not triggered by the audit threshold but rather applied to all charities. If anything, this requirement would attenuate the result. That is, if all charities in New York are now required to implement a conflict of interest policy regardless of their revenue, little room is left for an audit to increase the probability of having a conflict of interest policy. However, this attenuation effect is likely limited because the New York Non-Profit Revitalization Act applies to one state, at the end of my sample.

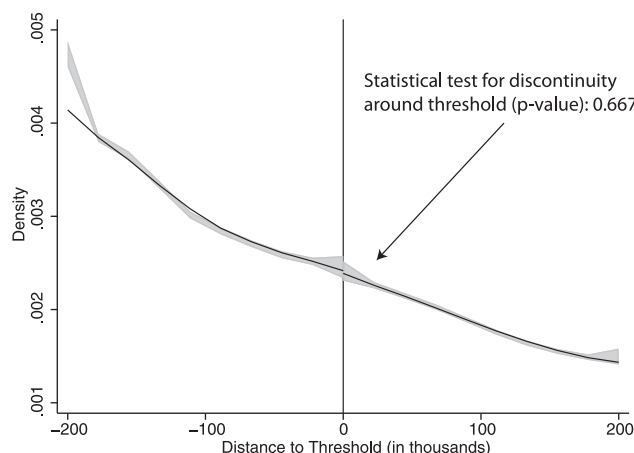
¹³ Cattaneo et al. (2020) provide a technical discussion of the asymptotic bias that the method corrects.

FIGURE 1
Distribution of Observations around the Audit Threshold

Panel A: Histogram of Density of Observations around Audit Threshold



Panel B: Density Discontinuity Plot and Statistical Test



This figure shows the distribution of observations around the audit exemption threshold. State-specific thresholds are centered at 0. Panel A is a histogram of the density of observations. Panel B is a density discontinuity plot produced using the [Cattaneo et al. \(2020\)](#) method, along with the related statistical test. The (log) distance to the threshold is the (log) difference between the revenue and the threshold. (The full-color version is available online.)

Data and Sample

In this section, I describe my data and sample. I hand-collect data on state-level audit mandates by using LexisNexis to read through relevant laws. I manually identify enactment dates, amendment dates, and exemption thresholds for all audit mandates imposed by state regulators during my sample period (see [Appendix A](#)).

I obtain Form 990 data from GuideStar for all public charities that file a Form 990 in tax years 2008–2015 and that are located or registered in states with an audit mandate. I drop observations with missing as well as organizations in health and education (because these are subject to sector-specific audit regulations; [Neely 2011](#); [Desai and Yetman 2015](#)). I also drop observations with impossible data points (i.e., revenue, total assets, or age is negative). This leaves me with 712,969 charity-year observations representing 134,626 unique charities. I report summary statistics in [Table 1](#), Panel A. The median charity-year observation has \$519,000 in revenue and \$748,000 in assets, 55 percent of observations obtain a financial audit, and 66 percent, 47 percent, and 12 percent of observations have a conflict of interest policy, a whistleblower policy, and formal approval of CEO pay by a committee, respectively. In

TABLE 1
Summary Statistics

Panel A: Full Sample

Variable	Mean	Std. Dev.	P25	Median	P75	n
<i>Conflict Interest Policy</i>	0.662	0.473	0	1	1	712,969
<i>Whistleblower Policy</i>	0.471	0.499	0	0	1	712,969
<i>CEO Pay Approval</i>	0.121	0.326	0	0	0	712,969
<i>CEO Pay Ratio (in deciles)</i>	5.365	2.866	3	5	8	338,686
<i>Nepotism</i>	0.142	0.349	0	0	0	587,603
<i>Audit</i>	0.550	0.498	0	1	1	712,969
<i>Audit Required</i>	0.352	0.477	0	0	1	712,969
<i>Revenue (in thousands)</i>	3,893	35,034	214	519	1,652	712,969
<i>Assets (in thousands)</i>	7,818	110,174	186	748	2,819	712,969
<i>Age</i>	26.584	24.324	10	21	35	712,969
<i>Independent Board</i>	0.697	0.460	0	1	1	712,969
<i>Audit with Audit Committee</i>	0.457	0.498	0	0	1	712,969
<i>Audit with Audit Committee (required)</i>	0.089	0.285	0	0	0	712,969
<i>Audit with Audit Committee (choice)</i>	0.367	0.482	0	0	1	712,969
<i>Audit without Audit Committee</i>	0.093	0.291	0	0	0	712,969

Panel B: Variables Used in Regression Discontinuity Analyses, after Sample Has Been Restricted to the Bandwidth

Variable	Mean	Std. Dev.	P25	Median	P75	n
<i>Conflict Interest Policy</i>	0.709	0.454	0	1	1	160,116
<i>Whistleblower Policy</i>	0.501	0.500	0	1	1	138,963
<i>CEO Pay Approval</i>	0.083	0.275	0	0	0	146,433
<i>CEO Pay Ratio (in deciles)</i>	5.007	2.741	3	5	7	85,021
<i>Nepotism</i>	0.143	0.350	0	0	0	135,743
<i>Audit</i>	0.647	0.478	0	1	1	160,116
<i>Audit Required</i>	0.481	0.500	0	0	1	160,116
<i>Revenue (in thousands)</i>	1,566	7,777	381	619	1,262	160,116
<i>Assets (in thousands)</i>	2,970	16,025	253	761	2,314	160,116
<i>Age</i>	26.398	23.013	10	21	35	160,116
<i>Independent Board</i>	0.722	0.448	0	1	1	123,665

This table reports the summary statistics for the variables used in [Tables 2–6](#). Panel A reports the summary statistics for the full sample. Panel B reports summary statistics for variables used in regression discontinuity analyses after the sample has been restricted to the bandwidth (for each variable, summary statistics reported are for the first estimation sample that appears in the tables). The sample is based on Form 990 data from GuideStar for tax years 2008–2015.

See [Appendix B](#) for variables definitions.

Panel B, I report similar summary statistics after the sample has been restricted to the bandwidth for the variables used in RD analyses.

IV. THE EFFECT OF FINANCIAL AUDITS ON GOVERNANCE MECHANISMS

I first evaluate the effect of financial audits on the likelihood of implementing governance mechanisms that take the form of internal processes, beginning with conflict of interest policies. In [Table 2](#), column (1), I report the first stage of the model from [Equation \(1\)](#). I find a positive and strongly significant coefficient, suggesting that the relevance assumption is satisfied.¹⁴ Column (2) shows a positive and statistically significant estimate for the second stage, consistent with

¹⁴ The F-statistic for the first stage based on [Sanderson and Windmeijer \(2016\)](#) is above 50, providing additional support that the instrument is not weak.

TABLE 2
The Effect of Financial Audits on Governance Mechanisms That Take the Form of Internal Processes

	Conflict of Interest Policy		Whistleblower Policy		CEO Pay Approval	
	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
	<i>Audit</i>	<i>Conflict Interest Policy</i>	<i>Audit</i>	<i>Whistleblower Policy</i>	<i>Audit</i>	<i>CEO Pay Approval</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Audit Required</i>	0.127*** (0.006)		0.127*** (0.007)		0.128*** (0.006)	
<i>Audit</i> (instrumented)		0.204*** (0.048)		0.230*** (0.056)		0.190*** (0.030)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	712,969	712,969	712,969	712,969	712,969	712,969
Effective observations	160,116	160,116	138,963	138,963	146,433	146,433

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents the regression discontinuity estimates of Equation (1) based on the Calonico et al. (2014) method. The method uses a data-driven approach to determine the bandwidth and the functional form of the running variable. For each outcome, the first- and second-stage estimates are reported. The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. Refer to Table C1 for a two-stage least squares estimation that reports estimates of the covariates. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit Required = a binary variable equal to 1 if the organization's revenue exceeds the audit exemption threshold;

Audit = a binary variable equal to 1 if the organization obtains an audit;

Conflict Interest Policy = a binary variable equal to 1 if the organization has a conflict of interest policy;

Whistleblower Policy = a binary variable equal to 1 if the organization has a whistleblower policy; and

CEO Pay Approval = a binary variable equal to 1 if a committee approves the compensation of top management.

See Appendix B for variables definition.

financial audits raising the propensity of charities to have a conflict of interest policy by 20 percentage points. The bandwidth determined by the method by Calonico et al. (2014) uses 22 percent of all available observations.¹⁵ In Figure 2, Panel A, I provide graphical support for the RD analysis by showing a binned scatter plot with fitted trends. In line with the tabulated analysis, I observe a jump in the likelihood of a conflict of interest policy around the audit threshold (Imbens and Lemieux 2008).

In columns (3) and (4) ((5) and (6)) of Table 2, I estimate Equation (1) for *Whistleblower Policy* (*CEO Pay Approval*).¹⁶ I find positive and significant coefficients in all four columns. In terms of magnitude, financial audits increase the probability that charities implement a whistleblower policy and formal approval of the CEO compensation by 23 and 19 percentage points, respectively. Figure 2, Panels B and C provides a graphical representation of the RD design for *Whistleblower Policy* and *CEO Pay Approval*, respectively. Collectively, the results are consistent with financial audits causing charities to implement governance mechanisms.

Note that the method by Calonico et al. (2014) does not produce estimates of the covariates because it implements covariates in a way akin to first residualizing the other variables and then estimating the relation between the running variable and the outcome. To give an idea of the estimates of the covariates, I report in Table C1 a two-stage least squares (2SLS) regression (instead of the method by Calonico et al. (2014)), using the same parameters (e.g., the same bandwidth) determined by Calonico's data-driven approach. This approach estimates treatment effects that come close

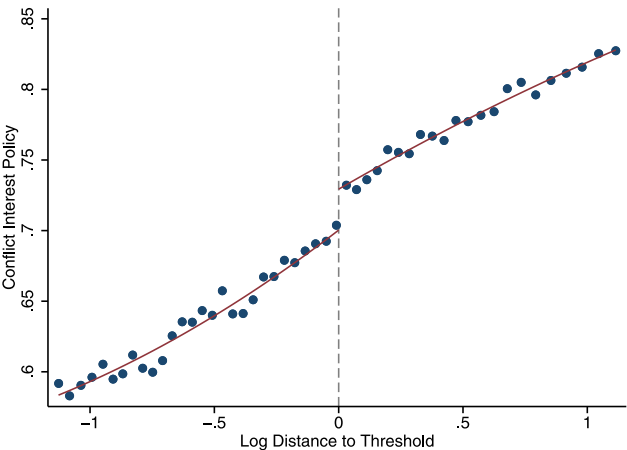
¹⁵ *A priori*, this bandwidth may seem large compared with that in traditional RD methods, in which researchers choose the parameters themselves. However, larger bandwidths are common in data-driven methods (e.g., Hartzmark and Sussman 2019). Indeed, the method is specifically designed to "offer robustness to 'large' bandwidths" (Calonico et al. 2014). In addition, the method uses a triangular kernel that gives more weight to observations in the vicinity of the threshold. Nevertheless, in untabulated analyses, I find that the result is robust to narrower bandwidths that capture 20 percent, 15 percent, or 10 percent of the available observations.

¹⁶ The number of effective observations changes slightly because the method identifies the most efficient bandwidth for each dependent variable.

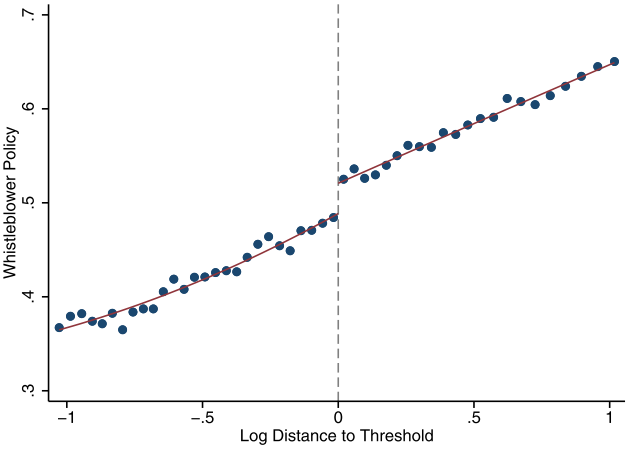
FIGURE 2

The Effect of Financial Audits on Governance Mechanisms and Private Benefits

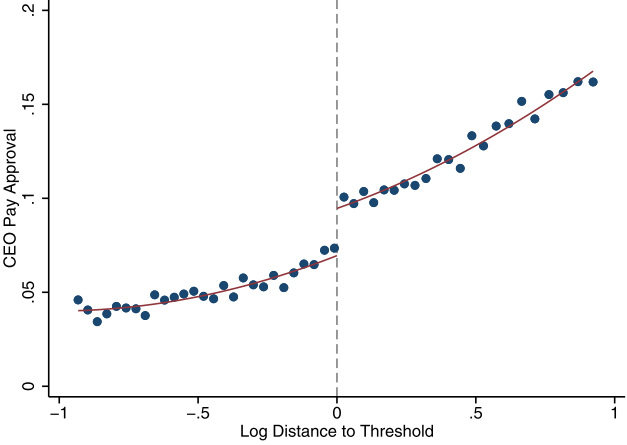
Panel A: Conflict of Interest Policy



Panel B: Whistleblower Policy



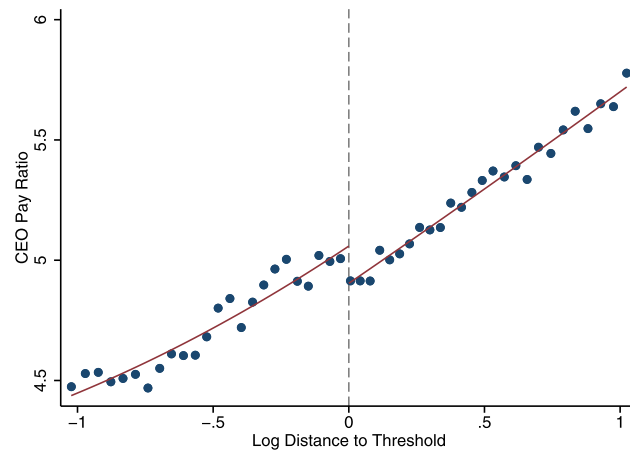
Panel C: Approval of CEO's Compensation by Committee



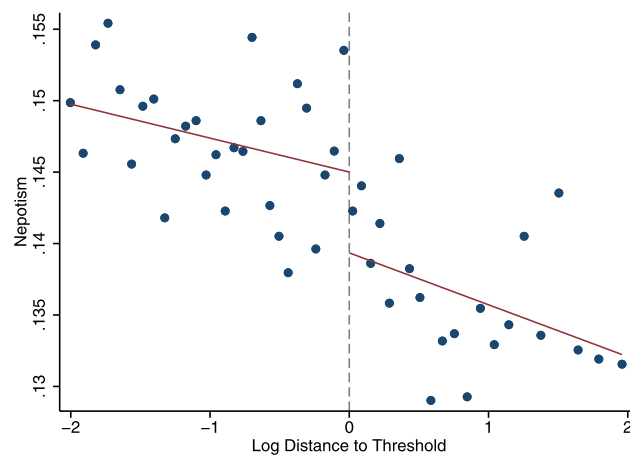
(continued on next page)

FIGURE 2 (continued)

Panel D: Ratio of CEO's Compensation over Compensation of Average Employee (in Deciles)



Panel E: Nepotism



This figure presents binned scatter plots and fitted lines of the likelihood of implementing governance practices on the distance to the threshold. The distance to the threshold is computed as the log difference between the revenue and the threshold.

Variable Definitions:

Conflict Interest Policy = a binary variable equal to 1 if the organization has a conflict of interest policy;

Whistleblower Policy = a binary variable equal to 1 if the organization has a whistleblower policy;

CEO Pay Approval = a binary variable equal to 1 if a committee approves the compensation of top management;

CEO Pay Ratio = the ratio of CEO compensation over the compensation of the average employee in deciles; and

Nepotism = a binary variable equal to 1 if distinct key employees, officers, and board members share the same last name.

(The full-color version is available online.)

to the Calonico method, but its major drawback is that the standard errors are not conservative because the 2SLS cannot implement the bias correction from [Calonico et al. \(2014\)](#).

In addition, I confirm that the result is not confined to states with an audit mandate that involves oversight by an audit committee. Specifically, in [Table C2](#), I perform a robustness test in which I exclude observations from California and New York. I find similar results as in [Table 2](#). I perform three additional robustness tests (untabulated). First, I reperform the test by adding state and year fixed effects and find that the results are robust. Second, I evaluate the sensitivity of my results to clustering standard errors by state \times activity type—my inferences remain the same.¹⁷ Third, to

¹⁷ I define activity types using the two-digit codes from the National Taxonomy of Exempt Entities (NTEE).

alleviate concerns about ambiguity or misinterpretation of the year subject to the revenue threshold, I reperform my main analysis using a subsample of charities whose revenue is stable. Therefore, each charity always remains either above or below the threshold throughout the sample period. The rationale is that the exact year that triggers the audit requirement would not affect the measurement of the instrument for this subset of charities. Again, I find the results are robust.

V. ADDITIONAL INSIGHTS INTO THE EFFECT OF AUDITS ON GOVERNANCE PRACTICES

Having evaluated the impact of financial audits on governance mechanisms costs, I next evaluate various factors that interplay with the observed effect.

The Role of the Audit Committee

I begin by exploring how having an audit committee interacts with the effect of audits on governance practices. For instance, when the decision to select and retain the auditor lies with management (as opposed to an audit committee), auditors may be less likely to propose governance measures (which would curtail management's ability to extract private benefits) for fear of losing their recurring contract.

To operationalize this test, I cannot rely on my RD design because organizations can only have an audit committee if they also obtain an audit. In other words, I have no way of cross-sectionally separating unaudited charities based on whether they would have an audit committee if they were audited. Thus, I use a difference-in-differences (DiD) design exploiting charities that grow to exceed the threshold over time. More specifically, my treatment group is composed of charities that go from being unaudited to audited as they exceed the threshold. I create a control group from charities that remain unaudited and under the threshold throughout the sample period.

I begin by estimating the following DiD model to replicate the main results:

$$Y_{it} = \beta_0 + \beta_1 \text{Audit}_{it} + \beta_2 f(\text{Distance to threshold}_{it}) + \beta_3 X + \text{Charity FE} + \text{Year FE} + \varepsilon_{it} \quad (2)$$

The specification includes a linear control for the distance to the threshold, the covariates from Equation (1), and charity and year fixed effects. Unlike my RD design that relies on cross-sectional variation and thus captures long-run effects, my DiD design is suitable to capture short-run effects (Breuer 2021). In the second step, I evaluate the differential effect of audit committees by re-estimating Equation (2) while replacing *Audit* with *Audit with Audit Committee* and *Audit without Audit Committee*.

In Table 3, Panel A, column (1), I estimate Equation (2) for *Conflict Interest Policy*. I find a positive and strongly significant relation, confirming the result in Table 2 is robust to the DiD specification. In support of the parallel

TABLE 3
The Role of the Audit Committee

Panel A: *Audit*, *Audit with Committee*, and *Audit without Committee*

	<i>Conflict Interest Policy</i>		<i>Whistleblower Policy</i>		<i>CEO Pay Approval</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Audit</i>	0.067*** (0.012)		0.098*** (0.012)		0.034*** (0.008)	
<i>Audit with Audit Committee</i>		0.077*** (0.012)		0.109*** (0.013)		0.041*** (0.010)
<i>Audit without Audit Committee</i>		0.043*** (0.014)		0.070*** (0.015)		0.015 (0.010)
Linear control for distance to threshold	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Charity fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.918	0.918	0.906	0.906	0.671	0.671
Number of observations	141,911	141,911	141,911	141,911	141,911	141,911
F-statistic for difference of coefficients (p-value):		0.012		0.005		0.023

(continued on next page)

TABLE 3 (continued)

Panel B: *Audit*, *Audit with Committee (required)*, *Audit without Committee*

	Conflict Interest Policy		Whistleblower Policy		CEO Pay Approval	
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Audit</i>	0.067*** (0.012)		0.098*** (0.012)		0.034*** (0.008)	
<i>Audit with Audit Committee (required)</i>		0.091*** (0.018)		0.145*** (0.020)		0.077*** (0.019)
<i>Audit with Audit Committee (choice)</i>		0.072*** (0.013)		0.096*** (0.014)		0.029*** (0.009)
<i>Audit without Audit Committee</i>		0.043*** (0.014)		0.071*** (0.015)		0.016 (0.010)
Linear control for distance to threshold	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Charity fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.918	0.918	0.906	0.906	0.671	0.672
Number of observations	141,911	141,911	141,911	141,911	141,911	141,911
F-statistic for difference between <i>Audit without Audit Committee</i> and <i>Audit with Audit Committee (required)</i> (p-value)		0.009		0.000		0.002
F-statistic for difference between <i>Audit without Audit Committee</i> and <i>Audit with Audit Committee (choice)</i> (p-value)		0.045		0.071		0.225
F-statistic for difference between <i>Audit with Audit Committee (required)</i> and <i>Audit with Audit Committee (choice)</i> (p-value)		0.274		0.015		0.010

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents difference-in-differences estimates of Equation (2) along with a version of the model that replaces *Audit* with *Audit with Audit Committee* and *Audit without Audit Committee*. Panel B further replaces *Audit with Audit Committee* with *Audit with Audit Committee (required)* and *Audit with Audit Committee (choice)*. The treatment group consists of charities that go from unaudited to audited as they exceed the threshold. The control group consists of charities that are unaudited and fall under the threshold throughout the entire sample period. The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit = a binary variable equal to 1 if the organization obtains an audit;

Audit with Audit Committee = a binary variable equal to 1 if the organization obtains an audit and has an audit committee;

Audit without Audit Committee = a binary variable equal to 1 if the organization obtains an audit but has no audit committee;

Audit with Audit Committee (required) = a binary variable equal to 1 if the organization obtains an audit and has an audit committee as required by the state regulation; and

Audit with Audit Committee (choice) = a binary variable equal to 1 if the organization obtains an audit and has an audit committee by choice.

See Appendix B for variables definition.

assumption, I report [Figure C1](#), Panel A. Comfortingly, I find parallel patterns during the pretreatment period in *Conflict Interest Policy* for the control and treatment groups. In column (2) of [Table 3](#), I break down *Audit* depending on whether the charity has an audit committee. I find that charities that have an audit committee along with the audit are 3 percentage points more likely to implement a conflict of interest policy than the charities that obtain an audit without a committee (i.e., $0.077 - 0.043 = 0.034$). A statistical test for the difference in coefficients rejects the null that *Audit with Audit Committee* and *Audit without Audit Committee* are equal (p -value = 0.012). In columns (3)–(6) and [Figure C1](#), Panels B and C, I estimate the specifications for *Whistleblower Policy* and *CEO Pay Approval* and continue to find that the effect of audits is stronger for charities with an audit committee (difference in coefficients of 3.9 and 2.6 percentage points and p -values of 0.005 and 0.023, respectively). I also note that, for *CEO Pay Approval*, *Audit without Audit Committee* is not statistically significant, suggesting that audits only lead to the formal approval of CEO compensation when the audit is overseen by an audit committee.

Next, I further explore the role of audit committees based on whether the audit committee is required or implemented by choice. Recall the states of New York (post-2014) and California require that the audit be overseen by an audit committee. In [Table 3](#), Panel B, I present estimates for *Audit with Audit Committee (required)*, *Audit with Audit Committee (choice)*, and *Audit without Audit Committee*. In columns (2), (4), and (6), the coefficients for *Audit without Audit Committee* are naturally the same as in Panel B. The “required” and “choice” versions of *Audit with Audit Committee* are positive and statistically significant. In addition, the coefficient for *Audit with Audit Committee (required)* has the highest magnitude, consistent with charities that would otherwise choose not to have their audit overseen by an audit committee being the ones that have the most room to experience an increase in governance mechanisms.

For all three outcome variables, the magnitude of the coefficients follows a gradation from *Audit without Audit Committee* to *Audit with Audit Committee (choice)* to *Audit with Audit Committee (required)*. For conflict of interest policies, I find that *Audit without Audit Committee* is statistically different from *Audit with Audit Committee (required)* (p -value = 0.009) and *Audit with Audit Committee (choice)* (p -value = 0.045). However, the difference between *Audit with Audit Committee (required)* and *Audit with Audit Committee (choice)* is not statistically significant. For whistleblower policies, all three differences in coefficient pairs are statistically significant. Finally, for CEO pay approval, *Audit with Audit Committee (required)* is statistically different from *Audit without Audit Committee* (p -value = 0.002) and *Audit with Audit Committee (choice)* (p -value = 0.010). However, *Audit with Audit Committee (choice)* and *Audit without Audit Committee* are not statistically distinguishable. With the caveat that two out of the nine differences in coefficient pair are not statistically significant, the overall gradation pattern can be informative for nonprofit regulators debating whether their audit mandates should involve oversight by an audit committee.

Taken together, the results from [Table 3](#) suggest that the effect of audits on governance mechanisms is stronger when the audit is overseen by an audit committee.¹⁸

The Effect of Financial Audits on Managers' Private Benefits

Next, I seek to evaluate the consequence of adopting these new governance mechanisms on managers' private benefits. This analysis poses two empirical challenges. First, certain proxies that capture private benefits can change due to better compliance with GAAP (i.e., audits can lead to changes in reported numbers even if real economic behavior remains the same). For instance, a common proxy for private benefits in the nonprofit setting is the ratio of expenses that go to charitable programs. This ratio suffers from this concern because the audits can force charities to change how they classify their expenses to conform with GAAP (M. Yetman and R. Yetman 2012; Burks 2015; Duguay 2022). Second, the increase in reliability of the financial statements could also lead to changes in real economic behavior. Using the same example, charities may view their ratio of program expenses as more comparable due to the audit. They may benchmark their ratio with peers and decide to make operational changes to either increase or lower it. The effect captured by the ratio would still be attributable to the audit, but not to the newly implemented governance mechanisms.

I propose two proxies that are less likely to suffer from these problems, although I acknowledge that I cannot completely rule out the concern. My first measure is the ratio of CEO to employee compensation: high CEO compensation can reflect rent extraction that stems from agency frictions. This measure is unlikely to change due to better compliance with GAAP because charities are required to report compensation numbers that match their W-2 forms.¹⁹ In

¹⁸ I caveat that I cannot prove empirically that the stronger effect of audits on governance mechanisms when the audit is overseen by a committee is due to the auditor being more likely to share recommendations that restrict managers' private benefits. For example, as independent board members are appointed to the audit committee, they may gain more clout over managers and be more likely to push for governance mechanisms.

¹⁹ Nevertheless, I acknowledge I cannot rule out this concern. A plausible scenario is the recognition of noncash benefits as compensation. However, such a change would likely increase the CEO's reported compensation, which works against my finding a result.

addition, in the nonprofit sector, compensation is much less commonly based on accounting numbers—for instance, the majority of charities do not offer incentive compensation to their CEO (Balsam and Harris 2018). I proxy for CEO compensation by identifying the total compensation of the highest paid employee as reported on Form 990. I measure average employee compensation as a charity's total compensation expense divided by its total number of employees. I compute the ratio by dividing CEO compensation by the compensation of the average employee. Deflating by the compensation of the average employee adjusts for labor market factors at the organization level. I then convert the measure to deciles for ease of interpretation and to ensure that extreme observations do not drive the results. I acknowledge limitations in terms of construct validity. High CEO compensation may be justified by competence or market conditions. Therefore, a decrease in CEO compensation cannot always be interpreted as a reduction in private-benefit extraction. Similarly, the number of employees may vary for reasons such as volunteer support. However, such measurement error would likely attenuate rather than confound the results because it is unlikely to vary discontinuously around the threshold.

My second measure is nepotism, which I capture using family relationships. On Form 990, charities list the names of their officers, key employees, and the top five compensated employees with a salary above \$100,000. I define *Nepotism* as a binary variable equal to 1 if distinct key employees, officers, and board members share a last name. I recognize this proxy is imperfect, given that people can share last names without being family and that family members may have different last names (e.g., individuals who enter a marital union often take their spouse's last name). However, such measurement error would result in attenuation bias, which would work against my finding a result.

In Table 4, I present empirical evidence on the effect of financial audits on the CEO-to-employee pay ratio and on nepotism. Note that the sample size decreases because these specifications are based on the subsets of observations that have data on CEO compensation or on the names of key employees and board members. Columns (1) and (3) show that the first stage is positive and strongly significant for both outcomes, supporting the relevance condition.

TABLE 4
The Effect of Financial Audits on Managers' Private Benefits

	CEO Pay Ratio		Nepotism	
	1st Stage <i>Audit</i> (1)	2nd Stage <i>CEO Pay Ratio</i> (2)	1st Stage <i>Audit</i> (3)	2nd Stage <i>Nepotism</i> (4)
<i>Audit Required</i>	0.120*** (0.008)		0.135*** (0.007)	
<i>Audit</i> (instrumented)		−1.437*** (0.421)		−0.064* (0.038)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes
Number of observations	338,686	338,686	587,603	587,603
Effective observations	85,021	85,021	135,743	135,743

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents the regression discontinuity estimates of Equation (1) based on the Calonico et al. (2014) method. The method uses a data-driven approach to determine the bandwidth and the functional form of the running variable. For each outcome, the first- and second-stage estimates are reported. The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit Required = a binary variable equal to 1 if the organization's revenue exceeds the audit exemption threshold;

Audit = a binary variable equal to 1 if the organization obtains an audit;

CEO Pay Ratio = the ratio of the CEO's compensation over the compensation of the average employee, in deciles; and

Nepotism = a binary variable equal to 1 if distinct key employees, officers, and board members share the same last name.

See Appendix B for variables definition.

Column (2) shows that financial audits are associated with a 1.4-decile decrease in the ratio of CEO to employee compensation.²⁰ Column (4) reveals a negative and weakly significant relation between *Audit* and nepotism. Figure 2, Panels D and E provide visual support for this analysis. Together, the results from Table 4 are consistent with audits constraining managers' ability to extract private benefits.

The Role of the Board of Directors

Next, I turn to the role of the board of directors. As a first step, I evaluate whether audits affect board independence. In Table 5, column (1), I estimate Equation (1) with *Board Independence* as the dependent variable. The coefficient is close to 0 and not statistically significant, suggesting audits do not affect board independence. This no result is consistent with the reasons I discuss in Section II "Conceptual Underpinnings" for which audits might not affect properties of the governing body (e.g., the audit guidance implies that auditors can treat the governing body as given).

Although I do not find that audits affect board independence, organizations that already have an independent board may be differentially affected by audits. For example, to the extent management has voting power and control over the board, charities may be less likely to heed (or receive) recommendations from the auditors about adopting governance measures that impair management's ability to extract private benefits. In Table 5, columns (2)–(11), I separately estimate Equation (1) for charities with and without an independent board of directors for each of the outcomes from the tests in Tables 2 and 4 and report the second stage. I consistently find that the magnitude of the coefficient of interest is larger for charities with an independent board of directors. The only exception is *Nepotism* (difference in coefficients of 0.04); however, the two coefficients are statistically insignificant, suggesting one should be cautious when drawing inference for this outcome.

Although the specification in Table 5 has the advantage of being methodologically consistent with the main analysis, it does not offer a formal statistical test. One reason is that the Calonico et al. (2014) method may select different parameters for each sample split. Therefore, I propose an alternative specification that allows me to perform such a statistical test. Specifically, I use a "reduced-form" specification, which regresses the dependent variables directly on *Audit Required* using OLS (Angrist and Pischke 2009; Breuer et al. 2018).

$$Y_{it} = \beta_0 + \beta_1 \text{Audit Required}_{it} + \beta_2 f(\text{Distance to threshold}_{it}) + \beta_3 X + \varepsilon_{it} \quad (3)$$

I first show that the results in Tables 2 and 4 are robust to this specification. I then perform statistical tests for the cross-sectional analysis based on board independence. In contrast to the Calonico et al. (2014) method, this approach does not automatically select the RD parameters. To keep the model parsimonious, I select the following parameters: a bandwidth of 1.5, a linear control for the distance to the threshold, and the same covariates as in Equation (1).

Table C3, Panel A, columns (1)–(5) replicate the main findings from Tables 2 and 4. Note that the reduced-form specification produces coefficient estimates that are smaller but proportional to the causal effect of interest (Angrist and Pischke 2009). Column (6) documents no significant effect for board independence (which is similar to the results in Table 5, column (1)), suggesting that it can be used in cross-sectional tests.

Having shown that the results from Tables 2 and 4 are robust to the reduced-form specification outlined above, I now perform statistical tests for whether the effect is stronger based on board independence. In Table C3, Panel B, the interaction term is strongly statistically significant for *Whistleblower Policy*, *CEO Pay Approval*, and *Nepotism*. However, the interaction term is not significant for the conflict of interest policies and for the CEO-to-employee pay ratio. For these two outcomes, the results of the cross-sectional test in Table 5 should therefore be interpreted with caution. Collectively, the findings in this section suggest that financial audits can have a greater impact on governance when managers have less control over the board of directors, namely for whistleblower policies and CEO pay approval.

The Role of Charity-Level Demand for Oversight and State-Level Regulatory Oversight

Next, I evaluate how other factors related to oversight shape the effect that audits have on governance mechanisms. I focus on charity-level demand for oversight and state-level regulatory oversight.

²⁰ In untabulated analyses, I break down the CEO-employee pay ratio into its components and find that both lower CEO compensation and higher employee compensation drive the decline in CEO-employee pay ratio. Specifically, I find that obtaining an audit is associated with a 0.8-decile decrease in CEO compensation and a 0.7-decile increase in average employee pay. This finding is consistent with a more equal distribution of the compensation budget between the CEO and the other employees. Note that lower CEO compensation needs not take the form of pay cuts. For instance, organizations may progressively reallocate their compensation budget by awarding more pay raises to the employees than to the CEO, for a time.

TABLE 5
The Role of the Board of Directors

	Conflict Interest Policy		Whistleblower Policy		CEO Pay Approval		CEO Pay Ratio		Nepotism		
	Board Independence	Independent Board = 1	Independent Board = 0	Independent Board = 1	Independent Board = 0	Independent Board = 1	Independent Board = 0	Independent Board = 1	Independent Board = 0	Independent Board = 1	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Audit	−0.016	0.215***	0.182***	0.239***	0.221***	0.204***	0.173***	−1.928***	−0.654	−0.050	−0.092
(instrumented)	(0.034)	(0.062)	(0.069)	(0.071)	(0.072)	(0.036)	(0.047)	(0.604)	(0.475)	(0.044)	(0.061)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	712,969	496,695	216,274	496,695	216,274	496,695	216,274	232,241	106,445	416,710	170,893
Effective observations	123,665	99,944	62,757	93,294	60,229	97,149	55,050	55,269	39,273	101,803	47,336

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents the regression discontinuity estimates of Equation (1) based on the Calónico et al. (2014) method. The method uses a data-driven approach to determine the bandwidth and the functional form of the running variable. All columns report second-stage estimates. The model is estimated separately for observations with and without an independent board of directors. The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit = a binary variable equal to 1 if the organization obtains an audit; and

Independent Board = a binary variable equal to 1 if all voting board members are independent.

See Appendix B for variables definition.

I predict that the effect of audits on governance is stronger when charity-level demand for oversight is high. For instance, auditing standards consistently instructs auditors to consider financial statement users (AICPA 2022, AU-C §700). When users demand more oversight, auditors may be more likely to intensify their work, leading to more pronounced audit outcomes, including heightened governance practices. I create a proxy for charity-level demand for oversight by summing the following variables proposed by Calabrese (2011): donor restrictions, nondonative revenue, and revenue diversity. I then use the median of this measure to split the sample and separately re-estimate Equation (1) for high and low charity-level demand for oversight. As expected, in Table 6, Panel A, the magnitude of the coefficient of interest is consistently larger when charity-level demand for oversight is high.

Moving to state-level regulatory oversight, I hypothesize a substitute relation between audits and regulatory oversight. The rationale is that, in states where citizens demand tighter regulation, donors already expect governance mechanisms from charities, leaving less room for audits to incrementally raise governance practices. I proxy for state-level regulatory oversight using the state-level charity regulation breadth index by Lott, Shelly, Dietz, and Mitchell (2023). In Table 6, Panel B, I find the magnitude of the coefficient is smaller for states with above-median regulatory oversight, consistent with my prediction.

To perform formal statistical tests, I turn to the reduced-form specification (see explanation in Section V “The Role of the Board of Directors”). In Table C3, Panel C, I interact *Audit Required* with *High Charity-Level Demand for Oversight* and *High State-Level Regulatory Oversight*. The sign of the coefficient for the interaction term aligns with the difference in coefficients in Table 6. In addition, the interaction term is statistically significant in all columns, except for the one that captures the differential effect of high charity-level demand for oversight for conflict of interest policies. For this specific test, the result in Table 6 should be interpreted with caution.

Taken together, these findings support the idea that charity-level demand for oversight amplifies the effect of audits on governance, whereas regulatory oversight crowds it out.

The Role of Improved Financial Reporting

I then turn to the role of improved financial reporting. Improved financial reporting is a potential mechanism that could contribute to the effect of audits on governance practices. Better accounting numbers could highlight the need for governance mechanisms to the board directors (e.g., by revealing lack of frugality).

As a proxy to evaluate this possibility, I use the field on the Form 990 where charities indicate whether their Form 990 conforms with GAAP accrual accounting (Calabrese 2011).²¹ As a first step, I re-estimate Equation (1) with *GAAP Form 990* as the dependent variable. As one would expect, columns (1) and (2) in Table C4 show that obtaining an audit improves financial reporting (as proxied by reporting a Form 990 that conforms with GAAP). I then test whether the effect of audits on governance occurs through improved financial reporting. To do so, I restrict the sample to charities whose Form 990 already conforms to GAAP and re-performs the main test, thus “shutting down” the improved financial reporting channel. In columns (3)–(8), I find the results remain similar to Table 2.

Placebo Test

Finally, I perform a robustness test to alleviate the concern that my empirical specification mechanically captures a spurious effect. Specifically, I conduct a placebo analysis using charities in states without an audit mandate. First, I assign a placebo revenue threshold and presume that charities that exceed this placebo threshold are required to obtain a financial audit. I then reperform the analyses from Tables 2 and 4.²² I replicate the procedure 500 times, randomly assigning a placebo threshold that falls between \$300,000 and \$3,000,000 (i.e., the range of the true threshold) in each iteration. In more than 99 percent of instances, I cannot reject the null hypothesis of no effect on governance mechanisms and private-benefit extraction. Figure 3 is a graphical representation of the RD design analog to Figure 2 but for one iteration of the placebo test where the placebo threshold drawn is \$850,000. The figure shows essentially no discontinuity in any of the outcomes around the placebo audit threshold. Overall, this placebo test alleviates the concern that my empirical specification mechanically generates spurious results.

²¹ I view this variable as a reasonable proxy for financial reporting quality; however, I note that organizations may indicate that their Form 990 does not conform with GAAP but still produce financial statements in accordance with GAAP. One reason why audited organizations may indicate that their Form 990 does not conform with GAAP is that, for certain transactions, Form 990 reporting in fact deviates from GAAP. For example, unrealized gains and losses on investments are recognized in the statement of activities under GAAP, but not on the Form 990 (AICPA 2019).

²² The fact that certain states have no audit mandates renders this robustness test feasible. I could not perform this test in states with an audit mandate because the “true” thresholds would fall within the estimation bandwidths of the placebo thresholds. This would impair my ability to estimate the relation between the running variable and governance practices.

TABLE 6

The Role of Charity-Level Demand for Oversight and State-Level Regulatory Oversight

Panel A: The Role of Charity-Level Demand for Oversight

	Conflict Interest Policy		Whistleblower Policy		CEO Pay Approval	
	High Charity-Level Demand for Oversight = 1 (1)	High Charity-Level Demand for Oversight = 0 (2)	High Charity-Level Demand for Oversight = 1 (3)	High Charity-Level Demand for Oversight = 0 (4)	High Charity-Level Demand for Oversight = 1 (5)	High Charity-Level Demand for Oversight = 0 (6)
<i>Audit</i> (instrumented)	0.273*** (0.075)	0.167*** (0.055)	0.317*** (0.089)	0.168*** (0.053)	0.241*** (0.056)	0.145*** (0.030)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	353,569	353,568	353,569	353,568	353,569	353,568
Effective observations	84,949	83,918	94,459	101,446	88,145	72,629

Panel B: The Role of State-Level Regulatory Oversight

	Conflict Interest Policy		Whistleblower Policy		CEO Pay Approval	
	High State-Level Regulatory Oversight = 1 (1)	High State-Level Regulatory Oversight = 0 (2)	High State-Level Regulatory Oversight = 1 (3)	High State-Level Regulatory Oversight = 0 (4)	High State-Level Regulatory Oversight = 1 (5)	High State-Level Regulatory Oversight = 0 (6)
<i>Audit</i> (instrumented)	0.174*** (0.052)	0.411*** (0.129)	0.172*** (0.060)	0.647*** (0.136)	0.157*** (0.034)	0.444*** (0.096)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	656,713	56,256	656,713	56,256	656,713	56,256
Effective observations	134,880	22,490	115,677	29,363	110,199	19,584

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents the regression discontinuity estimates of Equation (1) based on the Calónico et al. (2014) method. The method uses a data-driven approach to determine the bandwidth and the functional form of the running variable. All columns report second-stage estimates. The model is estimated separately for observations with high and low charity-level demand for oversight (state-level regulatory oversight) in Panel A (B). The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit = a binary variable equal to 1 if the organization obtains an audit;

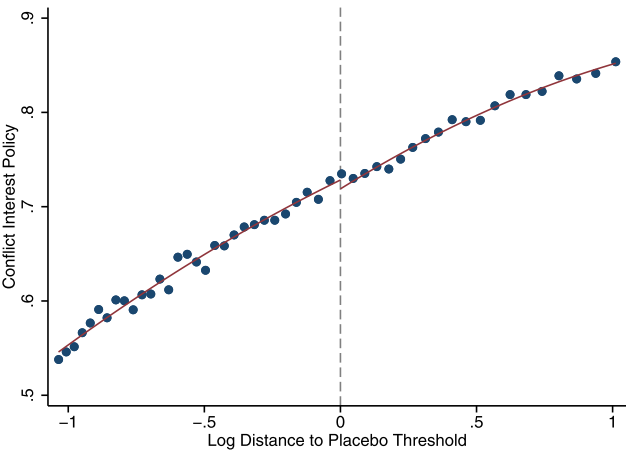
High Charity-Level Demand for Oversight = a binary variable equal to 1 for charities with above-median charity level based on donor restrictions, nondonative revenue, and revenue diversity, as defined by Calabrese (2011); and

High State-Level Regulatory Oversight = a binary variable equal to 1 for charities that have an above-median state-level charity regulatory breadth index, based on Lott et al. (2023).

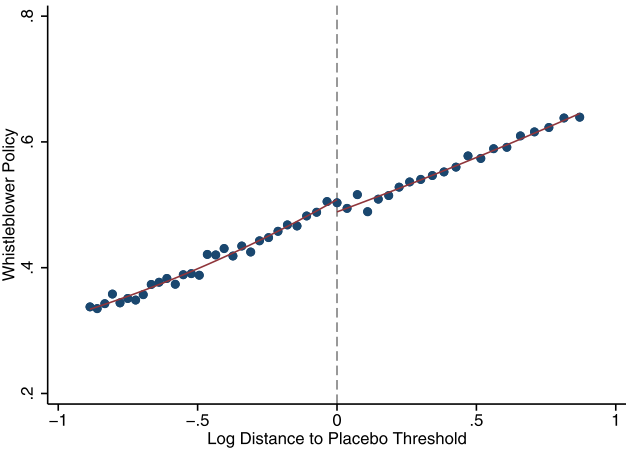
See Appendix B for variables definition.

FIGURE 3
Placebo Test

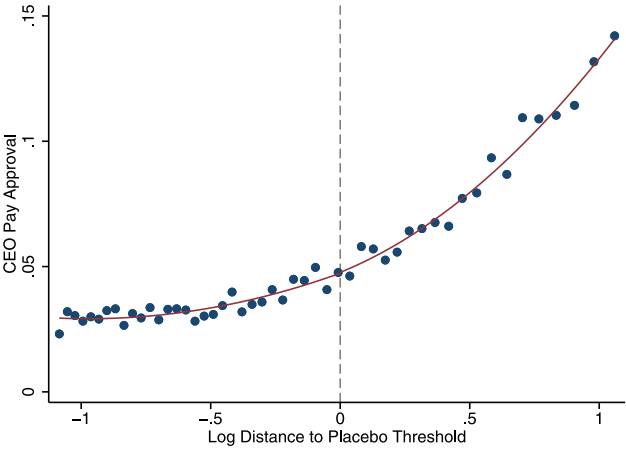
Panel A: Conflict of Interest Policy



Panel B: Whistleblower Policy



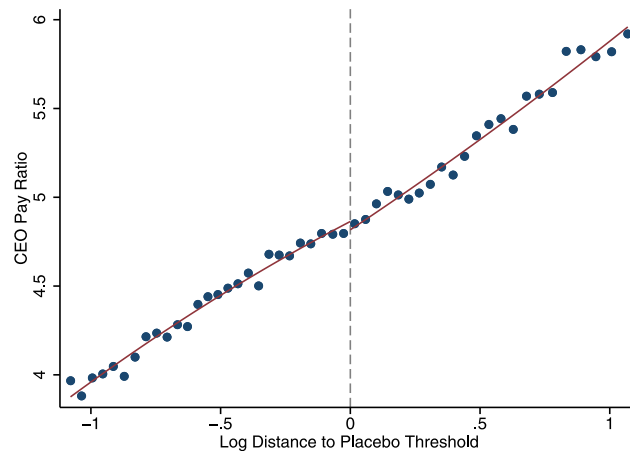
Panel C: Approval of CEO Compensation by Committee



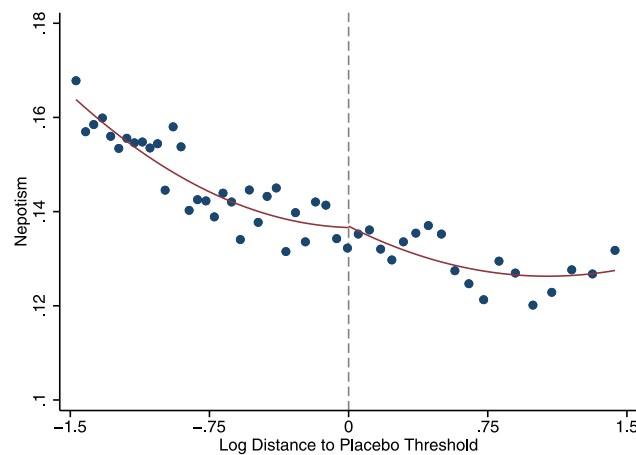
(continued on next page)

FIGURE 3 (continued)

Panel D: Ratio of CEO Compensation over Compensation of Average Employees (in Deciles)



Panel E: Nepotism



This figure presents binned scatter plots and fitted lines for one iteration of the placebo test that uses states without an audit mandate and a placebo threshold drawn from a random distribution. In this iteration, the placebo threshold is \$850,000. The distance to the placebo threshold is computed as the log difference between the revenue and the placebo threshold.

See [Appendix B](#) for variables definitions.
(The full-color version is available online.)

VI. CONCLUSION

This paper asks whether financial statement audits prompt organizations to implement governance mechanisms, which can lead to a reduction in managers' ability to extract private benefits. Using a regression-discontinuity design, I find that obtaining an audit increases the probability that organizations have conflict of interest policies, whistleblower policies, and formal approval of CEO compensation. The effect is more pronounced for charities (1) that already have an independent board, (2) whose audit is overseen by an audit committee, and (3) that face high charity-level demand for oversight. I also provide evidence of a reduction in CEO-to-employee pay ratio and nepotism.

The paper contributes to the subset of the audit literature concerned with the determinants and consequences of nonprofit audits. For instance, it proposes a research design that alleviates endogeneity barriers, allowing us to better understand the consequences of audits. It also documents that nonprofits audits have real effects in terms of nepotism and the CEO-to-employee pay ratio. In addition, my paper adds to the literature that views audits and governance as either substitute or complements. Specifically, this paper is the first to directly evaluate the effects of financial statement audits on governance mechanisms in the nonprofit sector, which is a major sector of the economy.

Nevertheless, this paper is not without limitations. First, my estimations revolve around audit exemption thresholds for relatively small charities—these estimates may not generalize to larger organizations. Second, I cannot prove that the actions of the audit committees are responsible for the effect being more pronounced when the audit is overseen by an audit committee. For instance, the type of charities that chose to have an audit committee may be more responsive to the audit process even if they had no such committee. Third, I acknowledge that the proxies I use for private benefits face construct-validity limitations. For example, CEOs may command high compensation due to their competence as opposed to their ability to extract private benefits. Finally, although governance mechanisms may reduce CEO compensation and nepotism, they may still represent a net cost to these organizations. Future research can assess how various stakeholders assess the net cost of nonprofit audits.

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APPENDIX A

State-Level Financial Statement Audit Regulation

Appendix A shows the states that have a financial audit mandate, along with their size-based exemption thresholds, as of the year 2015 (i.e., the end of my sample period).

State	Audit Regulation	Exemption Threshold (in Thousands of \$)	Specific Measure for Revenue Threshold	State	Audit Regulation	Exemption Threshold (in Thousands of \$)	Specific Measure for Revenue Threshold
Alabama	N			Montana	N		
Alaska	N			Nebraska	N		
Arizona	N			Nevada	N		
Arkansas	Y	500	Total Revenue	New Hampshire	Y	1,000	Total Revenue
California	Y	2,000	Total Revenue	New Jersey	Y	500	Total Revenue
Colorado	N			New Mexico	Y	500	Total Revenue
Connecticut	Y	500	Total Revenue	New York	Y	500	Total Revenue
District of Columbia	N			North Carolina	N		
Delaware	N			North Dakota	N		
Florida	Y	1,000	Revenue from Contributions	Ohio	N		
Georgia	Y	1,000	Total Revenue	Oklahoma	N		
Hawaii	Y	500	Total Revenue	Oregon	N		
Idaho	N			Pennsylvania	Y	300	Revenue from Contributions
Illinois	Y	300	Revenue from Contributions	Rhode Island	Y	500	Total Revenue
Indiana	N			South Carolina	N		
Iowa	N			South Dakota	N		
Kansas	Y	500	Revenue from Contributions	Tennessee	Y	500	Total Revenue
Kentucky	N			Texas	N		
Louisiana	N			Utah	N		
Maine	N			Vermont	N		
Maryland	Y	500	Revenue from Contributions	Virginia	N		
Massachusetts	Y	500	Total Revenue	Washington	Y	3,000	Total Revenue
Michigan	Y	525	Revenue from Contributions	West Virginia	Y	500	Revenue from Contributions
Minnesota	Y	750	Total Revenue	Wisconsin	Y	400	Revenue from Contributions
Mississippi	Y	500	Revenue from Contributions	Wyoming	N		
Missouri	N						

APPENDIX B

Variable Definitions

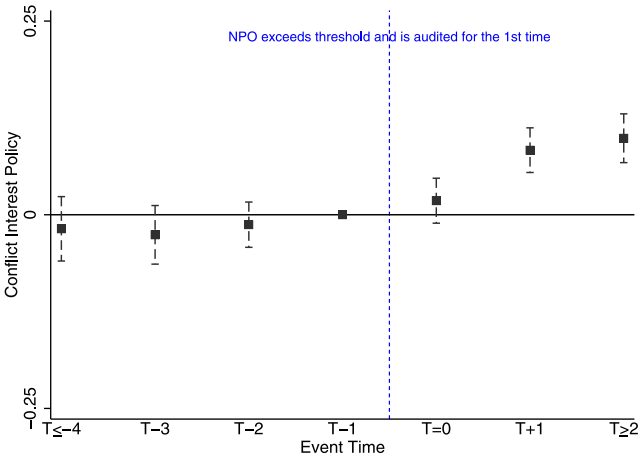
Variable	Definition
<i>Conflict Interest Policy</i>	A binary variable equal to 1 if the organization has a conflict of interest policy.
<i>Whistleblower Policy</i>	A binary variable equal to 1 if the organization has a whistleblower policy.
<i>CEO Pay Approval</i>	A binary variable equal to 1 if a committee formally approves the compensation of top management.
<i>CEO Pay Ratio</i>	The ratio of the CEO's compensation over the compensation of the average employee, in deciles.
<i>Nepotism</i>	A binary variable equal to 1 if distinct key employees, officers, and board members share the same last name.
<i>Audit</i>	A binary variable equal to 1 if the organization obtains an audit.
<i>Audit Required</i>	A binary variable equal to 1 if the organization's revenue exceeds the audit exemption threshold.
<i>Audit with Audit Committee</i>	A binary variable equal to 1 if the organization obtains an audit and has an audit committee.
<i>Audit with Audit Committee (required)</i>	A binary variable equal to 1 if the organization obtains an audit and has an audit committee as required by the state regulation.
<i>Audit with Audit Committee (choice)</i>	A binary variable equal to 1 if the organization obtains an audit and has an audit committee by choice.
<i>Audit without Audit Committee</i>	A binary variable equal to 1 if the organization obtains an audit but has no audit committee.
<i>Age</i>	The difference between the current year and the year in which the organization was legally created.
<i>Assets</i>	The organization's total assets at the end of a given year.
<i>GAAP Form 990</i>	A binary variable equal to 1 if the organization indicates its Form 990 conforms to GAAP accrual basis of accounting.
<i>Revenue</i>	The organization's total revenue in a given year.
<i>Board Independence</i>	The number of independent voting directors divided by the total number of voting directors on the board.
<i>High Charity-Level Demand for Oversight</i>	A binary variable equal to 1 for charities with above-median charity-level demand for oversight based on donor restrictions, nondonative revenue, and revenue diversity, as defined by Calabrese (2011) . Specifically, donor restrictions is a binary variable equal to 1 if the charity has donor-imposed restrictions on its net assets. Nondonative revenue is the ratio of nondonative revenue to total revenue. Revenue diversity is the sum of the squared share of revenue from each revenue source, multiplied by -1 . Charity-level demand for oversight is the sum of these measures.
<i>High State-Level Regulatory Oversight</i>	A binary variable equal to 1 for charities that have an above-median state-level charity regulatory breadth index, based on Lott et al. (2023) .
<i>Independent Board</i>	A binary variable equal to 1 if all voting board members are independent.

APPENDIX C
Additional Analyses

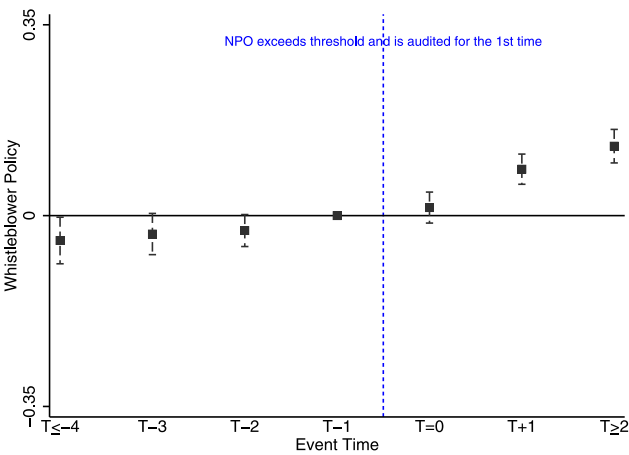
FIGURE C1

Difference-in-Differences Specification to Evaluate Effects of Financial Regulation on Governance Practices

Panel A: Conflict of Interest Policy



Panel B: Whistleblower Policy

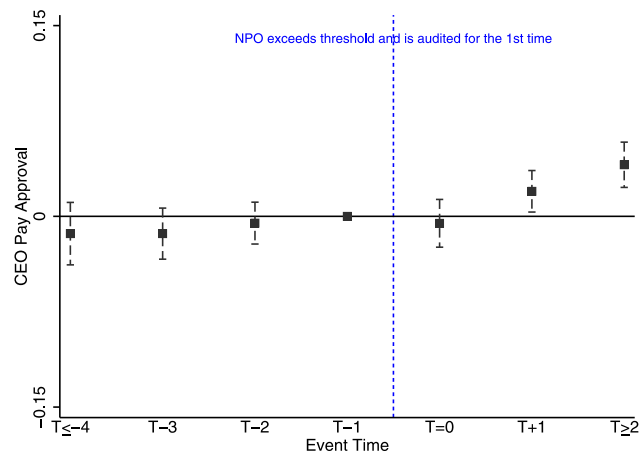


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APPENDIX C (continued)

FIGURE C1 (continued)

Panel C: Approval of CEO's Compensation by Board of Directors



This figure shows OLS regressions estimating the effect of financial audits on governance practices. I estimate the difference-in-differences model in Equation (2) but replace the *Audit* indicator with separate time dummies that each mark a one-year period (except for event period $t-1$, which serves as the benchmark). The treatment group consists of charities that go from unaudited to audited as they exceed the threshold. The control group consists of charities that are unaudited and fall under the threshold throughout the entire sample period. The figure plots coefficient estimates for each year with 99 percent confidence intervals.

See Appendix B for variables definition.

(The full-color version is available online.)

TABLE C1

Reporting Covariate Estimates Using Two-Stage Least Squares

	Conflict of Interest Policy		Whistleblower Policy		CEO Pay Approval	
	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
	<i>Audit</i>	<i>Conflict Interest Policy</i>	<i>Audit</i>	<i>Whistleblower Policy</i>	<i>Audit</i>	<i>CEO Pay Approval</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Audit Required</i>	0.134*** (0.005)		0.134*** (0.006)		0.133*** (0.006)	
<i>Audit (instrumented)</i>		0.211*** (0.040)		0.223*** (0.045)		0.172*** (0.025)
<i>Distance to cutoff</i>	0.160*** (0.008)	0.036*** (0.014)	0.161*** (0.010)	0.048*** (0.017)	0.165*** (0.009)	0.002 (0.009)
<i>LnAssets</i>	0.061*** (0.001)	0.029*** (0.003)	0.061*** (0.001)	0.034*** (0.003)	0.061*** (0.001)	0.019*** (0.002)

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APPENDIX C (continued)

TABLE C1 (continued)

	Conflict of Interest Policy		Whistleblower Policy		CEO Pay Approval	
	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
	<i>Audit</i> (1)	<i>Conflict Interest Policy</i> (2)	<i>Audit</i> (3)	<i>Whistleblower Policy</i> (4)	<i>Audit</i> (5)	<i>CEO Pay Approval</i> (6)
<i>LnAge</i>	0.068*** (0.002)	−0.012*** (0.004)	0.068*** (0.002)	0.036*** (0.004)	0.068*** (0.002)	−0.011*** (0.002)
Number of observations	160,116	160,116	138,963	138,963	146,433	146,433

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents two-stage least squares estimates of Equation (1). For each outcome, the first- and second-stage estimates are reported. For each regression, the bandwidth is the same as in Table 2. The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit Required = a binary variable equal to 1 if the organization's revenue exceeds the audit exemption threshold;

Audit = a binary variable equal to 1 if the organization obtains an audit;

Conflict Interest Policy = a binary variable equal to 1 if the organization has a conflict of interest policy;

Whistleblower Policy = a binary variable equal to 1 if the organization has a whistleblower policy; and

CEO Pay Approval = a binary variable equal to 1 if a committee approves the compensation of top management.

See Appendix B for variables definition.

TABLE C2

Robustness to Excluding California and New York

	Conflict of Interest Policy		Whistleblower Policy		CEO Pay Approval	
	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
	<i>Audit</i> (1)	<i>Conflict Interest Policy</i> (2)	<i>Audit</i> (3)	<i>Whistleblower Policy</i> (4)	<i>Audit</i> (5)	<i>CEO Pay Approval</i> (6)
<i>Audit Required</i>	0.113*** (0.008)		0.113*** (0.008)		0.114*** (0.008)	
<i>Audit</i> (instrumented)		0.183*** (0.060)		0.221*** (0.069)		0.245*** (0.039)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	490,187	490,187	490,187	490,187	490,187	490,187
Effective observations	114,944	114,944	107,156	107,156	96,650	96,650

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents the regression discontinuity estimates of Equation (1) based on the Calonico et al. (2014) method, excluding California and New York. The method uses a data-driven approach to determine the bandwidth and the functional form of the running variable. For each outcome, the first- and second-stage estimates are reported. The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit Required = a binary variable equal to 1 if the organization's revenue exceeds the audit exemption threshold;

Audit = a binary variable equal to 1 if the organization obtains an audit;

Conflict Interest Policy = a binary variable equal to 1 if the organization has a conflict of interest policy;

Whistleblower Policy = a binary variable equal to 1 if the organization has a whistleblower policy; and

CEO Pay Approval = a binary variable equal to 1 if a committee approves the compensation of top management.

See Appendix B for variables definition.

(continued on next page)

APPENDIX C (continued)

TABLE C3
Statistical Test for Cross-Sectional Analyses

Panel A: Replication Using Reduced-Form Specification

	<i>Conflict Interest Policy</i>	<i>Whistleblower Policy</i>	<i>CEO Pay Approval</i>	<i>CEO Pay Ratio</i>	<i>Nepotism</i>	<i>Board Independence</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Audit Required</i>	0.035*** (0.004)	0.041*** (0.005)	0.023*** (0.003)	-0.151*** (0.034)	-0.006* (0.003)	-0.002 (0.003)
<i>f(distance to threshold)</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Covariates</i>	Yes	Yes	Yes	Yes	Yes	Yes
<i>Adjusted R²</i>	0.067	0.092	0.075	0.114	0.001	0.030
<i>Number of observations</i>	372,202	372,202	372,202	197,807	310,080	372,202

Panel B: Cross-Sectional Test Based on Board Independence

	<i>Conflict Interest Policy</i>	<i>Whistleblower Policy</i>	<i>CEO Pay Approval</i>	<i>CEO Pay Ratio</i>	<i>Nepotism</i>
	(1)	(2)	(3)	(4)	(5)
<i>Audit Required</i> × <i>Board Independence</i>	0.003 (0.010)	0.058*** (0.010)	0.035*** (0.005)	0.151 (0.092)	-0.029*** (0.009)
<i>Audit Required</i>	0.033*** (0.010)	-0.009 (0.009)	-0.008 (0.005)	-0.287*** (0.090)	0.020** (0.009)
<i>Board Independence</i>	0.270*** (0.006)	0.190*** (0.005)	-0.016*** (0.002)	0.187*** (0.058)	-0.060*** (0.005)
<i>f(distance to threshold)</i>	Yes	Yes	Yes	Yes	Yes
<i>Covariates</i>	Yes	Yes	Yes	Yes	Yes
<i>Adjusted R²</i>	0.095	0.106	0.075	0.114	0.004
<i>Number of observations</i>	372,202	372,202	372,202	197,807	310,080

Panel C: Cross-Sectional Test Based on Oversight

	<i>Charity-Level Demand for Oversight</i>			<i>State-Level Regulatory Oversight</i>		
	<i>Conflict Interest Policy</i>	<i>Whistleblower Policy</i>	<i>CEO Pay Approval</i>	<i>Conflict Interest Policy</i>	<i>Whistleblower Policy</i>	<i>CEO Pay Approval</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Audit Required</i> × <i>High Charity-Level Demand for Oversight</i>	0.002 (0.005)	0.031*** (0.005)	0.045*** (0.003)			
<i>Audit Required</i> × <i>High State-Level Regulatory Oversight</i>				-0.045*** (0.009)	-0.074*** (0.010)	-0.026*** (0.007)
<i>High Charity-Level Demand for Oversight</i>	0.121*** (0.004)	0.106*** (0.004)	-0.011*** (0.002)			
<i>High State-Level Regulatory Oversight</i>				-0.007 (0.008)	0.020** (0.008)	0.000 (0.003)
<i>Audit Required</i>	0.035*** (0.005)	0.025*** (0.005)	-0.001 (0.003)	0.076*** (0.009)	0.107*** (0.011)	0.046*** (0.007)

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APPENDIX C (continued)

TABLE C3 (continued)

Panel C: Cross-Sectional Test Based on Oversight

	Charity-Level Demand for Oversight			State-Level Regulatory Oversight		
	<i>Conflict Interest Policy</i>	<i>Whistleblower Policy</i>	<i>CEO Pay Approval</i>	<i>Conflict Interest Policy</i>	<i>Whistleblower Policy</i>	<i>CEO Pay Approval</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R ²	0.082	0.105	0.076	0.067	0.093	0.075
Number of observations	372,202	372,202	372,202	372,202	372,202	372,202

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents OLS estimates of Equation (3). Panel A reports reduced-form estimates for the dependent variables in Tables 2 and 4 as well as for *Board Independence*. Panel B (C) interacts *Audit Required* with *Board Independence* (*High Charity-Level Demand for Oversight* and *High State-Level Regulatory Oversight*). The covariates are *LnAssets* and *LnAge*. The bandwidth is 1.5, and a linear functional is used to control for the running variable, which is the log difference between the revenue and the threshold. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit Required = a binary variable equal to 1 if the organization's revenue exceeds the audit exemption threshold;

Audit = a binary variable equal to 1 if the organization obtains an audit;

Board Independence = the number of independent voting directors divided by the total number of voting directors on the board;

High Charity-Level Demand for Oversight = a binary variable equal to 1 for charities with above-median charity level based on donor restrictions, nondonative revenue, and revenue diversity, as defined by Calabrese (2011); and

High State-Level Regulatory Oversight = a binary variable equal to 1 for charities that have an above-median state-level charity regulatory breadth index, based on Lott et al. (2023).

See Appendix B for variables definition.

(continued on next page)

APPENDIX C (continued)

TABLE C4

The Financial Reporting Channel

Effect of Audits on Governance when “Shutting Down” Financial Reporting Channel
Sample Restriction: Charities That Already Report a Form 990 under GAAP

	GAAP Form 990		Conflict of Interest Policy		Whistleblower Policy		CEO Pay Approval	
	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage	1st Stage	2nd Stage
	<i>Audit</i>	<i>GAAP Form 990</i>	<i>Audit</i>	<i>Conflict Interest Policy</i>	<i>Audit</i>	<i>Whistleblower Policy</i>	<i>Audit</i>	<i>CEO Pay Approval</i>
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Audit Required</i>	0.127*** (0.007)		0.122*** (0.007)		0.120*** (0.006)		0.122*** (0.006)	
<i>Audit</i> (instrumented)		0.171*** (0.041)		0.152*** (0.056)		0.209*** (0.058)		0.214*** (0.034)
<i>f</i> (distance to threshold)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	712,969	712,969	515,096	515,096	515,096	515,096	515,096	515,096
Effective observations	141,007	141,007	114,861	114,861	182,643	182,643	162,202	162,202

***, **, * Indicate statistical significance at the 1 percent, 5 percent, and 10 percent levels (two-tailed), respectively.

This table presents the regression discontinuity estimates of Equation (1) based on the Calónico et al. (2014) method. The method uses a data-driven approach to determine the bandwidth and the functional form of the running variable. For each outcome, the first- and second-stage estimates are reported. In columns (3)–(8), the sample is restricted to observations for which *GAAP Form 990* equals 1. The distance to the threshold is computed as the log difference between the revenue and the threshold. The covariates are *LnAssets* and *LnAge*. The sample is based on Form 990 data from GuideStar for tax years 2008–2015. Robust standard errors clustered by charity are reported in parentheses.

Variable Definitions:

Audit Required = a binary variable equal to 1 if the organization's revenue exceeds the audit exemption threshold;

Audit = a binary variable equal to 1 if the organization obtains an audit;

GAAP Form 990 = a binary variable equal to 1 if the organization indicates its Form 990 conforms to GAAP;

Conflict Interest Policy = a binary variable equal to 1 if the organization has a conflict of interest policy;

Whistleblower Policy = a binary variable equal to 1 if the organization has a whistleblower policy; and

CEO Pay Approval = a binary variable equal to 1 if a committee approves the compensation of top management.

See Appendix B for variables definition.

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