

# **Managerial Incentives, Financial Performance, and Governance Quality: Evidence from Nonprofit Organizations**

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## **Abstract**

Systematic differences in the organizational forms of nonprofit and for-profit entities have elicited a variety of concerns that remain largely unaddressed. Specifically, the nonprofit sector is characterized by weaker monitoring mechanisms and potentially more severe agency problems relative to their for-profit counterparts, due in large part to an absence of shareholders in nonprofit organizations. These unique aspects of the nonprofit organizational structure result in a heightened sensitivity about their governance quality, particularly with respect to its ability to mitigate the undesirable consequences of agency conflicts, such as excessive executive pay and poor financial performance. To address these concerns, I study the relationship between chief executive compensation, financial performance, and governance quality. I find a significant negative relationship between the CEO-to-employee relative pay ratio and multiple measures of nonprofit financial performance. I document a similar inverse relationship between executive perquisites and nonprofit performance. The results also highlight the importance of corporate governance; specifically, strong governance mechanisms (1) mitigate excessive executive pay in nonprofits marred by potentially severe agency conflicts, and (2) significantly negate the decreases in performance that tend to accompany increases in relative pay. Collectively, these results demonstrate a positive association between disparities in nonprofit executive pay and agency conflicts, and highlight the importance of implementing strong governance mechanisms as a means to curb self-interested managers' tendencies.

## I. INTRODUCTION

Stark differences in the organizational forms of nonprofit and for-profit entities have elicited an assortment of concerns about the role and responsibilities of a nonprofit manager. However, and despite the prominence of the nonprofit sector in the U.S. economy – specifically, encompassing 5.5% of U.S. GDP and 9% of the nation’s labor force (in 2010)<sup>1</sup> – many of these concerns remain unaddressed. Of particular importance is the nonprofit organization’s absence of shareholders and the implications such lack of oversight has on the motives and actions of nonprofit managers and boards of directors. Given that the managers and directors of nonprofits are not held accountable to (and are not themselves) owners of the organization, nonprofit entities are exposed to agency conflicts that are arguably more prevalent and of greater severity than those facing for-profit organizations. These concerns draw special attention to nonprofit governance quality, since implementing strong governance mechanisms should help to ward off undesirable consequences that are likely to accompany agency conflicts, such as excessive executive pay and poor financial performance. This paper presents evidence targeted at answering four main research questions: (1) What factors determine CEO pay and, separately, executive perquisites at nonprofits?, (2) What factors explain organizational performance?, (3) What is the relationship (if any) between CEO pay and financial performance?, and (4) What role does governance quality play with respect to the relations described in (1), (2), and (3)?

Relatively high compensation to a CEO could arise in either an optimal or sub-optimal setting. For example, excessive CEO pay could originate in the case of a talented and very hard-working CEO who operates in the best interests of the nonprofit, and thus who deserves to be rewarded for his efforts (Pay-for-Performance Hypothesis). In contrast, abnormally high CEO compensation may arise if the CEO is able to use his power, influence, and freedom from

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<sup>1</sup> See Roeger, Blackwood, and Pettijohn (2013).

monitoring to extract compensation in excess of what he deserves (Agency Hypothesis). While the former example highlights a scenario of an optimally set (though high) level of CEO compensation, the latter profiles a case of sub-optimally high CEO pay. Moreover, a sub-optimally high level of CEO compensation is consistent with agency conflicts, whereby the CEO prioritizes his own well-being rather than (and often at the cost of) that of his organization. To disentangle these hypotheses, it is critically important to account for corporate governance quality since governance quality should be correlated with both CEO pay and organizational performance. As such, this paper tests whether the relationship between CEO compensation and nonprofit financial performance exhibits either a positive (Pay-for-Performance Hypothesis) or negative (Agency Hypothesis) association and how this relation depends on nonprofit governance quality.

I investigate the intersection between CEO pay, financial performance, and governance quality in the context of a large and diverse sample of nonprofit organizations during 2008-2009, where financial data are drawn from the significantly redesigned Internal Revenue Service (IRS) Form 990, *Return of Organization Exempt from Income Tax*, which was released in tax year 2008. By most accounts, the most notable additions to the new form were questions related to governance quality – organizational characteristics that certainly have the potential to significantly affect the relationship between executive pay and firm performance. The form featured many additions including a section entitled, “Governance, Management, and Disclosure”, touted as the revamped form’s “crown jewel” by Steven T. Miller, former Commissioner of the Tax Exempt and Government Entities Division (Miller 2008). These new data allow for a comprehensive analysis of nonprofit governance quality that was previously impossible to conduct. A focus on governance quality addresses the agency conflicts plaguing

the nonprofit sector and, by extension, more clearly distinguishes between the Pay-for-Performance and Agency hypotheses.

To explore these contrasting views of CEO compensation, I focus on the difference between CEO and average employee compensation. Pay of both executives and non-executives likely differs considerably from one nonprofit to another. For instance, salaries at hospitals or major universities tend to exceed those in preschools and local theatre groups. To partially account for this, I utilize a “relative pay ratio,” defined as (the natural log of) the ratio of CEO compensation to average non-CEO employee compensation, where compensation encompasses “reportable compensation from the organization” (essentially, that which is reported on a W-2). Linking relative measures of CEO pay has become an increasingly popular practice in the for-profit literature (e.g., Bebchuk, Cremers, and Peyer 2011; Faleye, Reis, and Venkateswaran 2013), particularly given their relevance to recent regulatory guidance and reporting requirements (e.g., the Dodd-Frank Act). Nonprofit financial performance is captured through four (industry-adjusted) measures, including the ratios of program expenses to total expenses, program expenses to total assets, net fundraising revenue to total fundraising revenue, and (the log of) total revenue per employee (Desai and Yetman 2006; Faleye et al. 2013). Governance quality is defined as an index of numerous mechanisms that illustrate the efficacy of the nonprofit’s governing body, governing policies, compensation policies, and accountability and transparency.

I begin the analysis by examining the determinants of the CEO-to-employee relative pay ratio. I find that relative pay is negatively related to financial performance, governance quality, government revenue, and median household income, and is positively related to organizational size and CEO tenure. The statistically significant negative association between the relative pay

ratio and nonprofit performance is robust to including several factors that may impact both the relative pay ratio and financial performance, including size, donations growth, liquidity, and capital expenditures. This result supports the view that both nonprofit CEO pay and financial performance are subject to agency conflicts, i.e., that at poorly governed nonprofits, insufficiently monitored CEOs are apparently able to extract excessive compensation while minimizing their efforts.

Next, I model the determinants of four measures of (industry-adjusted) nonprofit financial performance. Controlling for traditional determinants of performance, as well as factors that may impact both the relative pay ratio and nonprofit performance, I again document a significant and economically meaningful relation between the relative pay ratio and nonprofit performance. For example, a single standard deviation increase in the relative pay ratio implies approximately 1%, 7%, 1%, and 17% reductions in the (industry-adjusted) ratios of program expenses to total expenses, program expenses to total assets, net fundraising revenue to total fundraising revenue, and (the log of) total revenue per employee, respectively, relative to their mean values. These results provide support to the Agency Hypothesis.

I address the likely endogeneity between CEO compensation and financial performance using two-stage least squares procedures, a changes specification, and by modeling financial performance as a function of the lagged (not contemporaneous) relative pay ratio. The empirical results stand firm throughout these analyses, lending further support to the Agency Hypothesis.

I also investigate how other forms of managerial incentives relate to financial performance and governance quality. Inferior financial performance may indicate ineffective monitoring by the organization. Moreover, ineffective monitoring mechanisms tend to create new or aggravate existing agency concerns, a result of which can be the over-consumption of

executive perquisites. Consistent with this theory, I find that weak governance quality (and ineffective monitoring mechanisms) is associated with a higher likelihood of executive perquisites, where perquisites include incentives such as first-class travel, discretionary spending accounts, and housing allowances. Moreover, inferior financial performance (also suggestive of ineffective monitoring mechanisms) is associated with a greater prevalence of executive perquisites. Taking the opposing view, what can be said for an organization that is characterized by *strong* governance quality and *superior* financial performance? I find that, although well-governed and high-performing nonprofits are *individually* less likely to award CEOs with perquisites, good governance quality is associated with an incremental but significant *increase* in the likelihood of perquisites among high-performing entities. Collectively, these results suggest that while the Agency Hypothesis is applicable to the average nonprofit organization, the Pay-for-Performance Hypothesis is supported for nonprofits that are both well-governed and high-performing.

This paper also presents evidence on patterns in CEO pay and nonprofit performance surrounding CEO turnovers. While the results indicate higher attrition rates for excessively compensated CEOs, the probability of a highly-paid CEO leaving his position is *reduced* if he achieves superior financial performance in the year prior to turnover. Thus, although nonprofit organizations (in general) do not appear to pay for financial performance, the probability of attrition among highly-paid CEOs is lower when the organization is performing well.

As a more in-depth analysis of the Agency Hypothesis and its implications, I investigate the relation between governance quality and the CEO-to-employee relative pay ratio for varying degrees of agency conflicts. Superior governance quality should prove most valuable in mitigating excessive executive pay when agency problems are severe. Approximating nonprofit

agency problems as a function of excess liquid asset levels (as in Core, Guay, and Verdi 2006), I find that several governance mechanisms serve to alleviate excessive executive pay in organizations characterized by potentially severe agency conflicts. For example, for nonprofits marred by agency problems, the decision to adopt strong governing policies is associated with a large reduction in relative pay levels. Specifically, choosing to adopt a conflict of interest policy implies a 15% reduction in the relative pay ratio, while adopting a whistleblower policy is associated with a 14% reduction in relative pay. These results highlight the economic significance of governance quality. To further validate the value of governance, I investigate whether good governance quality ensures that changes in the relative pay ratio are accompanied by improvements in financial performance. The empirical results support this prediction, suggesting that strong governance mechanisms promote better financial performance surrounding changes in relative pay arrangements, such as when changes are made to a CEO's compensation contract.<sup>2</sup>

This paper contributes to extant literature of executive pay. Relevant studies in the nonprofit sector find a positive link between executive pay and nonprofit size (e.g., Aggarwal et al. 2012; Hallock 2002) that varies across industries and ownership types (Ballou and Weisbrod 2003). Much of the emerging literature of for-profit CEO compensation investigates how relative measures of CEO pay relate to a variety of corporate outcomes (e.g., Bebchuk et al. 2011; Faleye et al. 2013). I advance research of nonprofit executive pay by considering a similar

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<sup>2</sup> I conduct several robustness tests to validate the results. First, I split the sample into “commercial” and “traditional” sub-samples, where commercial nonprofits encompass those that tend to rely on a single source of revenue (program services revenue). Second, given the importance of organizational size as a determinant of both CEO pay and financial performance in the nonprofit sector, I re-estimate the results using different measures of nonprofit size. Third, I provide additional results that utilize alternative measures of CEO-to-employee relative pay. Finally, given that some U.S. states mandate certain governance standards, I revisit the primary pay and performance regression specifications after incorporating state fixed effects. Tabulated results, provided in Appendix B, lend further support to the Agency Hypothesis and its prediction of a negative link between the relative pay ratio and financial performance.

and timely definition of CEO compensation that is measured relative to the average employee's salary.

This paper is also related to existing studies that link executive compensation to firm performance, most of which are drawn from the for-profit literature. In the for-profit realm, a positive association between executive pay and firm performance has been documented on numerous occasions (e.g., Jensen and Murphy 1990; Conyon and He 2011). From the much smaller body of evidence of the nonprofit sector, Baber, Daniel, and Roberts (2002) find a positive association between nonprofit executive pay and charitable spending, while Sedatole, Swaney, Yetman, and Yetman (2012) find that the two are not significantly related. I expand upon these largely inconclusive findings by relating a more timely definition of CEO pay to multiple measures of nonprofit financial performance, finding a strong and consistent negative relation.

This paper also contributes to existing studies of governance quality and its impact on both executive pay and firm performance. An examination of the importance of corporate governance mechanisms in nonprofit organizations is particularly essential, given the prevalence of weak governance quality in nonprofits relative to their for-profit counterparts (Glaeser 2003). Extant literature demonstrates that poor governance quality alienates donors (Hansmann 1980), while improvements in governance are associated with more efficient operations (Alexander and Lee 2006). Related studies highlight the importance of a nonprofit's governing board, with larger boards being associated with decreased monitoring incentives (O'Regan and Oster 2005), and the inclusion of donors on boards leading to potential efficiency improvements (Callen, Klein, and Tinkelman 2003). While these findings are informative, notable deficiencies warrant a more in-depth and comprehensive analysis of nonprofit governance quality. Specifically,

extant literature fails to offer a definitive prediction as to how executive pay should relate to nonprofit performance, particularly after controlling for governance quality. Moreover, recent regulatory reforms (e.g., Dodd-Frank) highlight the relevance of correlating relative pay measures with performance. Although neglected in the nonprofit literature, this objective has received significant attention in the for-profit realm (e.g., Bebchuk et al. 2011; Faleye et al. 2013). Using governance data newly made available on IRS Form 990, this paper provides an all-inclusive and enlightening account of the impact of nonprofit governance quality on both managerial incentives and financial performance.

This study also adds to extant studies of CEO turnover. In the nonprofit realm, Brickley and Van Horn (2002) find that better financial performance lowers the probability of CEO attrition. Eldenberg, Hermalin, Weisbach, and Wosinska (2004) find a similar result in their study of nonprofit hospitals. Empirical evidence of for-profit entities also supports an inverse relationship between firm performance and the likelihood of CEO turnover (e.g., Jenter and Kanaan 2013), while Kaplan and Minton (2006) clarify that board-driven (but not takeover- or bankruptcy-driven) turnover is significantly related to firm performance. I advance this stream of literature by examining both financial performance and governance implications surrounding CEO departures in the nonprofit sector.

The next section presents a discussion of relevant literature and develops my hypotheses regarding executive compensation, financial performance, and corporate governance quality. Section III describes the sampling procedure. Section IV reports the results of the empirical analyses, and section V presents several robustness tests. Conclusions are offered in section VI.

## II. NONPROFIT COMPENSATION, PERFORMANCE, & GOVERNANCE

The nonprofit sector is a substantial and increasingly important component of the U.S. economy. In 2012, there were 1.6 million nonprofit entities registered with the IRS. As of 2010, the nonprofit sector encompassed 5.5% of U.S. GDP and 9% of the nation's labor force. At this time, public charities reported an aggregate \$1.5 trillion in revenues, \$1.45 trillion in expenses, and \$2.71 trillion in total assets. Gifts from individual foundations, corporations, and bequests reached approximately \$290.89 billion. Interestingly, while many other sectors of the economy struggled during the 2007-2009 financial crisis, most nonprofit industries thrived, reporting an *increase* in both employment and wage levels in 2010 relative to 2000 on the order of 17% and 29%, respectively (inflation-adjusted). This positive pattern runs counter to that of the for-profit business sector, which endured a drop in both employment and wage levels over the same period of -6% and -1%, respectively (Roeger, Blackwood, and Pettijohn 2013). As of year 2010, the median CEO pay among 282 large charities was \$475,192 – a 2.7% increase over the prior year (Gose and López-Rivera 2012).

### *II.1. Nonprofit compensation.*

As a matter of law, nonprofit organizations “must not be organized or operated for the benefit of private interests...” (IRC § 501(c)(3)(d)(ii)). Even so, numerous cases of excessive nonprofit executive pay have been documented. For example, Philip Levy and Joel Levy (brothers), two top executives of a Medicaid-financed nonprofit organization serving the developmentally disabled in New York, faced significant scrutiny for earning nearly \$1 million a year, driving state-funded luxury cars, and passing their children’s tuition bills onto the nonprofit group (Buettner 2011). In response, Governor Andrew Cuomo of New York created a task force to investigate allegations of excessive nonprofit pay that ultimately culminated in new

regulations, among them a provision that prohibits state-funded providers from devoting more than \$199,000 in state funds towards a single executive's pay (Cuomo 2012). As another example, in mid-2013, Senator Charles Grassley – a long-time critic of nonprofit hospitals – voiced serious concerns about nonprofit boards rewarding CEOs with large monetary bonuses in return for their increasing the quantity, not the quality, of services provided (Hancock 2013). One of the many other heavily scrutinized cases of apparent abuse of nonprofits' tax-exempt status is that of American Bureau of Shipping, a company advertising “to promote the security of life & property on the seas” (American Bureau of Shipping 2011) for the past 150 years of its existence as a nonprofit organization, and one that “has earned hundreds of millions of dollars in the past decade; lavished its executives with multimillion-dollar pay packages and perks; and purchased an offshore hedge fund [in the Cayman Islands]” (Evans 2012).<sup>3</sup>

While these and other well-documented cases of excessive executive compensation in nonprofit organizations raise obvious concerns regarding the quality of governance in the nonprofit sector, questions on the origins of variation in nonprofit executive pay schemes – both within firms (relative to non-executives) and across firms (relative to competing organizations) – have largely been ignored. That is, while existing studies of executive compensation within nonprofit organizations are informative, they leave much to be desired. Relevant literature consistently supports a positive association between nonprofit executive pay and organizational size (e.g., Aggarwal et al. 2012; Frumkin and Keating 2010; Hallock 2002), systematic differences in executive compensation across different industries and ownership types (Ballou and Weisbrod 2003), and a positive association between excess executive pay and excess liquid asset levels (Core, Guay, and Verdi 2006). However, the literature fails to offer conclusive

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<sup>3</sup> For other examples involving allegations of excessive nonprofit executive pay, see Dennison (2011), Doyle (2011), Fries (2013), Kruesi (2011), Pogrebin and Taylor (2010), and Sataline (2010).

evidence on many important issues involving nonprofit compensation, such as how executive pay relates to organizational performance and corporate governance. A discussion of relevant literature relating executive pay to financial performance is presented in the next section, and a review of studies of executive pay as it relates to governance quality follows in section II.3.

## *II.2. Executive pay and nonprofit performance.*

Conventional economic theory predicts that more capable managers will be rewarded with greater compensation, implying a positive association between pay and performance. Specifically, and in the context of for-profit companies, managerial incentive contracts are designed to reward CEOs for taking actions and making decisions that increase shareholder wealth. The implication of a positive association between executive pay and financial performance has been repeatedly documented among for-profit entities (e.g., Jensen and Murphy 1990; Conyon and He 2011). The type and style of CEOs have also been demonstrated to meaningfully impact corporate outcomes (e.g., Bertrand and Schoar 2003; Malmendier and Tate 2009). Moreover, Ryan and Wiggins (2004), among others, point to the type – and not just amount – of managerial incentives as being incrementally important in terms of its impact on firm performance.

Relative to the for-profit sector, much less focus has been devoted to studying how executive pay relates to performance in nonprofit organizations. Baber, Daniel, and Roberts (2002) find that changes in executive compensation are positively related to changes in program spending, while Sedatole, Swaney, Yetman, and Yetman (2012) find no significant relation between executive pay and program spending. As for other financial metrics, Brickley and Van Horn (2002) find that executive pay is positively related to return on assets. The inconclusive nature of this evidence is due at least in part to a lack of consensus about how to appropriately

measure the performance of a nonprofit organization. As explicitly described by Roomkin and Weisbrod (1999), it is much more difficult to identify the performance-related incentives of nonprofit managers relative to those of their for-profit counterparts.

### *II.3. Governance quality and agency concerns.*

A particularly important difference between the organizational forms of for-profit and nonprofit entities lies in their ownership structures. Specifically, as noted by Jensen and Meckling (1976), one of the primary avenues through which agency conflicts arise within for-profits is between their agents (managers) and primary principals (shareholders), particularly when management fails to fulfill its obligation to maximize shareholder wealth. In stark contrast, nonprofit organizations do not have residual claimants. Instead, nonprofit managers and boards of directors face only informal obligations to a stakeholder base consisting of donors, physicians, non-managing employees, and the community they serve. As such, the agency conflicts plaguing nonprofit entities are certainly starkly different and likely more serious than those associated with for-profits.

The governance structures of nonprofits have been labeled as being much weaker relative to their for-profit counterparts (e.g., Glaeser 2003). This concern is likely aggravated by the nonprofit sector's non-distribution constraint, which specifies that nonprofits are prohibited from distributing net earnings to any individual who exercises control over the organization. This provision can mistakenly lead both internal (non-managing) and external stakeholders to believe that strong corporate governance mechanisms are simply not necessary. Consequently, some U.S. states have instituted mandatory governance standards (Desai and Yetman 2006). Empirical evidence further validates the importance of governance quality in nonprofit organizations, with Hansmann (1980) finding that poor governance quality alienates donors, and

Alexander and Lee (2006) demonstrating that improvements in governance quality can lead to more optimal operating efficiencies. Regarding nonprofit boards, O'Regan and Oster (2005) find that the size of a nonprofit's board is of great importance, with larger boards being associated with decreased monitoring activities. Relatedly, Callen, Klein, and Tinkelman (2003) find that including donors on the governing board can translate into efficiency improvements.

An important distinction between the governance practices of nonprofit boards relative to their for-profit counterparts is the structure and operations of their boards of directors. For example, while in the for-profit realm shareholders possess the power to replace directors, nonprofit organizations lack shareholders altogether. Although some nonprofit board regulations vary by state, nonprofit organizations are typically allocated significant (if not total) discretion over board member replacement decisions. As such, policies as outlined in bylaws will tend to vary across organizations, with no uniform or external mandates imposed on the nonprofit sector as a whole (Pakroo 2011). Fama and Jensen (1983) provide further details about nonprofit boards, including an account of what nonprofit boards should entail: board members that are primarily if not entirely external to the organization, most if not all of whom meaningfully contribute to the organization through their wealth or time, and all of which are prepared to serve without pay. Moreover, future members should be chosen from these independent, existing members (to create a "self-perpetuating" board). Subsequent empirical evidence has found larger boards to be associated with decreased monitoring activities (O'Regan and Oster 2005), and that the inclusion of donors on nonprofit boards can translate into efficiency improvements (Callen, Klein, and Tinkman 2005).

Governance quality also offers implications for executive compensation, yet only in the for-profit literature has this relation been studied in-depth (e.g., Core, Holthausen, and Larcker

1999; Chhaochharia and Grinstein 2009). Of the evidence that does exist of nonprofit organizations, it is apparent that an absence of strong governance mechanisms may have a notable and adverse impact on executive pay levels. For example, Brickley, Van Horn, and Wedig (2010) find that “insider” (non-independent) nonprofit boards are associated with greater executive compensation, while a comprehensive study of board size by Aggarwal, Evans, and Nanda (2012) reveals that larger nonprofit boards are associated with weak managerial incentives. Related work by Cardinaels (2009) further substantiates that a nonprofit board of poor quality is associated with excessive executive pay.

#### *II.4. The intersection of nonprofit executive pay, firm performance, and governance quality.*

Additional and more sophisticated research on the intersection of executive compensation, organizational performance, and governance quality in nonprofit entities is warranted for several reasons. First and foremost, extant literature fails to provide a definitive directional prediction as to how nonprofit CEO pay should relate to organizational performance, particularly after controlling for governance quality. One reason for this deficiency is simply that the volume and depth of governance data were lacking prior to the 2008 release of a redesigned and much more detailed IRS Form 990. By using data originating from the redesigned Form 990, my study overcomes governance-related data limitations.

A second motivation for further study of the relation between nonprofit pay, performance, and governance is that different empirical studies utilize different measures of performance, which further complicates any attempt to make meaningful conclusions on the nonprofit pay-for-performance link. Uncertainty underlying how to best measure nonprofit performance – particularly relative to for-profit performance – has long been recognized as

problematic (Roomkin and Weisbrod 1999). I overcome these ambiguities by making use of multiple measures of nonprofit performance.

Lastly, the link between executive pay, performance, and governance has become increasingly important in response to recent regulatory reforms – most notably, the Dodd-Frank Act. In the for-profit executive compensation literature, researchers have responded by relating firm performance to measures of relative CEO pay. Examples include Faleye, Reis, and Venkateswaran (2013) who utilize a “CEO-employee relative pay [ratio],” defined as the ratio of CEO pay to average employee pay (in log form), as well as Bebchuk, Cremers, and Peyer (2011) who study the “CEO pay slice,” computed as the ratio of CEO pay to total pay to the top 5 executives. Nonprofit organizations are keenly aware of the fact that similar disclosure requirements, such as a ratio of CEO-to-employee relative pay, are likely forthcoming. By using a definition of relative CEO pay, my paper offers new and timely insights into nonprofit compensation structures.

### III. SAMPLE

Data for this study are based on year 2008 and 2009 filings of IRS Form 990, *Return of Organization Exempt from Income Tax*, the annual information return required of most tax-exempt organizations.<sup>4</sup> The form underwent a significant revision for tax year 2008; most notably, a new section entitled, “Governance, Management, and Disclosure” was added, and touted as the form’s “crown jewel” by Steven T. Miller, former Commissioner of the Tax Exempt and Government Entities Division (Miller 2008). Because governance data were recently added (2008), and are presently available for tax years 2008 and 2009 only, this study’s

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<sup>4</sup> Private foundations file a Form 990-PF, and small nonprofits (other than private foundations that have gross receipts less than \$100,000 and total assets less than \$250,000) file a 990-EZ. For the Form 990 and related tax documents, see <http://www.irs.gov/uac/Form-990,-Return-of-Organization-Exempt-From-Income-Tax-> .

data are relatively large in the cross-section but relatively short in the time-series. Governance variables are drawn from tax years 2008 and 2009, while most other variables are based on one or more of years 2006, 2007, 2008, and 2009.

As alluded to previously, on December 19, 2007, a dramatically redesigned Form 990 was issued, about which Acting Commissioner of the IRS, Kevin Brown, stated the following: “We need a Form 990 that reflects the way this growing sector operates in the 21<sup>st</sup> century. The new 990 aims to give both the IRS and the public an improved window into the way tax-exempt organizations go about their vital mission” (Internal Revenue Service 2007). In its redesigned state, the Form 990 spans eleven pages, not including the many (sixteen) supplemental schedules. Meeting the increased number and complexity of requirements is sure to require additional time and effort on the part of nonprofits, the disdain for which is perhaps no better expressed than through the sentiment of one executive director of a large public charity: “If this is the annual return we have to file, we don’t want to be tax-exempt anymore” (Hopkins 2009, p. 115).<sup>5</sup>

A large sample of Form 990 returns are provided in the Internal Revenue Service Statistics of Income (SOI) microdata files, which are publicly and freely available. For this study, SOI data are retrieved from the National Center for Charitable Statistics (NCCS), which cleans and distributes nonprofit data provided by the IRS. In the aggregate, the SOI sample includes over 90 percent of all nonprofit assets and revenues (Yetman and Yetman 2012).<sup>6</sup>

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<sup>5</sup> The first academic publication to utilize the governance data required on the newly redesigned Form 990 is Yetman and Yetman (2012). They predict and find better financial reporting quality in well-governed nonprofit organizations, where the key measure of financial reporting quality considered is the accuracy of reported charitable (program) expenses.

<sup>6</sup> Sampling rates range from around 1 percent of small-asset classes to 100 percent of large-asset classes in the SOI data set. Asset classes are ranges of total assets. Each nonprofit will fall into one such category based on its asset size. Large asset classes typically include organizations having \$10 million or more in total assets, while small asset classes encompass nonprofits having \$1 million or less. For an example, see the presentation “SOI Studies,

Given that the SOI represents the largest publicly available nonprofit database, it has been used in multiple empirical studies (e.g., Core, Guay, and Verdi 2006; Keating, Parsons, and Roberts 2008; Yetman and Yetman 2012).<sup>7</sup> To capture data provided in the redesigned Form 990, the sample considered for this study includes all U.S.-based nonprofit organizations in the 2008 and 2009 tax year SOI databases. CEO identity, compensation, and tenure are gathered from the Guidestar Premium database which, similar to the NCCS, disseminates Form 990 information into a digitized, machine-readable form. After merging necessary variables from the NCCS and Guidestar datasets, excluding observations involving either non-positive executive compensation (Carroll, Hughes, and Luksetich 2005) or CEO turnovers, 12,345 observations remain. It is important to note that since the 2008 tax year marked the first year in which the redesigned Form 990 was filed, not all 501(c)(3) nonprofits were required to use the new form. Specifically, for tax year 2008 (2009), only those organizations with total assets of at least \$2.5 million (\$1.25 million) or gross receipts of at least \$1 million (\$500,000) were required to use the redesigned Form 990. As such, to eliminate the possibility of sample selection bias, I restrict the sample to only those nonprofits *required* to file the redesigned form since voluntary filers might tend to be well-governed, resulting in the elimination of 333 observations. Eliminating apparent coding inconsistencies (as in Core et al. 2006, Aggarwal et al. 2012, Baber et al. 2002, and others), observations that are classified as “out-of-scope” by the NCCS, and requiring sufficient data to estimate the main statistical models results in a maximum sample of 7,374 firm-year observations and 4,429 unique nonprofits. To mitigate the effect of outliers and any remaining data errors, all continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles.

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Data, and Future Plans” by Tom Petska, Director of SOI operations, where “A Typical SOI Sample Design” is described ([http://www.taxadmin.org/fta/meet/07rev\\_est/papers/Petska.pdf](http://www.taxadmin.org/fta/meet/07rev_est/papers/Petska.pdf)).

<sup>7</sup> Although frequently used, the accuracy and reliability of Form 990 data have been questioned (e.g., Froelich and Knoepfle 1996; Froelich, Knoepfle, and Pollak 2000; Krishnan and Yetman 2011). However, literature exists that serves to guide researchers on how best to clean Form 990 data (e.g., Bowman, Tuckman, and Young 2012; Roberts 2005; Thornton and Belski 2010). These procedures have been followed in this paper.

#### IV. EMPIRICAL ANALYSIS

Table 1 provides descriptive statistics of variables used in subsequent empirical analyses. All variables are defined in Appendix A. The mean (median) values of total assets, total revenue, and number of employees are \$206.6 (\$56.3) million, \$93.5 (\$22.9) million, and 896 (311), respectively. The mean (median) CEO compensation is \$329,014 (\$221,099), and the mean (median) CEO-to-employee relative pay ratio is 11.33 (8.05). Comparing relative pay ratios across major industries reveals that the highest values belong to the higher education sector (mean = 17.69, median = 17.05) and lowest values to the public benefit sector (mean = 5.70, median = 4.47).<sup>8</sup> As for the primary measure of organizational performance utilized in this paper, the mean (median) proportion of program expenses to total expenses is 84.2% (86.6%). Comparisons across major industries reveal that the public benefit sector has the highest program spending ratio (mean = 87.06%, median = 90.21%) while the arts sector has the lowest ratio (mean = 76.52%, median = 80.07%). In subsequent statistical tests, I account for differences across industries by including industry fixed effects for each of the 26 major nonprofit industry groupings (as identified by the National Taxonomy of Exempt Entities (NTEE)), in addition to industry-adjusting all measures of financial performance.<sup>9</sup>

The governance index consists of sixteen components assessing several aspects of nonprofit governance quality, including its governing board, governing policies, compensation policies, as well as transparency and accountability, and is described in detail in Appendix A. Most index components consist of “Yes”/ “No” questions coded as 0-1 indicator variables, where

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<sup>8</sup> “Major industries” at times refer to one of the (larger) 26 NTEE classifications and at other times refer to aggregated groupings of some of the (smaller) 26 NTEE classifications. See the *NTEE-10 Industry Classifications* and *NTEE-26 Industry Classifications* variable definitions in Appendix A for more details.

<sup>9</sup> The industry adjustment to financial performance is computed as the value for firm  $i$  in year  $t$  less the industry median in year  $t$ , where industries are based on the NTEE’s 26 major groupings.

a value of 1 signifies the response hypothesized to indicate better governance quality. Each component was chosen from the redesigned Form 990 (primarily the “Governance, Management, and Disclosure” section) on account of: (1) its possible relevance to either CEO compensation or nonprofit performance based on the for-profit and nonprofit literatures, and (2) the likelihood that the source question would be answered honestly.<sup>10</sup> Questions with especially similar responses across organizations (specifically, those in which at least 95% of organizations agree in their responses) are eliminated. Also, in an effort to assign higher weights to components associated with more diverse responses, I weight each component by its cross-sectional standard deviation. For each firm-year observation, the governance index is then defined as the ratio of the sum of the individual components as a proportion of the observation-specific total number of possible responses, such that governance quality is increasing in the magnitude of the index, where the index (theoretically) ranges from 0 to 1 in value. The mean (median) standard deviation weighted governance index is 0.090 (0.089), with the health care sector having the highest governance index scores (mean = 0.094, median = 0.099) and higher education sector being associated with the lowest values (mean and median of 0.076).

Table 2 provides correlations among CEO compensation, its possible determinants, and measures of financial performance and nonprofit governance. As expected, (the log of) the CEO-to-employee relative pay ratio is positively correlated with both (the log of) the number of employees and (the log of) total assets, with correlations of 0.69 and 0.45, respectively.

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<sup>10</sup> For example, the governance index includes an indicator variable for whether at least two-thirds of the organization’s board of directors is independent. There is a large stream of literature documenting the impact of board independence on executive pay (e.g., Brickley et al. 2010 for nonprofits; Core et al. 1999 for for-profits). As another example, the governance index also includes indicator variables for whether the nonprofit abides by strong governing policies related to conflict of interest, whistleblower, and document retention matters. The importance of having strong governing policies in place has been repeatedly stressed for its potential to curb self-interested managers’ tendencies (see, for example, the Sarbanes-Oxley Act and recommendations of the Panel of the Nonprofit Sector).

Moreover, the correlation between these two measures of organizational size is also quite high (0.55), but most other correlations are less than 0.15 in absolute value.

#### *IV.1. Contrasting views of the relationship between nonprofit governance, pay, and performance.*

The main focus of the forthcoming empirical analyses is to investigate the intersection of nonprofit CEO pay, financial performance, and governance quality. Specifically, it may be the case that CEOs are rewarded for achieving optimal financial performance, whether it be for maximizing charitable spending (in lieu of administrative or fundraising spending), raising a significant amount of donations in a cost efficient manner, or ensuring their organization is productive as evidenced by a large ratio of total revenue per employee. I label this prediction the Pay-for-Performance Hypothesis. In contrast, in poorly governed nonprofits, CEOs may be free to prioritize their own best interests rather than those of the organization. These poorly monitored CEOs may choose to minimize their efforts, resulting in poor performance and/or paying themselves excessive salaries. I title this prediction the Agency Hypothesis.

To disentangle these predictions about the nature of the relationship between the relative pay ratio and nonprofit performance, I begin by estimating the following two equations:

$$\begin{aligned} \text{Log}(\text{Relative Pay})_{it} = & \beta_0 + \beta_1 \text{Industry-Adjusted Performance}_{it} + \beta_2 \text{Governance Index}_{it} \\ & + \sum_{j=3}^n \beta_j \text{Other Determinants} + \sum_{k=1}^n \gamma_k \text{Industry}_k + \sum_{m=1}^n \delta_m \text{Year}_m + \varepsilon_{it} \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Industry-Adjusted Performance}_{it} = & \alpha_0 + \alpha_1 \text{Log}(\text{Relative Pay})_{it} + \alpha_2 \text{Governance Index}_{it} \\ & + \sum_{k=3}^n \alpha_k \text{Other Determinants} + \sum_{k=1}^n \gamma_k \text{Industry}_k + \sum_{m=1}^n \delta_m \text{Year}_m + \varepsilon_{it} \end{aligned} \quad (2)$$

where the industry adjustment is computed as the value for firm  $i$  in year  $t$  less the industry median in year  $t$ , and where industries are based on the NTEE's 26 major groupings. Both models include industry and year fixed effects. *Industry-Adjusted Performance* is one of four measures of performance: (1) the ratio of program expenses to total expenses ("Program

Spending Ratio”), (2) the ratio of program expenses to total assets (“Program Expenses to Assets”), (3) the ratio of net fundraising revenue (fundraising revenue net of fundraising expenses) to total fundraising revenue (“Fundraising Ratio”), and (4) (the log of) the ratio of total revenue per employee (“Log(Revenue per Employee)”). The Program Spending Ratio has been utilized as a measure of financial performance in multiple related studies (e.g., Aggarwal et al. 2012; Baber et al. 2002). The ratios Program Expenses to Assets and Fundraising Ratio are based on performance metrics utilized by Desai and Yetman (2006). Log(Revenue per Employee) builds upon a related study in the for-profit literature by Faleye et al. (2013). Detailed definitions of these variables are provided in Appendix A. Subsequently, I consider several variations of these base models to account for the endogeneity of relative pay and nonprofit performance.

Regarding equation 1,  $\beta_1$  measures the impact of nonprofit performance on CEO pay, while  $\beta_2$  captures the effect of governance quality on CEO pay. The Pay-for-Performance Hypothesis implies a positive  $\beta_1$  coefficient, but offers no directional prediction on the sign of  $\beta_2$ . That is, if all firms are well-governed (i.e., there are no agency problems), then  $\beta_2$  should not significantly differ from zero since true governance quality does not vary. The Agency Hypothesis predicts a negative relationship between financial performance and CEO pay, i.e., a negative  $\beta_1$ . The Agency Hypothesis also implies a negative relationship between CEO pay and governance quality, i.e., a negative  $\beta_2$ . Note that these predictions acknowledge the imperfect nature of the governance index (arising due to non-quantifiable aspects of governance quality); if instead the governance index measured nonprofit governance quality perfectly and sufficiently, the Agency Hypothesis would imply a  $\beta_1$  coefficient that is approximately zero and a  $\beta_2$  coefficient that is negative in value, as the governance index would capture the full effect of

governance on pay.<sup>11</sup> In summary, and in the context of equation 1, the Pay-for-Performance (Agency) Hypothesis implies a  $\beta_1$  that is positive (negative) and a  $\beta_2$  that is approximately zero (negative).

Regarding equation 2,  $\alpha_1$  measures the impact of CEO pay on nonprofit performance while  $\alpha_2$  captures the effect of governance quality on nonprofit performance. Similar to equation 1, the Pay-for-Performance Hypothesis implies a positive  $\alpha_1$  and an  $\alpha_2$  that does not significantly differ from zero. The Agency Hypothesis predicts a negative (positive) relationship between CEO pay (governance quality) and financial performance, i.e., a negative  $\alpha_1$  and positive  $\alpha_2$ . As discussed in the context of equation 1, the governance index is presumed to measure true governance quality imperfectly. If this were not the case, the Agency Hypothesis would imply an  $\alpha_1$  coefficient that does not significantly differ from zero. However, realistically speaking, the governance index is imperfect and, given the Agency Hypothesis's expectation of higher pay in poorly governed nonprofits, the prediction becomes a negative  $\alpha_1$ . In summary, and with regard to equation 2, the Pay-for-Performance (Agency) Hypothesis implies an  $\alpha_1$  that is positive (negative) and an  $\alpha_2$  that is approximately zero (positive).

#### *IV.2. Determinants of CEO-to-employee relative pay and nonprofit performance.*

Table 3 reports the results of pooled regressions where (the log of) the CEO-to-employee relative pay ratio is regressed on its traditional determinants, nonprofit performance, and governance quality, in addition to industry and year fixed effects. The table includes separate regressions for each of the four different measures of financial performance considered. All

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<sup>11</sup> An alternative prediction about the relationship between CEO pay and governance quality stems from an empirical finding in the for-profit literature. The argument states that intense monitoring is associated with lower executive pay levels since shareholders will see less of a need to compensate a CEO who is already held accountable by way of the company's strong governance mechanisms (Acharya and Volpin 2010). These employment conditions would be viewed negatively by the CEO, and could encourage him to bargain for higher compensation, implying a potentially positive link between CEO pay and governance quality.

measures of financial performance are presented in industry-adjusted form. Of primary importance among Table 3 results is a negative relation between all four measures of financial performance and the CEO-to-employee relative pay ratio (p-values < 0.01). These preliminary results lend support to a negative relation between CEO pay and nonprofit performance (and, by extension, the Agency Hypothesis). According to these results, poor performing nonprofits are also characterized by excessive pay, implying weak governance and ineffective monitoring mechanisms.

Table 3 identifies several other important determinants of CEO pay. For example, the relative pay ratio is positively related to (the log of) the number of employees, (the log of) total assets, and (the log of) CEO tenure, and is negatively related to government revenue, (the log of) median state-level household income, an indicator variable set to 1 if the CEO is a female, and an indicator variable set to 1 for commercial nonprofits (defined as those with at least 90% of revenues drawn from program services, as in Aggarwal et al. 2012 and Steinberg 2004). The positive association between CEO pay and organizational size supports a widely documented finding in the related nonprofit literature (e.g., Aggarwal et al. 2012; Frumkin and Keating 2010; Hallock 2002). The result that CEO pay is increasing in CEO tenure suggests that entrenched, long-standing CEOs may be able to extract higher compensation or, alternatively, could represent additional pay for experience. One possible explanation for the negative association between relative pay and government revenue is that greater reliance on the government for resources corresponds to closer monitoring, and thus more reasonable CEO compensation levels. Average employee pay is positively associated with median state household income but, by construction, inversely related to the relative pay ratio, thus the negative association between the two. The (female) gender indicator variable enters with a negative and significant coefficient.

One possible reason for this result is that women are more willing to accept lower paying positions when operating in a charitable environment. The negative and significant coefficient on the commercial nonprofit indicator variable is likely due to differences between the commercial and traditional sub-groups on several dimensions, such as organizational size.

Table 3 also provides evidence that good governance quality may alleviate excessive executive pay, with a statistically significant association documented in columns I and II (p-values < 0.05). For example, based on column I results, a single standard deviation improvement in the governance index (0.024) implies an approximate 1.4% reduction in the relative pay ratio.<sup>12</sup> Additionally, the results indicate a non-linear relation between the relative pay ratio and board size, suggesting that CEOs of nonprofits having larger boards are associated with higher relative pay ratios. The economic significance of the relation between governance quality and the relative pay ratio will be explored in more detail in subsequent analyses. All other variables either enter insignificantly or alternate signs through the four model specifications.

The rather lack-luster results with respect to the relationship between governance quality and CEO compensation may come as a surprise. However, most of the signs and significance of coefficients in Table 3 support the Agency Hypothesis, particularly the highly negative and significant association between CEO pay and nonprofit performance. These results clearly indicate agency (i.e., governance) problems in many nonprofits; that is, the relatively weak results for the governance index are likely due to its inability to measure governance quality perfectly. As such, it may be the case that the IRS's approach to measuring nonprofit governance quality is misleading, or simply that nonprofit entities answer the questions

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<sup>12</sup> Given the (unscaled) coefficient on the *Governance Index* of  $-0.590$ , a one standard deviation increase in the *Governance Index* (0.024) implies a  $e^{(-0.590 \times 0.024)} - 1 \approx -1.4\%$  change in the relative pay ratio.

dishonestly. These possibilities raise some concern about the efficacy of a new and costly set of disclosure requirements.

Table 4 provides the results of pooled regressions where four different measures of (industry-adjusted) nonprofit performance are regressed on traditional determinants, (the log of) the CEO-to-employee relative pay ratio, and measures of governance quality, in addition to industry and year fixed effects. Similar to Table 3, this table includes a separate column for each of the four different measures of financial performance.

The most relevant finding arising from Table 4 results is a negative relationship between the relative pay ratio and all four measures of financial performance ( $p$ -values  $< 0.01$ ). In terms of economic significance, a one standard deviation increase in (the log of) the relative pay ratio (0.846) implies a 0.8% decrease in the (industry-adjusted) Program Spending Ratio.<sup>13</sup>

Comparable calculations for the remaining three performance metrics reveal that a one standard deviation increase in the relative pay ratio implies reductions of 6.7%, 0.9%, and 17.4% in the (industry-adjusted) Program Expenses to Assets ratio, Fundraising Ratio, and Log(Revenue per Employee).<sup>14</sup> These results, though still preliminary, lend further support to a negative relation between relative pay and nonprofit performance in favor of the Agency Hypothesis.<sup>15</sup>

#### *IV.3. Endogeneity of CEO pay and nonprofit performance.*

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<sup>13</sup> Given the (unscaled) coefficient of  $-0.010$  on  $\text{Log}(\text{Relative Pay})$  in column I of Table 4 (where the dependent variable is the Program Spending Ratio), a one standard deviation increase in  $\text{Log}(\text{Relative Pay})$  implies a  $-0.010 \times 0.846 \approx -0.8\%$  change in the Program Spending Ratio.

<sup>14</sup> Given (unscaled) coefficients of  $-0.079$ ,  $-0.011$ , and  $-0.206$  on  $\text{Log}(\text{Relative Pay})$  in columns II, III, and IV of Table 4, a one standard deviation increase in  $\text{Log}(\text{Relative Pay})$  implies  $-0.079 \times 0.846 \approx -6.7\%$ ,  $-0.011 \times 0.846 \approx -0.9\%$ , and  $-0.206 \times 0.846 \approx -17.4\%$  changes in Program Expenses to Assets, Fundraising Ratio, and Log(Revenue per Employee), respectively.

<sup>15</sup> Although equations 1 and 2 have several explanatory variables in common, there are control variables exclusive to equation 1 (i.e.,  $\text{Log}(\text{Household Income})$ ,  $\text{Log}(\text{CEO Tenure})$ , and  $\text{Gender Dummy}$ ) and equation 2 (i.e.,  $\text{Fundraising Dummy}$  and  $\text{Total Liabilities/Total Assets}$ ). Therefore, although the results associated with each of equations 1 and 2 contribute new information, I acknowledge the fact that the two estimations are not independent.

As implied by the model specifications in equations 1 and 2, both relative pay and financial performance are likely endogenous. Indeed, according to the Agency Hypothesis, both are impacted by governance quality and, according to the Pay-for-Performance Hypothesis, both are impacted by CEO skill or effort. I address this possibility using three empirical methods: (1) two-stage least squares procedures where financial performance and, separately, the relative pay ratio are treated as endogenous; (2) a changes specification, where changes are computed as the difference between time  $t$  and time  $t-1$  values; and (3) modeling the relative pay ratio as a function of lagged (rather than contemporaneous) financial performance. While these methods represent a targeted attempt at addressing concerns about endogenous associations, I do not claim to eliminate endogeneity altogether. However, it is worth noting that the two endogenous variables of interest, the relative pay ratio and nonprofit financial performance, consistently exhibit a significant negative relationship. Thus, any latent variables that would otherwise lead to a positive and potentially spurious association do not seem to be of great concern, given that I find the two variables to be negatively related.

The first approach I use to address endogeneity is to estimate the relations between CEO pay and firm performance via a two-stage procedure. Treating nonprofit financial performance as endogenous, I adopt two instrumental variables: the *Total Liabilities/Total Assets* ratio lagged by one year and financial performance lagged by two years.<sup>16</sup> The ratio of total liabilities to total assets is a measure of financial reporting quality (e.g., Krishnan, Yetman, and Yetman 2006; Keating, Parsons, and Roberts 2008), and is expected to affect the relative pay ratio only through

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<sup>16</sup> There are two exceptions to these instruments. First, when instrumenting for the financial performance measure *Program Expenses to Assets*, I use the prior-period value of the industry median *Total Liabilities/Total Assets* ratio. Using the industry median avoids a mechanical relationship between interchanging two firm-specific variables having shared denominators and, by extension, reduces over-identification potential. Second, the data do not permit calculating the twice-lagged value of *Log(Revenue per Employee)*; specifically, there are no observations with data for the number of employees at time  $t-2$ . As a result, as instruments for *Log(Revenue per Employee)*, I use the twice-lagged values of the firm-specific and industry median *Log(Total Revenue)*.

financial performance, thus lending to its validity as an instrument. Table 5 presents two-stage least squares (2SLS) regression results where nonprofit performance is treated as endogenous. The Shea's partial  $R^2$ 's of the two instruments in the first stage regression provide evidence that they are jointly correlated with financial performance (partial  $R^2$ 's ranging from 24.5% to 73.3%). Moreover, the Sargan statistic testing for the over-identification of both instruments fails to reject the null hypothesis that the instruments as a group are exogenous (p-values of 0.128 or greater). After addressing endogeneity concerns, Table 5 results uphold the previously-documented negative relation between the CEO-to-employee relative pay ratio and financial performance, with all four coefficients negative in sign and statistically significant at the 0.05 level.

Table 6 presents the results for when the relative pay ratio is treated as endogenous. I adopt two variables to instrument for relative pay: the industry median value of (the log of) the ratio of CEO compensation to the number of volunteers, and the twice-lagged value of (the log of) the ratio of CEO compensation to total compensation paid to all employees of the organization.<sup>17</sup> The Shea's partial  $R^2$ 's of the two instruments in the first stage regression demonstrate that they are jointly correlated with the relative pay ratio (partial  $R^2$ 's ranging from 40.1% to 43.1%). Additionally, the Sargan statistic testing for the over-identification of both instruments fails to reject the hypothesis that the instruments as a group are exogenous (p-values of 0.270 or greater). After taking into account the endogenous nature of the relative pay ratio, Table 6 results support the previously-documented negative relation between financial

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<sup>17</sup> Insufficient data on the number of employees at time  $t-2$  prohibits computing the twice-lagged value of the relative pay ratio (the number of employees is needed to compute the denominator of the pay ratio). Therefore, in place of the twice-lagged value of the relative pay ratio, I use the twice-lagged value of (the log of) the ratio of CEO compensation to total compensation.

performance and the relative pay ratio, with all coefficients negative in sign and highly statistically significant for all four measures of financial performance ( $p$ -values  $< 0.01$ ).

For the remainder of the paper, I focus on a single measure of performance: the program spending ratio. One reason to prioritize this performance metric over competing alternatives is for its conceptually appealing qualities. Specifically, nonprofit organizations are expected to fulfill a charitable mission, the core expenses for which are captured in program expense categories. Thus, it is reasonable to conclude that a nonprofit devoting a high proportion of its total spending towards charitable causes (relative to administrative or fundraising alternatives) is performing well. Another reason to focus on the program spending ratio is a matter of precedence, given that it is a widely-accepted financial performance metric utilized in related literature (e.g., Aggarwal et al. 2012; Baber et al. 2002).

As an additional check of endogeneity between the relative pay ratio and the program spending ratio, I estimate equation 2 in change form. Results, provided in Panel A of Table 7, reveal a significant negative relation between the change in relative pay and the change in program spending ( $p$ -value = 0.007). Other results of significance include a significant positive relation between changes in program spending and in (the log of) the nonprofit's age, indicating that organizations devote more resources toward charitable activities as they age, particularly relative to alternative uses of funds (i.e., administrative or fundraising). The significant negative association between changes in program spending and in liquid assets suggests that nonprofit managers do not increase their charitable spending levels in response to increases in liquidity.

As a further test of endogeneity, I estimate equation 2 using the lagged relative pay ratio in place of its contemporaneous value. Results, offered in Panel B of Table 7, demonstrate a negative pay-for-performance link; that is, managers having high relative pay ratios tend to

spend relatively little on charitable activities (p-value = 0.058). All other variables enter with coefficients and statistical significance levels that are similar to those reported in column I of Table 4, lending further support to a negative pay-for-performance link.

#### *IV.4. Executive perquisites, nonprofit performance, and governance.*

The results presented in this paper support a negative relationship between CEO pay and financial performance. How do other forms of managerial incentives relate to nonprofit performance? In this section, I analyze the relationship between executive perquisites, financial performance, and governance quality. One aspect of the revised Form 990 is more detailed information on executive compensation. For example, the first question on Schedule J (“Compensation Information”) asks whether the organization provided perquisites to any officer, director, trustee, key employee, or highly compensated employee. Among the eight listed perquisite categories are first-class or charter travel, travel for companions, a discretionary spending account, and housing allowances, to name a few.

To begin, I estimate a multivariate logit model predicting the probability of at least one type of perquisite being awarded to an executive in a given year. Subsequently, I consider the probability that at least one executive is awarded first-class or charter travel – a specific and indisputably luxurious type of perquisite that is conceivably highly sensitive to governance quality. In both models, the independent variables of interest include (1) an indicator variable for superior nonprofit performance, where performance is measured as the program spending ratio, (2) governance quality, captured by the governance index, and (3) the interaction of the variables described in (1) and (2). The models control for traditional determinants of the relative pay ratio, where determinants are those referred to in equation 1 with baseline results in column I of Table 3.

Column I of Table 8 presents the results of the logit regression predicting the probability that at least one type of perquisite is awarded, while column II exclusively focuses on the perquisite type of first-class or charter travel. The direction and significance of the coefficients of interest are highly comparable between the two models. The indicator variable capturing superior nonprofit performance enters with a negative and highly statistically significant coefficient (p-value < 0.0001). This result suggests that superior financial performance (and effective monitoring mechanisms) is inversely related to the likelihood of receiving executive perquisites, which supports the earlier result of a negative relation between nonprofit performance and reportable compensation. The governance index also enters with a negative and significant coefficient (p-value < 0.0001), indicating that well-governed, effectively monitored firms are less apt to award perquisites to managing executives. Of particular importance is the interaction term between these two variables, which enters with a positive and highly statistically significant coefficient (p-value < 0.0001). This latter result suggests that, although high-performing and well-governed firms are *individually* less likely to award executive perquisites, good governance quality is associated with an *incremental* but significant *increase* in the likelihood that executives of high-performing nonprofits will be rewarded with perquisites (relative to their poorly-governed peers).

I also investigate the relationship between the *variety* of executive perquisites, nonprofit performance, and governance quality. Specifically, I estimate a multivariate ordered probit model based on the number of types of perquisites identified on the Form 990 as being awarded during the year. Since the Form 990 lists eight perquisite categories, the dependent variable ranges in value from 0 to 8, in increments of 1. All independent variables are the same as those utilized in the logit model of executive perquisites. Results, reported in column III of Table 8,

include coefficients that enter with signs and statistical significance levels that are very similar to those corresponding to the logit models. Specifically, I find that the variety of executive perquisites decreases in cases of superior nonprofit performance and in cases of good governance quality, but that a well-governed nonprofit is associated with an incremental but significant *increase* in a high-performing nonprofit organization's variety of executive perquisites (relative to their poorly-governed counterparts). Collectively, the results in Table 8 lend further support to a negative association between managerial incentives and nonprofit performance that is incrementally impacted by the organization's governance quality.

#### *IV.5. CEO pay and nonprofit performance surrounding CEO turnovers.*

The evidence presented so far in this paper demonstrates a negative relation between nonprofit CEO pay and financial performance, consistent with the Agency Hypothesis. A relevant question then becomes, what are the observed patterns in CEO pay and nonprofit performance surrounding CEO turnovers? I isolate all instances of CEO turnovers, both forced and voluntary.<sup>18</sup> I match each turnover ("treatment") firm to a comparable non-turnover ("control") firm, where the control firm is required to have been in the same industry and of similar size (total assets) in the year prior to the treatment firm's turnover. To qualify as a match, I allow a maximum 10% differential between treatment and control firms' total assets.

Panel A of Table 9 presents univariate analyses comparing the industry-adjusted program spending ratios of turnover firms to those of non-turnover firms. A review of the "Difference" column reveals that turnover firms experienced significantly lower financial performance in the year prior to (p-value = 0.006) and the year of (p-value = 0.001) turnover relative to the sample

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<sup>18</sup> Due to data limitations, I am not able to decipher whether a CEO turnover was forced or voluntary.

of control firms. Interestingly, this disparity does not resolve following turnover; that is, turnover firms still report significantly lower performance values relative to matched firms.

Panel B of Table 9 reports the results of multivariate logit regressions, where the probability of turnover is modeled as a function of prior-period nonprofit financial performance and the relative pay ratio. Specifically, to capture the effect of prior-period performance on the likelihood of CEO turnover, I define an indicator variable that is set to 1 when the nonprofit exceeded the annual industry median value of the program spending ratio, and is 0 otherwise. I then include an interaction term between the high performance indicator and relative pay as a means to capture the incremental effect of superior financial performance on the relation between relative pay and the probability of turnover. The logit model also includes control variables for firm- and CEO-specific attributes, in addition to industry fixed effects. The results provided in Panel B of Table 9 indicate a notably higher probability of turnover when relative pay ratios are large (p-value = 0.041). Interestingly, the interaction term (between relative pay and the high performance indicator) enters with a negative and statistically significant coefficient (p-value = 0.067) suggesting that relative to their *poor*-performing counterparts, highly-paid CEOs of *high*-performing nonprofits are associated with an incrementally lower probability of turnover. The results presented in Table 9 suggest that, although nonprofits do not necessarily pay for performance, achieving optimal financial performance is associated with a lesser chance of CEO turnover.

#### *IV.6. The role of governance in offsetting the consequences of agency conflicts.*

An important result arising from earlier empirical analyses is that higher CEO pay levels are associated with inferior corporate governance quality. In particular, columns I and II of Table 3 reveal a statistically significant inverse relation between the governance index and

relative pay (p-values of 0.040 and 0.048 for the Program Spending Ratio and Program Expenses to Assets models, respectively). I next examine the economic significance of this result.

Superior corporate governance should prove most valuable when agency conflicts are high. That is, in the context of this paper, it is reasonable to expect governance mechanisms to play a more significant role in mitigating the excessive compensation of CEOs when the organization is marred by agency problems. To test this prediction, I classify a nonprofit as being characterized by agency problems when its level of liquid assets is excessively high. In a study of the agency problems of excess liquid assets, Core, Guay, and Verdi (2006) model nonprofits' liquid asset levels as a function of firm size, revenue volatility, and access to debt.<sup>19</sup> As Core et al. describe, there are at least three possible reasons underlying an abnormally high level of liquid assets: (1) the nonprofit anticipates needing to finance future growth opportunities; (2) the nonprofit benefits from a strong monitoring role; or (3) the nonprofit is tainted by agency problems. The authors' evidence strongly favors the third reason (i.e., that excess liquid assets are indicative of agency problems), which aligns well with a large strand of literature in the for-profit sector (e.g., Harford 1999; Opler, Pinkowitz, Stulz, and Williamson 1999). As such, following the empirical model employed by Core et al., I compute a nonprofit's excess liquid assets as the residual from the following model:

$$\begin{aligned}
 \text{Liquid Assets/Total Expenses}_{it} = & \beta_0 + \beta_1 \text{Log(Total Revenue)}_{it} + \beta_2 \text{CV(Total Revenue)}_{it} + \beta_3 \text{Access to Debt}_{it} \\
 & + \beta_4 \text{CV(Total Revenue)}_{it} \times \text{Access to Debt}_{it} \\
 & + \sum_{k=1}^n \gamma_k \text{Industry}_k + \sum_{m=1}^n \delta_m \text{State}_m + \varepsilon_{it}
 \end{aligned} \tag{3}$$

where  $\text{CV(Total Revenue)}$  is the coefficient of variation of total revenue, defined as the ratio of the standard deviation of total revenue to mean total revenue measured over the five-year period ending in year  $t$ , and  $\text{Access to Debt}$  is an indicator variable coded as 1 if the firm utilized debt

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<sup>19</sup> The definition of "liquid assets" employed in this paper is termed "endowment assets" in Core et al. (2006).

(tax-exempt bonds) during the ten-year period ending in year  $t$ . Equation 3 is estimated yearly, and the continuous variables ( $\text{Log}(\text{Total Revenue})$  and  $\text{CV}(\text{Total Revenue})$ ) are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles to help mitigate the impact of outliers. I require a minimum of four years to compute  $\text{CV}(\text{Total Revenue})$  and rely on the Guidestar Premium database for the relatively longer time span of data needed to estimate this equation.<sup>20</sup>

Of primary importance is gaining an understanding of the impact of governance on the CEO pay levels of nonprofit organizations with potentially serious agency problems. Using estimates of excess liquid asset levels, I capture probable agency conflicts through an indicator variable, *Agency Dummy*, defined as 1 (0) for the upper (lower) quartile of excess liquid assets. I then estimate a variant of equation 1 that includes the *Agency Dummy*, components of the governance index in place of its aggregate form, and interaction terms between the *Agency Dummy* and each governance mechanism. Results, reported in Table 10, reveal several associations between measures of governance quality and the relative pay ratio that significantly vary according to the potential severity of agency conflicts.

In the final portion of this analysis, I compute the economic significance of governance variables whose statistical associations with the relative pay ratio are significantly related to the potential severity of agency conflicts. Specifically, from column II of Table 10, these governance variables include *Board Independence*, *Conflict of Interest Policy*, *Whistleblower*

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<sup>20</sup> For reference, Table B9 of Appendix B presents pooled regression results of the liquid asset expectations model specified in equation 3. The pooled model is presented for the full sample for which sufficient data are available during the 2008-2009 period. Year fixed effects are incorporated in the pooled model but are excluded when estimating equation 3 on a yearly basis to obtain residual (excess) liquid asset levels. Coefficient estimates are generally comparable to those reported by Core et al. (2006). In sum, as revenue (and cash flow) becomes more volatile, liquid asset levels increase. In contrast, lower liquid asset levels are found in larger nonprofits. Interestingly (and contrary to Core et al.), access to debt is associated with higher debt levels for my sample entities, suggesting that nonprofits issue debt in an effort to build up liquid reserves. The negative and statistically significant coefficient on the interaction term,  $\text{CV}(\text{Total Revenue}) \times \text{Access to Debt}$ , indicates that having access to external debt markets offsets a nonprofit's tendency to build up liquid assets in response to a revenue stream that is particularly volatile.

*Policy, CEO Compensation Policy, and Non-CEO Compensation Policy.*<sup>21</sup> Column I (III) of Table 11 reports the marginal effects of these five governance characteristics for nonprofits in the lower (upper) quartile of excess liquid asset levels, denoted as the “Low Agency group” (“High Agency group”). Column II provides the incremental difference between the two groups. Estimated differences in the CEO-to-employee relative pay ratio appear economically significant across the Low Agency and High Agency groups. For example, with respect to governing policies, the decision to adopt a conflict of interest policy is associated with an impressive 15.4% *decrease* in the relative pay ratio when liquid asset levels are high, but implies an *increase* of 13.8% when excess liquid asset levels are low.<sup>22</sup> Relatedly, for the High Agency (Low Agency) group, the decision to adopt a whistleblower policy is associated with a 14.1% *decrease* (3.6% *increase*) in relative pay, while the decision to adopt policies pertaining to CEO compensation implies a 4.0% *decrease* (19.5% *increase*) in the relative pay ratio. These results are to be expected, given that both the Sarbanes-Oxley Act and the Panel on the Nonprofit Sector (a coalition of leaders from U.S. charitable organizations) cited agency problems as a key motivating factor when advocating for the adoption of strong governance policies. Regarding board structure, a switch in response from “No” to “Yes” as to whether at least two-thirds of the nonprofit’s board members are independent is associated with a *decrease* in relative pay of 1.4% for the High Agency group, but suggests a 35.9% *increase* for the Low Agency group. This inverse and economically meaningful relationship between independent board members and executive pay among entities characterized by potentially severe agency conflicts is consistent

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<sup>21</sup> Due to a relatively low response rate, there are two components of the governance index that are omitted from the analysis: *Executive Reimbursement Policy* and *Executive Substantiation Policy*, each having only 2,459 responses (compared to 4,000+ responses for other index components).

<sup>22</sup> The economic impact of switching from “No” to “Yes” on the *Conflict of Interest Policy* question for “Low Agency” nonprofits =  $e^{0.1288} - 1 = 13.75\%$ , where 0.1288 is the (unscaled) coefficient on the *Board Independence* variable (see column I of Table 10). For details on how other measures of economic significance were computed, see the description to Table 11.

with related literature of the for-profit (e.g., Chhaochharia and Grinstein 2009) and nonprofit (e.g., Brickley et al. 2010) sectors. Taken as a whole, the results in Table 11 demonstrate the ability of several governance mechanisms to alleviate excessive executive pay among nonprofits marred by potentially severe agency conflicts.

#### *IV.7. The impact of governance on financial performance surrounding changes in relative pay.*

The empirical results in this paper suggest that CEO pay is negatively related to nonprofit performance, yet good governance quality helps to offset excessively high relative pay ratios. Next, I examine the relation between changes in nonprofit financial performance with regard to changes in the relative pay ratio for different levels of governance quality. That is, I analyze whether governance quality counteracts the negative relation between relative pay and financial performance. Table 12 reports the results. Although changes in relative pay and changes in program spending are statistically significantly *negatively* related, I find that – relative to their poorly-governed peers – well-governed nonprofits enjoy an incremental improvement in financial performance in response to changes in the relative pay ratio (p-value = 0.047). This finding lends further credibility to the notion that adopting stronger governance mechanisms translates into more favorable corporate outcomes.

### **V. ROBUSTNESS CHECKS**

I next provide several empirical tests to validate the robustness of the results. Specifically, I re-estimate equations 1 and 2 under the following settings: (1) after splitting the sample into commercial and traditional nonprofits; (2) using alternative measures of organizational size; (3) using alternative measures of CEO-to-employee relative pay; and (4)

after including state fixed effects. Tabulated results are presented in Appendix B, with a discussion of the motivations and results of each robustness check presented below.

### *V.1. Commercial versus traditional nonprofit organizations.*

In the first of a series of robustness checks, I re-estimate equations 1 and 2 for subsamples of “commercial” and “traditional” nonprofit organizations. “Commercial” nonprofits are defined as those with at least 90% of revenues from program services (e.g., Aggarwal et al. 2012; Steinberg 2004). In contrast, “traditional” nonprofits operate on a greater variety of revenue sources such as donations, government grants, and rental income. The commercial versus traditional nonprofit classification tends to cluster along industry lines. For example, the hospital industry is dominated by commercial nonprofits (88%), while traditional nonprofits dominate the arts and public benefit industries (97% and 89%, respectively). On average, commercial nonprofits tend to be larger compared to traditional nonprofits in terms of the number of employees (mean for commercial = 1,454; mean for traditional = 557) and total revenue (mean for commercial = \$152.6 million; mean for traditional = \$57.6 million), but comparable in terms of total assets (mean for commercial = \$206.9 million; mean for traditional = \$206.4 million). As for compensation, CEOs of commercial nonprofits benefit from a higher average salary (mean = \$453,895; median = \$307,419) relative to the average pay for CEOs of traditional nonprofits (mean = \$253,138; median = \$185,530).

Given their extreme reliance on a single source of income, it is reasonable to expect commercial nonprofits to attempt to be better stewards of their resources, including CEO compensation-related matters. One might also expect that commercial nonprofits operate in a more competitive environment, thus leading to potentially better financial performance outcomes. Moreover, both differences could plausibly affect the nature of the relationship

between the relative pay ratio and financial performance. Earlier regression specifications incorporated an indicator variable, *Commercial Dummy*, to control for these potential differences. As another way to check whether the negative pay-for-performance relation holds for commercial versus traditional nonprofits, I re-estimate equations 1 and 2 after splitting the sample into commercial and traditional sub-groups. Results, provided in Tables B1 (equation 1) and B2 (equation 2) of Appendix B, demonstrate that the statistically significant negative association between the relative pay ratio and all four measures of financial performance applies to commercial and traditional nonprofits alike.<sup>23</sup>

## V.2. Alternative measures of organizational size.

Existing studies on the compensation of nonprofit executives uniformly agree on organizational size as being a critically important determinant of pay levels (e.g., Aggarwal et al. 2012; Frumkin and Keating 2010; Hallock 2002). The baseline models utilized in this paper depend upon two variables to control for nonprofit size: *Log(No. of Employees)* and *Log(Total Assets)*. I re-estimate equations 1 and 2 using two sets of alternative measures of size: (1) the number of employees and its squared term, along with total assets and its squared term; and (2) the number of employees and its reciprocal, along with total assets and its reciprocal. Tables B3 (equation 1) and B4 (equation 2) present the results, which verify a negative link between the relative pay ratio and all four measures of financial performance, regardless of what empirical proxies are used to control for size. Coefficients on the size terms are also informative. Specifically, results reported in columns I, III, V, and VII of Table B3 demonstrate that relative pay is indeed positively associated with nonprofit size, but that this effect diminishes for particularly large entities. A similar pattern is observed when considering nonprofit financial

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<sup>23</sup> The only exception is in column (VI) of Table B2, where the association between the *Fundraising Ratio* and *Log(Relative Pay)* is still negative, but is not statistically significant at conventional levels (p-value = 0.179).

performance (see columns I, III, V, and VII of Table B4), with the exception of a mechanical, negative relation between total assets and the performance measure Program Expenses to Assets. In sum, the negative association between the CEO-to-employee relative pay ratio and financial performance stands independent of the variables chosen to control for nonprofit size.

### *V.3. Alternative measures of CEO-to-employee relative pay.*

The inferences of this paper rely on a specific measure of CEO compensation: the CEO-to-employee relative pay ratio. In this robustness test, I investigate whether the negative relation between pay and performance holds under settings of different (though related) measures of relative pay. Specifically, I re-estimate equation 2 using alternative measures of CEO pay, including the *industry-adjusted* (log of the) CEO-to-employee relative pay ratio and the *excess* form of the relative pay ratio, where the latter is defined as the residual from a variant of equation 1 (see the definition of *Excess Compensation* in Appendix A). Table B5 presents the results corresponding to the first alternative definition of CEO compensation and Table B6 reports the results corresponding to the latter definition. Using either alternative measure of pay, a statistically significant negative relation between relative pay and all four measures of nonprofit financial performance is noted.

### *V.4. Inclusion of state fixed effects.*

Various states across the U.S. have mandated particular governance policies of their local nonprofit organizations (e.g., Desai and Yetman 2006). The premise of this paper is to investigate how the *voluntary* adoption of governance mechanisms affects both the relative pay ratio and financial performance, as well as the relation between the two. Therefore, to address the mandatory nature of some governance characteristics by U.S. states, I re-estimate both equations 1 and 2 after incorporating state fixed effects. Results are reported in Tables B7

(equation 1) and B8 (equation 2). These outcomes are qualitatively very similar to earlier findings, including a negative pay-for-performance relation and the ability of good governance quality to offset excessive CEO compensation.

## VI. CONCLUSION

Allegations of grossly overpaid nonprofit CEOs have become increasingly common, yet whether this excessive pay is typically established in an optimal or sub-optimal manner remains an unanswered question. The efforts of a capable CEO who prioritizes his organization's responsibility to serve the community should be easily recognizable through superior nonprofit performance and, by extension, through greater compensation to the CEO. In contrast, a nonprofit marred by agency conflicts whereby the CEO prioritizes his own interests before those of his organization is likely to suffer poor financial performance, even though the CEO will tend to extract excessive rents on account of his power and influence. In an effort to disentangle these predictions, I investigate whether excessive CEO pay is associated with superior or inferior nonprofit financial performance. Moreover, I examine this relation in the context of several measures of nonprofit financial performance, as well as in terms of a timely and relevant definition of CEO compensation which is measured relative to the average employee's salary. That is, relative pay measures are becoming increasingly relevant given recent regulation (e.g., the Dodd-Frank Act) and their proposed reporting requirements.

I document a statistically significant and economically meaningful relation between nonprofit CEO pay and financial performance. Modeling financial performance as a function of the CEO-to-employee relative pay ratio and its many determinants – including those that potentially impact either CEO compensation or financial performance, I find that a one standard

deviation in the relative pay ratio is associated with notably lower performance in the order of approximately 1%, 7%, 1%, and 17% when considering the (industry-adjusted) ratios of program expenses to total expenses, program expenses to total assets, net fundraising revenue to total fundraising revenue, and (the log of) total revenue per employee, respectively. These results are robust to a number of statistical tests that address the endogenous nature of the relationship between the relative pay ratio and nonprofit financial performance, including two-stage least squares, a changes specification, and in modeling performance as a function of the lagged (rather than contemporaneous) relative pay ratio. The finding of a negative association between the relative pay ratio and nonprofit performance is suggestive of agency conflicts.

I explore this negative pay-for-performance relation further by considering other settings and related predictions. First, I examine whether the negative pay-for-performance relation holds for executive perquisites (rather than reportable compensation). The results indicate that a higher relative pay ratio is accompanied by a lower likelihood that executives will be awarded perquisites, though good governance quality increases this probability when the nonprofit is also performing well. Next, I investigate pay and performance implications surrounding CEO turnovers. I find a higher probability of turnover when the CEO-to-employee relative pay ratio is excessively high, though this probability is significantly lower when the CEO achieved superior financial performance in the year preceding his departure. Additionally, I gauge the importance of governance quality in mitigating excessive executive pay, with a focus on nonprofits suspected of suffering severe agency problems. The results point to several governance factors offering an economically meaningful impact on the relative pay ratio. In particular, among nonprofits with potentially severe agency conflicts, adopting a conflict of interest policy (whistleblower policy) is associated with a reduction in the relative pay ratio in the order of 15%

(14%). Additionally, although changes in the relative pay ratio and changes in charitable spending are negatively related, I find that a nonprofit that is well-governed realizes an incremental but statistically significant increase in performance pursuant to changes in the CEO's compensation contract. Collectively, these findings support a negative association between the CEO-to-employee relative pay ratio and nonprofit performance that differs on account of a nonprofit's governance quality and, relatedly, its extent of firm-specific agency conflicts.

The results in this paper demonstrate a negative relationship between the CEO-to-employee relative pay ratio and nonprofit financial performance, suggestive of agency conflicts. Fortunately, nonprofits with severe agency problems can mitigate excessive executive pay by adopting strong corporate governance mechanisms. Thus, while this paper validates concerns that some nonprofit CEOs are able to extract more compensation than they deserve, it also sheds light on the importance of corporate governance, particularly since good governance quality has the potential to alleviate the undesirable consequences of firm-specific agency conflicts.

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### Appendix A: Variable Definitions

See Panel 1 for definitions of the main variables and Panel 2 for definitions of governance index variables.  
Numbers in brackets denote the corresponding Revised Form 990 section, line, and column numbers.

#### **Panel 1: Main variables.**

<i>Access to Debt</i>	Set equal to 1 if the nonprofit utilized Tax-Exempt Bonds [X.20.B] during the ten-year period ending in year $t$
<i>Age</i>	The Age of the firm, where $Age = 2012 - \text{Year of Formation}$ [Page 1, L]
<i>Agency Dummy</i>	Set equal to 1 for cases of positive <i>Excess Liquid Assets</i> , and is 0 otherwise
<i>Board Size</i>	The number of voting members of the governing body [VI.A.1a]
<i>Capital Expenditures</i>	The ratio of Land, Buildings, and Equipment, Net [X.10c.B] to Total Assets [X.16.B]
<i>CEO Tenure</i>	The number of years the CEO has held the title of CEO excluding the year of his or her appointment
<i>Commercial Dummy</i>	Set equal to 1 when the ratio of Program Services Revenue [VIII.2g.A] to Total Revenue [VIII.12.A] is at least 90%, and 0 otherwise
<i>CV(Total Revenue)</i>	The ratio of the standard deviation of Total Revenue [VIII.12.A] to mean Total Revenue [VIII.12.A], where each is measured over the five-year period ending in year $t$
<i>Donations Growth</i>	The change in the ratio of Net Contributions to Total Revenue [VIII.12.A] in year $t-1$ relative to year $t-2$ , where $\text{Net Contributions} = \text{Total Contributions [VIII.1h]} - \text{Government Revenue [VIII.1e]}$
<i>Excess Compensation</i>	The residual from a regression of $\text{Log}(\text{Relative Pay})_{it}$ on the $\text{Log}(\text{No. of Employees})_{it}$ , $\text{Log}(\text{Total Assets})_{it}$ , $\text{Log}(\text{Age})_{it-1}$ , $\text{Log}(\text{CEO Tenure})_{it}$ , <i>Gender Dummy</i> <sub>it</sub> , and <i>Commercial Dummy</i> <sub>it</sub> , as well as industry fixed effects (based on the 26 NTEE major groupings) and year fixed effects
<i>Excess Liquid Assets</i>	The residual from a fiscal year-specific regression of $\text{Liquid Assets}/\text{Total Expenses}$ on $\text{Log}(\text{Total Revenue})$ , $\text{CV}(\text{Total Revenue})$ , <i>Access to Debt</i> , and $\text{CV}(\text{Total Revenue}) \times \text{Access to Debt}$ , as well as industry fixed effects (based on the 26 NTEE major groupings) and state fixed effects
<i>First-class Flights Indicator</i>	Set to 1 if the organization indicates that first-class or charter travel was provided to an executive during year $t$ [Schedule J, I.1a]
<i>Fundraising Dummy</i>	Set equal to 1 when Total Fundraising Expenses [IX.25.D] are zero, and is 0 otherwise
<i>Fundraising Ratio</i>	The ratio of (Net Contributions – Net Fundraising Expenses) to Net Contributions, where $\text{Net Fundraising Expenses} = \text{Total Fundraising Expenses} - \text{Compensation allocated to Fundraising Expenses [IX.25.D]} - \text{IX.5.D]} - \text{IX.6.D]} - \text{IX.7.D]}$ and $\text{Net Contributions} = \text{Total Contributions} - \text{Government Revenue [VIII.1h]} - \text{VIII.1e]}$
<i>Gender Dummy</i>	Set equal to 1 if the CEO is a female, and is 0 otherwise
<i>Governance Index</i>	See “Governance Index” in Appendix A, Panel 2; defined as the ratio of the sum of the indicator variables as a proportion of the total number of possible responses for each firm-year observation, where each response is weighted by its annual cross-sectional standard deviation.
<i>Government Revenue</i>	The ratio of Government Grants [VII.1e] to Total Revenue [VIII.12.A]
<i>High Program Spending Dummy</i>	Set equal to 1 when the <i>Program Spending Ratio</i> exceeds the annual industry median value, and is 0 otherwise
<i>Household Income</i>	Median household income (as reported by the U.S. Census Bureau’s American Community Survey); computed for each state and fiscal year pair
<i>Liquid Assets/Total Expenses</i>	The ratio of Liquid Assets to Net Total Expenses, where $\text{Liquid Assets} = \text{Cash} + \text{Savings and Temporary Cash Investments} + \text{Pledges and Grants Receivable, Net} + \text{Accounts Receivable, Net}$ , and $\text{Net Total Expenses} = \text{Total Expenses} - \text{Compensation Expense [X.1.B]} + \text{X.2.B]} + \text{X.3.B]} + \text{X.4.B]} / ([\text{IX.25.A}] - [\text{IX.5.A}] - [\text{IX.6.A}] - [\text{IX.7.A}])$
<i>No. of Employees</i>	The Number of Employees [I.5]
<i>NTEE-10 Industry Classifications</i>	A set of 10 groups defined by the National Taxonomy of Exempt Entities (NTEE): Arts, Culture, and Humanities; Education; Environment and Animals; Health; Human Services; International, Foreign Affairs; Public, Societal Benefit; Religion Related; Mutual/Membership Benefit; and Unknown, Unclassified
<i>NTEE-26 Industry Classifications</i>	A set of 26 groups defined by the National Taxonomy of Exempt Entities (NTEE): Animal-Related; Arts, Culture, and Humanities; Civil Rights, Social Action, Advocacy; Community Improvement, Capacity Building; Crime, Legal Related; Diseases, Disorders, Medical Disciplines; Education; Employment, Job Related; Environmental Quality, Protection, and Beautification; Food, Agriculture, and Nutrition; Health; Housing, Shelter; Human Services; International, Foreign Affairs, and National Security; Medical Research; Mental Health; Mutual/Membership Benefit Organizations; Philanthropy, Voluntarism, and Grantmaking

	Foundations; Public Safety; Public, Society Benefit; Recreation, Sports, Leisure, Athletics; Religion Related; Science and Technology Research Institutes; Social Science Research Institutes; Youth Development; Unknown
<i>Perquisites Indicator</i>	Set to 1 if the organization indicates that at least one type of perquisite was provided to an executive during year <i>t</i> [Schedule J, I.1a] Note: The eight possibilities listed are first-class or charter travel, travel for companions, tax indemnification and gross-up payments, discretionary spending account, housing allowance or residence for personal use, payments for business use of personal residence, health or social club dues or initiation fees, and personal services (e.g., maid, chauffeur, chef).
<i>Program Expenses to Assets</i>	The ratio of Net Program Service Expenses to Total Assets, where Net Program Service Expenses = Total Program Expenses – Compensation allocated to Program Service Expenses $([IX.25.B] - [IX.5.B] - [IX.6.B] - [IX.7.B]) / [X.16.B]$
<i>Program Spending Ratio</i>	The ratio of Net Program Service Expenses to Net Total Expenses, where Net Program Service Expenses = Total Program Expenses – Compensation allocated to Program Service Expenses and Net Total Expenses = Total Expenses – Compensation Expense $([IX.25.B] - [IX.5.B] - [IX.6.B] - [IX.7.B]) / ([IX.25.A] - [IX.5.A] - [IX.6.A] - [IX.7.A])$
<i>Relative Pay Ratio</i>	The ratio of CEO Compensation to Average Non-CEO Employee Pay (CEO Pay as identified in [VII.1a.D] divided by the sum of $([IX.5.A] + [IX.6.A] + [IX.7.A] - \text{CEO Compensation})$ scaled by the number of employees [I.5])
<i>Revenue per Employee</i>	The ratio of Net Total Revenue to the Number of Employees [I.5], where Net Total Revenue = Total Revenue [VIII.12.A] – Total Contributions [VIII.1h]
<i>Total Assets</i>	Total Assets [X.16.B]
<i>Total Revenue</i>	Total Revenue [VIII.12.A]
<i>Total Liabilities/Total Assets</i>	The ratio of Total Liabilities [X.26.B] to Total Assets [X.16.B]

**Panel 2: Components of the governance index.**

<i>Governing Body</i>		
<i>Board Independence</i>	Is at least two-thirds of the organization's board of directors is independent? [VI.A.1b / VI.A.1a]	= 1 if Yes = 1 if No
<i>Inside Business Relationship</i>	Did any person who is a current or former officer, director, trustee, or key employee have a direct business relationship with the organization [IV.28a], have a family member who has a direct or indirect business relationship with the organization [IV.28b], or serve as an officer, director, trustee, key employee, partner, or member of an entity doing business with the organization [IV.28c]?	= 1 if No = 0 if Yes
<i>Outside Management</i>	Did the organization delegate control over management duties customarily performed by or under the direct supervision of officers, directors or trustees, or key employees to a management company or other person? [VI.A.3]	= 1 if Yes = 0 if No
<i>Stockholders</i>	Does the organization have members or stockholders [VI.A.6] who may elect one or more members of the governing body [VI.A.7a] and approve the decisions of the governing body [VI.A.7b]?	= 1 if Yes = 0 if No
<i>Form 990 to Board</i>	Was a copy of the Form 990 provided to the organization's governing body before it was filed? [VI.A.10]	= 1 if Yes = 0 if No
<i>Governing Policies</i>		
<i>Conflict of Interest Policy</i>	Does the organization have a written conflict of interest policy [VI.B.12a] that is regularly and consistently monitored and enforced [VI.B.12c], and that requires officers, directors or trustees, and key employees to disclose annually interests that could give rise to conflicts [VI.B.12b]?	= 1 if Yes = 0 if No
<i>Whistleblower Policy</i>	Does the organization have a written whistleblower policy? [VI.B.13]	= 1 if Yes = 0 if No
<i>Document Retention Policy</i>	Does the organization have a written document retention and destruction policy? [VI.B.14]	= 1 if Yes = 0 if No
<i>Grant to Officer</i>	Did the organization provide a grant or other assistance to an officer, director, trustee, key employee, or substantial contributor, or to a person related to such an individual? [IV.27]	= 1 if No = 0 if Yes

<i>Compensation Policies</i>		
<i>CEO Compensation Policy</i>	Indicate the number of ways that the organization uses to establish the compensation of the organization's CEO/Executive Director [Schedule J, I.3]. Note: The six possibilities listed are a compensation committee, independent compensation consultant, Form 990 of other organizations, written employment contract, compensation survey or study, and approval by the board or compensation committee.	Continuous variable
<i>Non-CEO Compensation Policy</i>	Did the process for determining compensation of the non-CEO officers or key employees of the organization include a review and approval by independent persons, comparability data, and contemporaneous substantiation of the deliberation and decision? [VI.B.15b]	= 1 if Yes = 0 if No
<i>Executive Reimbursement Policy</i>	If the organization provided fringe benefits to any person listed in the Schedule of Compensation to Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees [Schedule J, I.1a], did the organization follow a written policy regarding payment or reimbursement or provision of all of the associated expenses [Schedule J, I.1b]?	= 1 if Yes = 0 if No
<i>Executive Substantiation Policy</i>	If the organization provided fringe benefits to any person listed in the Schedule of Compensation to Officers, Directors, Trustees, Key Employees, and Highest Compensated Employees [Schedule J, I.1a], did the organization require substantiation prior to reimbursing or allowing the associated expenses [Schedule J, I.2]?	= 1 if Yes = 0 if No
<i>Accountability &amp; Transparency</i>		
<i>Tax Forms on Website</i>	Does the organization make its Form 1023 (or 1024 if applicable), 990, and 990-T available for public inspection on its own website? [VI.C.18]	= 1 if Yes = 0 if No
<i>Audited Financial Statements</i>	Were the organization's financial statements compiled, reviewed, or audited by an independent accountant? [XI.2a-b] (If audited, the audit must not be a Circular A-133 audit [i.e., "No" to XI.3b])	= 1 if Audited = 0.50 if Reviewed or Compiled = 0 if No
<i>Audit Committee</i>	If the organization's financial statements are compiled, reviewed, or audited by an independent accountant [XI.2a-b], does the organization have a committee that assumes responsibility for oversight of the audit, review, or compilation of its financial statements and selection of an independent accountant [XI.2c]?	= 1 if Yes = 0 if No

<sup>a</sup> Industry classifications are based on the 26 NTEE major groupings.

**Table 1: Descriptive statistics.**

<i>Panel A: Compensation variables.</i>						
Variable	N	Mean	Std. Dev.	Lower Quartile	Median	Upper Quartile
<i>CEO Compensation</i>	7,374	329,014	459,185	135,000	221,099	368,763
<i>Relative Pay</i>	7,374	11.330	10.381	4.655	8.053	14.437
<i>Log(Relative Pay)</i>	7,374	2.090	0.846	1.538	2.086	2.670
<i>Panel B: Financial performance variables.</i>						
<i>Program Spending Ratio</i>	7,374	0.842	0.116	0.793	0.866	0.919
<i>Industry-Adj. Program Spending Ratio</i>	7,374	-0.019	0.113	-0.064	0.003	0.054
<i>Program Expenses to Assets</i>	7,374	0.414	0.509	0.126	0.268	0.491
<i>Industry-Adj. Program Expenses to Assets</i>	7,374	0.130	0.485	-0.096	0.000	0.176
<i>Fundraising Ratio</i>	6,582	0.902	0.176	0.883	0.961	1.000
<i>Industry-Adj. Fundraising Ratio</i>	6,582	-0.059	0.174	-0.068	0.000	0.015
<i>Log(Revenue per Employee)</i>	6,811	10.636	1.462	10.019	10.772	11.503
<i>Industry-Adj. Log(Revenue per Employee)</i>	6,811	-0.099	1.238	-0.539	0.012	0.450
<i>Panel C: Determinants of relative pay and financial performance.</i>						
<i>Governance Index</i>	7,374	0.090	0.024	0.074	0.089	0.111
<i>Board Size</i>	7,374	21	13	12	17	26
<i>No. of Employees</i>	7,374	896	1,557	66	311	1,034
<i>Total Assets</i>	7,374	206,606,530	900,561,428	13,261,995	56,318,891	145,458,156
<i>Total Revenue</i>	7,374	93,469,039	258,346,966	6,884,526	22,869,960	76,881,128
<i>Age</i>	7,374	60	43	28	46	87
<i>Liquid Assets/Total Expenses</i>	7,374	0.850	1.217	0.281	0.489	0.906
<i>Government Revenue</i>	7,374	0.108	0.234	0.000	0.001	0.056
<i>Donations Growth</i>	7,201	0.007	0.227	-0.017	0.000	0.014
<i>Capital Expenditures</i>	7,374	0.366	0.263	0.112	0.379	0.562
<i>Household Income</i>	7,374	53,259	6,993	48,107	52,507	58,647
<i>CEO Tenure</i>	7,374	8.588	3.696	5.000	8.000	12.000
<i>Gender Dummy</i>	7,335	0.273	0.445	0.000	0.000	1.000
<i>Commercial Dummy</i>	7,374	0.378	0.485	0.000	0.000	1.000
<i>Fundraising Dummy</i>	7,374	0.352	0.478	0.000	0.000	1.000
<i>Total Liabilities/Total Assets</i>	7,374	0.404	0.371	0.141	0.347	0.585
<i>Panel D: Number of organizations by NTEE industry classification.</i>						
	Arts	Education	Health	Human Services	Public Benefit	Other
No. of Observations	491	1,451	2,328	1,832	473	799

Descriptive statistics are computed for a maximum of 7,374 nonprofit-year observations covering the 2008 and 2009 tax years. Variable definitions are provided in Appendix A.

**Table 2: Correlations between the CEO-to-employee relative pay ratio, financial performance, governance variables, and other determinants.**

	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.
1. <i>Log(Relative Pay)</i>	0.01	-0.09	-0.07	-0.08	-0.02	0.27	0.69	0.45	0.36	-0.17	-0.17	-0.01	0.22	-0.01	0.02	-0.16	0.21	-0.06	0.12
2. <i>Program Spending Ratio</i>		0.29	0.11	0.05	0.04	0.03	0.08	0.06	0.01	-0.14	0.07	0.00	-0.03	0.02	0.05	0.02	0.07	0.03	0.06
3. <i>Program Expenses to Assets</i>			0.03	-0.10	0.03	-0.07	0.05	-0.25	-0.08	-0.20	0.26	-0.01	-0.11	0.03	-0.01	0.04	0.04	0.09	0.22
4. <i>Fundraising Ratio</i>				-0.01	-0.01	0.03	-0.09	0.00	-0.06	0.05	0.00	0.05	-0.07	-0.06	-0.01	0.00	-0.14	0.29	-0.06
5. <i>Log(Revenue per Employee)</i>					0.03	-0.06	-0.10	0.30	-0.03	0.02	-0.52	-0.05	-0.12	0.03	-0.01	-0.07	0.25	0.13	0.07
6. <i>Governance Index</i>						0.01	0.01	0.04	-0.08	0.01	0.00	0.01	-0.10	0.09	0.05	0.04	0.01	-0.01	0.03
7. <i>Board Size</i>							0.18	0.22	0.33	0.02	-0.03	0.01	-0.04	-0.05	-0.03	-0.01	-0.23	-0.36	-0.14
8. <i>Log(No. of Employees)</i>								0.55	0.43	-0.32	-0.08	-0.05	0.30	0.00	-0.01	-0.19	0.42	0.04	0.24
9. <i>Log(Total Assets)</i>									0.29	-0.02	-0.27	0.01	-0.09	0.01	-0.03	-0.20	0.20	0.00	0.08
10. <i>Log(Age)</i>										-0.18	-0.09	0.00	0.10	0.01	0.00	-0.09	0.05	-0.22	-0.10
11. <i>Liquid Assets/Total Expenses</i>											0.03	0.00	-0.20	0.04	0.01	0.05	-0.21	-0.05	-0.16
12. <i>Government Revenue</i>												-0.04	0.03	0.00	0.02	0.09	-0.34	0.02	0.02
13. <i>Donations Growth</i>													-0.07	0.02	0.01	0.01	-0.02	-0.01	-0.03
14. <i>Capital Expenditures</i>														-0.04	0.00	-0.04	0.20	0.02	0.23
15. <i>Log(Household Income)</i>															0.06	0.03	0.02	-0.05	0.06
16. <i>Log(CEO Tenure)</i>																0.00	0.04	0.05	0.01
17. <i>Gender Dummy</i>																	-0.13	-0.08	-0.09
18. <i>Commercial Dummy</i>																		0.37	0.31
19. <i>Fundraising Dummy</i>																			0.26
20. <i>Total Liabilities/Total Assets</i>																			

Performance measures are industry adjusted. See Appendix A for variable definitions.

**Table 3: Determinants of the CEO-to-employee relative pay ratio.**

Performance measure:	Program Spending Ratio (I)	Program Expenses to Assets (II)	Fundraising Ratio (III)	Log(Revenue per Employee) (IV)
<i>Industry-Adjusted Performance</i> <sub>it</sub>	-0.2601*** (0.000)	-0.1405*** (0.000)	-0.1251*** (0.001)	-0.0774*** (0.000)
<i>Governance Index</i> <sub>it</sub>	-0.5904** (0.040)	-0.5659** (0.048)	-0.3995 (0.162)	-0.2523 (0.395)
<i>Board Size</i> <sub>it</sub> (÷ 10)	0.1060*** (0.000)	0.0981*** (0.000)	0.0930*** (0.000)	0.0897*** (0.000)
<i>Board Size Squared</i> <sub>it</sub> (÷ 10 <sup>3</sup> )	-0.0949*** (0.000)	-0.0870*** (0.000)	-0.0879*** (0.000)	-0.0802*** (0.001)
<i>Log(No. of Employees)</i> <sub>it</sub>	0.3092*** (0.000)	0.3243*** (0.000)	0.3069*** (0.000)	0.2793*** (0.000)
<i>Log(Total Assets)</i> <sub>it</sub>	0.0362*** (0.000)	0.0161** (0.011)	0.0346*** (0.000)	0.0735*** (0.000)
<i>Log(Age)</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-0.0692 (0.946)	-0.6983 (0.495)	0.9836 (0.329)	0.2374 (0.822)
<i>Liquid Assets/Total Expenses</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	1.1341* (0.070)	0.5331 (0.395)	0.9511 (0.132)	0.1325 (0.845)
<i>Government Revenue</i> <sub>it-1</sub>	-0.4225*** (0.000)	-0.3667*** (0.000)	-0.4172*** (0.000)	-0.5575*** (0.000)
<i>Donations Growth</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-0.0358 (0.994)	-0.1839 (0.968)		-4.1242 (0.415)
<i>Capital Expenditures</i> <sub>it-1</sub>	0.1068*** (0.000)	0.0426 (0.170)	0.1215*** (0.000)	0.1002*** (0.001)
<i>Log(Household Income)</i> <sub>it-1</sub>	-0.1205** (0.022)	-0.1147** (0.029)	-0.1532*** (0.003)	-0.1316** (0.015)
<i>Log(CEO Tenure)</i> <sub>it</sub>	0.0783*** (0.000)	0.0732*** (0.000)	0.0765*** (0.000)	0.0780*** (0.000)
<i>Gender Dummy</i> <sub>it</sub>	-0.0569*** (0.000)	-0.0598*** (0.000)	-0.0565*** (0.000)	-0.0571*** (0.000)
<i>Commercial Dummy</i> <sub>it</sub>	-0.1135*** (0.000)	-0.1000*** (0.000)	-0.1330*** (0.000)	-0.0650*** (0.001)
Intercept	1.1931** (0.048)	1.4834** (0.014)	1.1531* (0.060)	0.7799 (0.209)
N	7,335	7,335	7,177	6,773
Adj. R <sup>2</sup>	0.555	0.559	0.558	0.557
Industry Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Log(Relative Pay)* on its traditional determinants, governance quality, and a measure of financial performance: *Program Spending Ratio* in column I, *Program Expenses to Assets* in column II, *Fundraising Ratio* in column III, and *Log(Revenue per Employee)* in column IV. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* is excluded from column III to avoid a potentially highly collinear relationship between the *Fundraising Ratio* and *Donations Growth*. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 4: Determinants of nonprofit financial performance**

Performance measure:	Program Spending Ratio (I)	Program Expenses to Assets (II)	Fundraising Ratio (III)	Log(Revenue per Employee) (IV)
<i>Log(Relative Pay)<sub>it</sub></i>	-0.0100*** (0.000)	-0.0789*** (0.000)	-0.0108*** (0.003)	-0.2064*** (0.000)
<i>Governance Index<sub>it</sub></i>	0.0789 (0.158)	0.1720 (0.393)	-0.0835 (0.344)	1.2081** (0.011)
<i>Board Size<sub>it</sub> (÷ 10<sup>2</sup>)</i>	0.0259 (0.443)	-0.1864 (0.124)	-0.1977*** (0.000)	-0.4572 (0.114)
<i>Board Size Squared<sub>it</sub> (÷ 10<sup>4</sup>)</i>	0.0149 (0.748)	0.2112 (0.204)	0.2960*** (0.000)	0.2804 (0.480)
<i>Log(No. of Employees)<sub>it</sub> (÷ 10)</i>	0.0472*** (0.001)	1.2455*** (0.000)	-0.0094 (0.684)	-3.6444*** (0.000)
<i>Log(Total Assets)<sub>it</sub> (÷ 10)</i>	0.0527*** (0.000)	-1.3745*** (0.000)	0.0607*** (0.002)	4.4859*** (0.000)
<i>Log(Age)<sub>it-1</sub> (÷ 10)</i>	-0.0277 (0.173)	-0.2116*** (0.004)	-0.1032*** (0.001)	0.4216** (0.014)
<i>Liquid Assets/Total Expenses<sub>it-1</sub> (÷ 10)</i>	-0.1179*** (0.000)	-0.5752*** (0.000)	-0.0227 (0.244)	-1.1231*** (0.000)
<i>Government Revenue<sub>it-1</sub></i>	0.0610*** (0.000)	0.4331*** (0.000)	-0.0159 (0.138)	-1.9838*** (0.000)
<i>Donations Growth<sub>it-1</sub> (÷ 10)</i>	-0.0386 (0.668)	-0.0696 (0.830)		-4.6342*** (0.000)
<i>Capital Expenditures<sub>it-1</sub></i>	-0.0301*** (0.000)	-0.5740*** (0.000)	-0.0062 (0.517)	-0.1505*** (0.003)
<i>Fundraising Dummy<sub>it-1</sub> (÷ 10)</i>	0.0202 (0.550)	0.4765*** (0.000)		2.6807*** (0.000)
<i>Total Liabilities/Total Assets<sub>it-1</sub> (÷ 10)</i>	0.1082** (0.035)	3.8744*** (0.000)	0.0039 (0.962)	3.3502*** (0.000)
<i>Commercial Dummy<sub>it</sub></i>	0.0248*** (0.000)	0.0775*** (0.000)	-0.0465*** (0.000)	0.5534*** (0.000)
Intercept	-0.0808** (0.029)	2.0841*** (0.000)	0.0104 (0.887)	-6.6862*** (0.000)
N	7,374	7,374	7,220	6,811
Adj. R <sup>2</sup>	0.045	0.332	0.029	0.480
Industry Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Industry-Adjusted Financial Performance* on its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay ratio. Performance definitions considered include the *Program Spending Ratio* in column I, *Program Expenses to Assets* in column II, *Fundraising Ratio* in column III, and *Log(Revenue per Employee)* in column IV. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* and the *Fundraising Dummy* are excluded from the *Fundraising Ratio* regression (column III) to avoid a potentially spurious relationship between the dependent and independent variables. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 5: Determinants of the relative pay ratio at nonprofits – Instrumental variables estimations.**

Performance measure:	Program Spending Ratio (I)	Program Expenses to Assets (II)	Fundraising Ratio (III)	Log(Revenue per Employee) (IV)
<i>Industry-Adjusted Performance</i> <sub>it</sub> (endogenous)	-0.2641*** (0.002)	-0.1408*** (0.000)	-0.1993** (0.017)	-0.1044*** (0.000)
<i>Governance Index</i> <sub>it</sub>	-0.5801** (0.048)	-0.5677* (0.051)	-0.5157* (0.087)	-0.2604 (0.380)
<i>Board Size</i> <sub>it</sub> (÷ 10)	0.0996*** (0.000)	0.0907*** (0.000)	0.0875*** (0.000)	0.0867*** (0.000)
<i>Board Size Squared</i> <sub>it</sub> (÷ 10 <sup>3</sup> )	-0.0881*** (0.000)	-0.0789*** (0.001)	-0.0760*** (0.002)	-0.0781*** (0.001)
<i>Log(No. of Employees)</i> <sub>it</sub>	0.3111*** (0.000)	0.3262*** (0.000)	0.3153*** (0.000)	0.2674*** (0.000)
<i>Log(Total Assets)</i> <sub>it</sub>	0.0332*** (0.000)	0.0128* (0.054)	0.0267*** (0.000)	0.0862*** (0.000)
<i>Log(Age)</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-0.2936 (0.780)	-0.9332 (0.374)	0.5983 (0.580)	0.3166 (0.764)
<i>Liquid Assets/Total Expenses</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	1.2463* (0.053)	0.6533 (0.312)	1.3589** (0.049)	0.0057 (0.993)
<i>Government Revenue</i> <sub>it-1</sub>	-0.4254*** (0.000)	-0.3726*** (0.000)	-0.4413*** (0.000)	-0.6052*** (0.000)
<i>Donations Growth</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-0.4173 (0.929)	-0.4737 (0.920)		-6.1719 (0.228)
<i>Capital Expenditures</i> <sub>it-1</sub>	0.1009*** (0.001)	0.0373 (0.249)	0.0956*** (0.003)	0.0917*** (0.003)
<i>Log(Household Income)</i> <sub>it-1</sub>	-0.1264** (0.018)	-0.1219** (0.022)	-0.1646*** (0.003)	-0.1316** (0.015)
<i>Log(CEO Tenure)</i> <sub>it</sub>	0.0772*** (0.000)	0.0724*** (0.000)	0.0718*** (0.000)	0.0780*** (0.000)
<i>Gender Dummy</i> <sub>it</sub>	-0.0536*** (0.001)	-0.0572*** (0.000)	-0.0551*** (0.001)	-0.0587*** (0.000)
<i>Commercial Dummy</i> <sub>it</sub>	-0.1101*** (0.000)	-0.0977*** (0.000)	-0.1390*** (0.000)	-0.0469** (0.020)
Intercept	1.3216** (0.031)	1.6352*** (0.007)	1.4440** (0.023)	0.6028 (0.334)
Sargan statistic (p-value)	2.312 (0.128)	1.212 (0.271)	0.001 (0.972)	0.190 (0.663)
Shea's partial R <sup>2</sup> (p-value)	0.523 (0.000)	0.733 (0.000)	0.245 (0.000)	0.419 (0.000)
N	7,003	7,003	6,185	6,743
Adj. R <sup>2</sup>	0.556	0.560	0.573	0.555
Industry Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Log(Relative Pay)* on its traditional determinants, governance quality, and a measure of industry-adjusted financial performance: *Program Spending Ratio* in column I, *Program Expenses to Assets* in column II, *Fundraising Ratio* in column III, and *Log(Revenue per Employee)* in column IV. The regressions utilize a two-stage least squares procedure where instruments for the first three measures of financial performance include the prior-period *Total Liabilities/Total Assets* ratio and the twice-lagged values of industry-adjusted financial performance. The only exception is the *Program Expenses to Assets* specification, where the industry median *Total Liabilities/Total Assets* ratio is used in place of its firm-specific value to avoid over-identifying the model, given that both the endogenous and instrumental variables share the same denominator. Due to an inability to identify the number of employees in  $t-2$ , I instrument for (Industry-Adjusted) *Log(Revenue per Employee)* using the contemporaneous median and twice-lagged values of *Log(Total Revenue)*. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* is excluded from column III to avoid a potentially highly collinear relationship between the *Fundraising Ratio* and *Donations Growth*. Shea's partial R<sup>2</sup> and the Sargan statistic evaluate the quality of the instruments. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 6: Determinants of nonprofit financial performance – Instrumental variables estimations.**

Performance measure:	Program Spending Ratio (I)	Program Expenses to Assets (II)	Fundraising Ratio (III)	Log(Revenue per Employee) (IV)
<i>Log(Relative Pay)<sub>it</sub></i> (endogenous)	-0.0123*** (0.001)	-0.1170*** (0.000)	-0.0185*** (0.002)	-0.3094*** (0.000)
<i>Governance Index<sub>it</sub></i>	0.0745 (0.191)	0.0467 (0.818)	-0.1050 (0.255)	0.8910* (0.061)
<i>Board Size<sub>it</sub></i> (÷ 10 <sup>2</sup> )	0.0419 (0.224)	-0.2074* (0.091)	-0.2372*** (0.000)	-0.4177 (0.153)
<i>Board Size Squared<sub>it</sub></i> (÷ 10 <sup>4</sup> )	-0.0001 (0.999)	0.2700 (0.109)	0.3437*** (0.000)	0.2322 (0.563)
<i>Log(No. of Employees)<sub>it</sub></i> (÷ 10)	0.0521*** (0.002)	1.3623*** (0.000)	0.0332 (0.246)	-3.3458*** (0.000)
<i>Log(Total Assets)<sub>it</sub></i> (÷ 10)	0.0580*** (0.000)	-1.3755*** (0.000)	0.0566*** (0.005)	4.5464*** (0.000)
<i>Log(Age)<sub>it-1</sub></i> (÷ 10)	-0.0387* (0.062)	-0.2325*** (0.002)	-0.1034*** (0.002)	0.2994* (0.085)
<i>Liquid Assets/Total Expenses<sub>it-1</sub></i> (÷ 10)	-0.1141*** (0.000)	-0.5652*** (0.000)	-0.0147 (0.482)	-1.1240*** (0.000)
<i>Government Revenue<sub>it-1</sub></i>	0.0607*** (0.000)	0.4000*** (0.000)	-0.0275** (0.017)	-2.0216*** (0.000)
<i>Donations Growth<sub>it-1</sub></i> (÷ 10)	-0.0290 (0.752)	-0.0241 (0.941)		-4.7055*** (0.000)
<i>Capital Expenditures<sub>it-1</sub></i>	-0.0294*** (0.000)	-0.5689*** (0.000)	-0.0098 (0.334)	-0.1696*** (0.001)
<i>Fundraising Dummy<sub>it-1</sub></i> (÷ 10)	0.0197 (0.568)	0.4943*** (0.000)		2.5084*** (0.000)
<i>Total Liabilities/Total Assets<sub>it-1</sub></i> (÷ 10)	0.0992* (0.057)	3.9141*** (0.000)	0.0080 (0.926)	3.4240*** (0.000)
<i>Commercial Dummy<sub>it</sub></i>	0.0248*** (0.000)	0.0666*** (0.000)	-0.0491*** (0.000)	0.5320*** (0.000)
Intercept	-0.0855** (0.021)	2.1336*** (0.000)	0.0204 (0.780)	-6.6131*** (0.000)
Sargan statistic (p-value)	0.790 (0.374)	1.218 (0.270)	0.145 (0.703)	0.918 (0.338)
Shea's partial R <sup>2</sup> (p-value)	0.416 (0.000)	0.416 (0.000)	0.401 (0.000)	0.431 (0.000)
N	7,036	7,036	6,446	6,494
Adj. R <sup>2</sup>	0.044	0.330	0.029	0.485
Industry Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Industry-Adjusted Financial Performance* on its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay ratio. Performance definitions considered include the *Program Spending Ratio* in column I, *Program Expenses to Assets* in column II, *Fundraising Ratio* in column III, and *Log(Revenue per Employee)* in column IV. The regressions utilize a two-stage least squares procedure in which instruments for the relative pay ratio include the contemporaneous value of the industry median of (the log of) the ratio of CEO compensation to the number of volunteers serving the nonprofit, and (2) the twice-lagged value of (the log of) the ratio of CEO compensation to total compensation paid by the organization. Shea's partial R<sup>2</sup> and the Sargan statistic evaluate the quality of the instruments. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* and the *Fundraising Dummy* are excluded from the *Fundraising Ratio* regression (column III) to avoid a potentially spurious relationship between the dependent and independent variables. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 7: Further analyses of the determinants of nonprofit financial performance.**

Panel A: Changes specification		Panel B: Lagged $\text{Log}(\text{Relative Pay})$	
		Dependent variable:	
$\Delta$ Industry-Adjusted Program Spending Ratio <sub>it</sub>		Industry-Adjusted Program Spending Ratio <sub>it</sub>	
$\Delta \text{Log}(\text{Relative Pay})_{it} (\div 10^2)$	-0.8375*** (0.007)	$\text{Log}(\text{Relative Pay})_{it-1} (\div 10^2)$	-0.5855* (0.058)
$\Delta$ Governance Index <sub>it</sub>	0.1240 (0.118)	Governance Index <sub>it</sub>	0.0449 (0.582)
$\Delta$ Board Size <sub>it</sub> ( $\div 10^3$ )	0.1509 (0.741)	Board Size <sub>it</sub> ( $\div 10^2$ )	0.0104 (0.832)
$\Delta$ Board Size Squared <sub>it</sub> ( $\div 10^6$ )	0.5227 (0.850)	Board Size Squared <sub>it</sub> ( $\div 10^4$ )	0.0309 (0.649)
$\Delta \text{Log}(\text{No. of Employees})_{it} (\div 10^2)$	0.2698 (0.596)	$\text{Log}(\text{No. of Employees})_{it} (\div 10)$	0.0222 (0.262)
$\Delta \text{Log}(\text{Total Assets})_{it} (\div 10^2)$	0.6422 (0.410)	$\text{Log}(\text{Total Assets})_{it} (\div 10)$	0.0780*** (0.000)
$\Delta \text{Log}(\text{Age})_{it}$	0.0985** (0.017)	$\text{Log}(\text{Age})_{it-1} (\div 10)$	-0.0294 (0.301)
$\Delta$ Liquid Assets/Total Expenses <sub>it</sub> ( $\div 10^2$ )	-0.8648*** (0.000)	Liquid Assets/Total Expenses <sub>it-1</sub> ( $\div 10$ )	-0.1060*** (0.000)
$\Delta$ Government Revenue <sub>it</sub>	0.0108 (0.428)	Government Revenue <sub>it-1</sub>	0.0674*** (0.000)
$\Delta$ Donations Growth <sub>it</sub> ( $\div 10^2$ )	-0.3512 (0.271)	Donations Growth <sub>it-1</sub> ( $\div 10$ )	-0.1170 (0.287)
$\Delta$ Capital Expenditures <sub>it</sub>	0.0203 (0.185)	Capital Expenditures <sub>it-1</sub>	-0.0270*** (0.001)
$\Delta$ Total Liabilities/Total Assets <sub>it</sub> ( $\div 10^2$ )	-0.5550 (0.451)	Fundraising Dummy <sub>it-1</sub> ( $\div 10$ )	-0.0192 (0.688)
$\Delta$ Fundraising Dummy <sub>it</sub>	-0.0117* (0.064)	Total Liabilities/Total Assets <sub>it-1</sub> ( $\div 10$ )	0.1308* (0.066)
$\Delta$ Commercial Dummy <sub>it</sub> ( $\div 10^2$ )	0.2490 (0.505)	Commercial Dummy <sub>it-1</sub>	0.0270*** (0.000)
Intercept	-0.0198 (0.459)	Intercept	-0.5855* (0.058)
N	3,484	N	3,634
R <sup>2</sup>	0.021	Adj. R <sup>2</sup>	0.043
Industry Fixed Effects?	Yes	Industry Fixed Effects?	Yes
Year Fixed Effects?	Yes	Year Fixed Effects?	Yes

Panel A presents the results of pooled regressions where the change in the *Industry-Adjusted Program Spending Ratio* is modeled as a function of changes in its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay ratio, where changes are computed as the difference between year  $t$  and year  $t-1$  values. // Panel B presents the results of pooled regressions where the *Industry-Adjusted Program Spending Ratio* is modeled as a function of the lagged (rather than contemporaneous) value of (the log of) the CEO-to-employee relative pay ratio in addition to the determinants introduced in comparable models. // Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 8: Executive perquisites, financial performance, and governance quality.**

	Logit Model <i>Perquisites Indicator<sub>it</sub></i>	Logit Model <i>First-class Flight Indicator<sub>it</sub></i>	Ordered Probit Model <i>Number of Perquisites<sub>it</sub></i>
	(I)	(II)	(III)
<i>High Program Spending Dummy<sub>it</sub></i>	-11.8118*** (0.000)	-3.5954*** (0.000)	-4.2931*** (0.000)
<i>Governance Index<sub>it</sub></i>	-115.2116*** (0.000)	-44.8712*** (0.000)	-48.0889*** (0.000)
<i>High Program Spending Dummy<sub>it</sub> x Governance Index<sub>it</sub></i>	17.3787*** (0.000)	5.0814*** (0.000)	6.2891*** (0.000)
<i>Board Size<sub>it</sub></i>	0.0327*** (0.005)	-0.0479*** (0.001)	0.0109** (0.019)
<i>Board Size Squared<sub>it</sub></i>	-0.0002 (0.167)	0.0006*** (0.001)	-0.0001 (0.137)
<i>Log(No. of Employees)<sub>it</sub></i>	0.3412*** (0.000)	0.3029*** (0.000)	0.1854*** (0.000)
<i>Log(Total Assets)<sub>it</sub></i>	0.6521*** (0.000)	0.6114*** (0.000)	0.3103*** (0.000)
<i>Log(Age)<sub>it-1</sub></i>	0.2013*** (0.003)	-0.2136** (0.027)	0.0485* (0.079)
<i>Liquid Assets/Total Expenses<sub>it-1</sub></i>	-0.0880* (0.059)	-0.0898 (0.204)	-0.0605*** (0.004)
<i>Government Revenue<sub>it-1</sub></i>	-1.2306*** (0.000)	-0.2172 (0.612)	-0.6603*** (0.000)
<i>Donations Growth<sub>it-1</sub></i>	-0.1842 (0.568)	-0.1060 (0.822)	-0.0890 (0.520)
<i>Capital Expenditures<sub>it-1</sub></i>	-0.9492*** (0.000)	-1.3723*** (0.000)	-0.4164*** (0.000)
<i>Log(Household Income)<sub>it-1</sub></i>	0.4366 (0.244)	-0.9502* (0.053)	0.0404 (0.777)
<i>Log(CEO Tenure)<sub>it</sub></i>	-0.1919** (0.041)	0.1033 (0.395)	-0.0833** (0.018)
<i>Gender Dummy<sub>it</sub></i>	-0.4536*** (0.000)	0.0050 (0.975)	-0.2466*** (0.000)
<i>Commercial Dummy<sub>it</sub></i>	-0.1249 (0.333)	-0.1920 (0.231)	-0.0985** (0.039)
Intercept	-9.0616** (0.033)	1.5044 (0.787)	
Cutpoint no. 1			2.9395* (0.073)
Cutpoint no. 2			4.0937** (0.013)
Cutpoint no. 3			4.7786*** (0.004)
Cutpoint no. 4			5.3997*** (0.001)
Cutpoint no. 5			5.9611*** (0.000)
Cutpoint no. 6			6.5602*** (0.000)
Cutpoint no. 7			7.5681*** (0.000)
N	5,767	5,732	5,767
Pseudo R <sup>2</sup>	0.601	0.276	0.338
Industry Fixed Effects?	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes

Column I models the probability of at least one perquisite being awarded to an executive; column II models the probability of first-class or charter travel being awarded to an executive; and column III models the probability of multiple levels of executive perquisite types (0 to 8). Columns I and II represent multivariate logit models, while column III is a multivariate ordered probit model. Each specification is modeled as a function of traditional determinants, governance quality, and an indicator variable for above industry median charitable spending (*High Program Spending Dummy*). Of the 5,767 observations where disclosure of executive perquisites was required, 3,342 reported providing at least one type of perquisite and 372 provided first-class or charter travel. Of those nonprofits that provided at least one perquisite, the mean (median) number of types provided was 1.97 (2.00). See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 9: CEO Turnover, relative pay, and governance quality.***Panel A: A comparison of program spending ratios between turnover and (matched) non-turnover organizations.*

<u>Time relative to turnover (<math>t = 0</math>)</u>	<u>Mean Program Spending Ratio</u>		<u>Difference (Turnover – Non-Turnover)</u>	
	<u>Turnover Firms</u>	<u>Non-Turnover Firms</u>	<u>Difference</u>	<u>p-value</u>
Two years prior to turnover ( $t = -2$ )	-0.035***	-0.026***	-0.001	0.249
One year prior to turnover ( $t = -1$ )	-0.039***	-0.022***	-0.017***	0.006
Year of turnover ( $t = 0$ )	-0.036***	-0.020***	-0.016***	0.001
One year after turnover ( $t = +1$ )	-0.043***	-0.024***	-0.019**	0.050
Difference ( $t = +1$ minus $t = -1$ )	-0.002	-0.004		
p-value	0.761	0.233		

*Panel B: Multivariate logit regression predicting the probability of CEO turnover.*

$\text{Log}(\text{Relative Pay})_{it-1}$	0.2528** (0.041)
$\text{High Program Spending Dummy}_{it-1}$	0.4459 (0.207)
$\text{Log}(\text{Relative Pay})_{it-1} \times \text{High Program Spending Dummy}_{it-1}$	-0.3044* (0.067)
$\text{Log}(\text{CEO Tenure})_{it-1}$	-2.6845*** (0.000)
$\text{Gender Dummy}_{it-1}$	-0.3634** (0.044)
$\text{Log}(\text{Age})_{it-1}$	0.1438 (0.130)
Intercept	-0.4720 (0.486)
N	4,659
Pseudo R <sup>2</sup>	0.378
Industry Fixed Effects?	Yes
Year Fixed Effects?	No

Panel A reports univariate analyses comparing the (Industry-Adjusted) *Program Spending Ratios* of turnover firms to a matched sample of non-turnover firms, where a matching firm is required to have been in the same industry and of similar size (total assets, with a differential of no more than 10%) in the year prior to the treatment firm's turnover. // Panel B reports the results of a multivariate logistic regression where the probability of CEO turnover is modeled as a function of the prior period relative pay ratio, indicator variable for above industry median charitable spending (*High Program Spending Dummy*), and other relevant CEO- and firm-specific determinants. Of the 4,659 observations, 270 entail CEO turnovers. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1st and 99th percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 10: The relation between the relative pay ratio and governance quality for varying degrees of agency conflicts.**

	Dependent variable: <i>Log(Relative Pay)</i>	
	“Low Agency” coefficients	Incremental effect (× <i>Agency Dummy</i> )
	(I)	(II)
<i>Board Independence</i> <sub>it</sub> (÷ 10)	3.0635*** (0.001)	-3.2075*** (0.010)
<i>Inside Business Relationship</i> <sub>it</sub> (÷ 10)	-0.0612 (0.908)	-0.4410 (0.525)
<i>Outside Management</i> <sub>it</sub> (÷ 10)	0.4524 (0.791)	-3.0870 (0.139)
<i>Stockholders</i> <sub>it</sub> (÷ 10)	0.1637 (0.845)	-0.1453 (0.889)
<i>Form 990 to Board</i> <sub>it</sub> (÷ 10)	-0.2232 (0.721)	-0.6070 (0.492)
<i>Conflict of Interest Policy</i> <sub>it</sub> (÷ 10)	1.2880 (0.117)	-2.9629** (0.012)
<i>Whistleblower Policy</i> <sub>it</sub> (÷ 10)	0.3504 (0.659)	-1.8696* (0.080)
<i>Document Retention Policy</i> <sub>it</sub> (÷ 10)	-0.0962 (0.899)	1.5360 (0.135)
<i>Grant to Officer</i> <sub>it</sub> (÷ 10)	0.1068 (0.912)	0.1306 (0.917)
<i>CEO Compensation Policy</i> <sub>it</sub> (÷ 10)	1.7792* (0.061)	-2.1848* (0.091)
<i>Non-CEO Compensation Policy</i> <sub>it</sub> (÷ 10)	-1.9424*** (0.002)	1.8899** (0.021)
<i>Tax Forms on Website</i> <sub>it</sub> (÷ 10)	-2.1093*** (0.000)	0.2151 (0.790)
<i>Audited Financial Statements</i> <sub>it</sub> (÷ 10)	-2.6366 (0.342)	0.3972 (0.919)
<i>Audit Committee</i> <sub>it</sub> (÷ 10)	0.4960 (0.685)	0.8698 (0.588)
<i>Board Size</i> <sub>it</sub> (÷ 10)	-0.0184 (0.741)	0.1035 (0.146)
<i>Board Size Squared</i> <sub>it</sub> (÷ 1,000)	0.0637 (0.406)	-0.1420 (0.146)
Intercept	3.8342*** (0.008)	0.3874 (0.374)
N		1,407
Adj. R <sup>2</sup>		0.527
Industry Fixed Effects?		Yes
Year Fixed Effects?		Yes
Control Variables?		Yes

The results represent a pooled regression of *Log(Relative Pay)* on its traditional determinants, governance quality, the (Industry-Adjusted) *Program Spending Ratio*, and an indicator variable, *Agency Dummy*, to proxy for potentially severe agency conflicts. *Agency Dummy* is coded as 1 for the upper (lower) quartile of excess liquid asset levels, where excess liquid asset levels is defined to be the residual resulting from the model presented in equation 3. Column I reports the effects for “Low Agency” nonprofits (i.e., *Agency Dummy* = 0) while Column II provides the *incremental* effect for “High Agency” nonprofits (i.e., *Agency Dummy* = 1). To conserve space, only those coefficients corresponding to the governance variables are reported in this table. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. Due to a relatively low response rate, the *Executive Reimbursement Policy* and *Executive Substantiation Policy* variables are excluded from the analysis. Control variables include the *Industry-Adjusted Program Spending Ratio*<sub>it</sub>, *Board Size*<sub>it</sub>, *Board Size Squared*<sub>it</sub>, *Log(No. of Employees)*<sub>it</sub>, *Log(Total Assets)*<sub>it</sub>, *Log(Age)*<sub>it-1</sub>, *Government Revenue*<sub>it-1</sub>, *Donations Growth*<sub>it-1</sub>, *Capital Expenditures*<sub>it-1</sub>, *Log(Household Income)*<sub>it-1</sub>, *Log(CEO Tenure)*<sub>it</sub>, *Gender Dummy*<sub>it</sub>, and *Commercial Dummy*<sub>it</sub>. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table 11: Economic significance of the impact of governance variables on the charitable spending of nonprofits with high agency conflicts versus nonprofits with low agency conflicts.**

*Panel A: The impact on Log(Relative Pay) in response to switching answers to select governance questions.*

<u>Governance variable</u>	<u>Coefficient estimates (unscaled)</u>				<u>Implied percentage change in Log(Relative Pay)</u>	
	<u>Low Agency group</u>	<u>Increment</u>	<u>High Agency group</u>	<u>One unit change in governance variables</u>	<u>Low Agency group</u>	<u>High Agency group</u>
	(I)	(II)	(III)	(IV)	(V)	(VI)
<i>Board Independence</i>	0.3064	-0.3208	-0.0144	1.0000	35.85%	-1.43%
<i>Conflict of Interest Policy</i>	0.1288	-0.2963	-0.1675	1.0000	13.75%	-15.42%
<i>Whistleblower Policy</i>	0.0350	-0.1870	-0.1519	1.0000	3.57%	-14.09%
<i>CEO Compensation Policy</i>	0.1779	-0.2185	-0.0406	1.0000	19.47%	-3.97%
<i>Non-CEO Compensation Policy</i>	-0.1942	0.1890	-0.0053	1.0000	-17.65%	-0.52%

*Panel B: The impact on Log(Relative Pay) in response to a one standard deviation increase in select governance variables.*

<u>Governance variable</u>	<u>Coefficient estimates (unscaled)</u>				<u>Implied percentage change in Log(Relative Pay)</u>	
	<u>Low Agency group</u>	<u>Increment</u>	<u>High Agency group</u>	<u>One std. dev. change in governance variables</u>	<u>Low Agency group</u>	<u>High Agency group</u>
	(I)	(II)	(III)	(IV)	(V)	(VI)
<i>Board Independence</i>	0.3064	-0.3208	-0.0144	0.2722	8.34%	-0.39%
<i>Conflict of Interest Policy</i>	0.1288	-0.2963	-0.1675	0.2998	3.86%	-5.02%
<i>Whistleblower Policy</i>	0.0350	-0.1870	-0.1519	0.3555	1.25%	-5.40%
<i>CEO Compensation Policy</i>	0.1779	-0.2185	-0.0406	0.2594	4.62%	-1.05%
<i>Non-CEO Compensation Policy</i>	-0.1942	0.1890	-0.0053	0.3489	-6.78%	-0.18%

The results represent the economic significance of the governance variables whose statistical associations with the relative pay ratio are significantly related to the potential severity of agency conflicts (see Table 10). In Panel A, column V (VI) is calculated as  $e^{\text{coefficient}} - 1$ , where the “coefficient” value is given in column I (III). In Panel B, column V (VI) is computed as columns I  $\times$  IV (III  $\times$  IV).

**Table 12: The relation between changes in charitable spending and changes in relative pay for varying degrees of governance quality.**

$\Delta \text{Log}(\text{Relative Pay})_{it} (\div 10^2)$	-3.1355*** (0.009)
<i>Governance Index</i> <sub>it</sub>	-0.0190 (0.696)
$\Delta \text{Log}(\text{Relative Pay})_{it} \times \text{Governance Index}_{it}$	0.2491** (0.047)
$\Delta \text{Board Size}_{it} (\div 10^3)$	0.1391 (0.760)
$\Delta \text{Board Size Squared}_{it} (\div 10^6)$	0.5403 (0.845)
$\Delta \text{Log}(\text{No. of Employees})_{it} (\div 10^2)$	0.1268 (0.805)
$\Delta \text{Log}(\text{Total Assets})_{it} (\div 10^2)$	0.6768 (0.385)
$\Delta \text{Log}(\text{Age})_{it}$	0.0997** (0.016)
$\Delta \text{Liquid Assets/Total Expenses}_{it} (\div 10^2)$	-0.8522*** (0.000)
$\Delta \text{Government Revenue}_{it}$	0.0107 (0.433)
$\Delta \text{Donations Growth}_{it} (\div 10^2)$	-0.3295 (0.301)
$\Delta \text{Capital Expenditures}_{it}$	0.0199 (0.192)
$\Delta \text{Total Liabilities/Total Assets}_{it} (\div 10^2)$	-0.5493 (0.456)
$\Delta \text{Fundraising Dummy}_{it}$	-0.0121* (0.056)
$\Delta \text{Commercial Dummy}_{it} (\div 10^2)$	0.2595 (0.488)
Intercept	-0.0174 (0.523)
N	3,484
R <sup>2</sup>	0.021
Industry Fixed Effects?	Yes
Year Fixed Effects?	Yes

The results represent pooled regressions where the change in the *Industry-Adjusted Program Spending Ratio* is modeled as a function of changes in its traditional determinants and (the log of) the CEO-to-employee relative pay ratio, where changes are computed as the difference between year *t* and year *t-1* values. The model includes the contemporaneous value of the *Governance Index* to account for the impact of governance quality on the relation between changes in the relative pay ratio and in charitable spending. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

### **Appendix B: Supplemental Evidence**

- **Table B1:** Determinants of the CEO-to-employee relative pay ratio for sub-samples of commercial and traditional nonprofits.
- **Table B2:** Determinants of nonprofit financial performance for sub-samples of commercial and traditional nonprofits.
- **Table B3:** Determinants of the CEO-to-employee relative pay ratio modeled as a function of alternative measures of organizational size.
- **Table B4:** Determinants of nonprofit financial performance modeled as a function of alternative measures of organizational size.
- **Table B5:** Determinants of nonprofit financial performance modeled as a function of *industry-adjusted* relative pay.
- **Table B6:** Determinants of nonprofit financial performance modeled as a function of *excess* relative pay.
- **Table B7:** Determinants of the CEO-to-employee relative pay ratio, modeled to include state fixed effects.
- **Table B8:** Determinants of nonprofit financial performance, modeled to include state fixed effects.
- **Table B9:** Estimation of excess liquid asset levels.

**Table B1: Determinants of the CEO-to-employee relative pay ratio for sub-samples of commercial and traditional nonprofits.**

Performance measure:	Program Spending Ratio		Program Expenses to Assets		Fundraising Ratio		Log(Revenue per Employee)	
	Commercial (I)	Traditional (II)	Commercial (III)	Traditional (IV)	Commercial (V)	Traditional (VI)	Commercial (VII)	Traditional (VIII)
<i>Industry-Adjusted Performance</i> <sub>it</sub>	-0.3638*** (0.001)	-0.1748** (0.015)	-0.1447*** (0.000)	-0.1195*** (0.000)	-0.0852* (0.079)	-0.1039* (0.085)	-0.2601*** (0.000)	-0.0550*** (0.000)
<i>Governance Index</i> <sub>it</sub>	0.2203 (0.645)	-0.7238** (0.042)	0.2141 (0.653)	-0.7103** (0.045)	-0.0560 (0.907)	-0.2761 (0.435)	0.5031 (0.285)	-0.3055 (0.414)
<i>Board Size</i> <sub>it</sub> (÷ 10)	0.1017*** (0.002)	0.0803*** (0.000)	0.0990*** (0.002)	0.0725*** (0.000)	0.0667** (0.045)	0.0814*** (0.000)	0.0889*** (0.006)	0.0645*** (0.002)
<i>Board Size Squared</i> <sub>it</sub> (÷ 10 <sup>3</sup> )	-0.0839 (0.100)	-0.0630** (0.018)	-0.0822 (0.106)	-0.0551** (0.038)	-0.0751 (0.136)	-0.0685*** (0.010)	-0.0760 (0.129)	-0.0481* (0.091)
<i>Log(No. of Employees)</i> <sub>it</sub>	0.3081*** (0.000)	0.3064*** (0.000)	0.3264*** (0.000)	0.3180*** (0.000)	0.3307*** (0.000)	0.3006*** (0.000)	0.1861*** (0.000)	0.2884*** (0.000)
<i>Log(Total Assets)</i> <sub>it</sub>	0.0965*** (0.000)	0.0092 (0.204)	0.0700*** (0.000)	-0.0052 (0.491)	0.0832*** (0.000)	0.0131* (0.076)	0.2036*** (0.000)	0.0372*** (0.000)
<i>Log(Age)</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-1.6470 (0.307)	2.0715 (0.117)	-2.6564 (0.100)	1.6201 (0.220)	0.2324 (0.886)	2.2528* (0.079)	-4.1833*** (0.009)	3.0473** (0.028)
<i>Liquid Assets/Total Expenses</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	0.8506 (0.644)	1.2742* (0.056)	-1.2921 (0.491)	0.8709 (0.190)	2.9478 (0.130)	0.7626 (0.257)	-3.9717** (0.038)	0.7136 (0.322)
<i>Government Revenue</i> <sub>it-1</sub>	-0.1010 (0.590)	-0.4911*** (0.000)	-0.1077 (0.565)	-0.4363*** (0.000)	-0.2072 (0.295)	-0.4660*** (0.000)	-0.1202 (0.512)	-0.5845*** (0.000)
<i>Donations Growth</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-32.5026 (0.160)	0.6240 (0.893)	-30.2446 (0.189)	0.5565 (0.905)			-37.4517 (0.113)	-1.9579 (0.702)
<i>Capital Expenditures</i> <sub>it-1</sub>	-0.0320 (0.569)	0.1413*** (0.000)	-0.1111* (0.057)	0.0912** (0.014)	0.0137 (0.816)	0.1495*** (0.000)	-0.2018*** (0.000)	0.1572*** (0.000)
<i>Log(Household Income)</i> <sub>it-1</sub>	-0.0585 (0.483)	-0.1642** (0.016)	-0.0541 (0.516)	-0.1617** (0.017)	-0.0473 (0.572)	-0.2096*** (0.002)	0.0101 (0.903)	-0.1875*** (0.008)
<i>Log(CEO Tenure)</i> <sub>it</sub>	0.1274*** (0.000)	0.0480*** (0.004)	0.1184*** (0.000)	0.0463*** (0.005)	0.1360*** (0.000)	0.0418*** (0.008)	0.1174*** (0.000)	0.0470*** (0.007)
<i>Gender Dummy</i> <sub>it</sub>	-0.0403 (0.147)	-0.0607*** (0.001)	-0.0417 (0.132)	-0.0632*** (0.001)	-0.0222 (0.418)	-0.0663*** (0.000)	-0.0513* (0.063)	-0.0613*** (0.002)
Intercept	-0.5381 (0.578)	2.0827*** (0.007)	-0.1078 (0.911)	2.3162*** (0.003)	0.3537 (0.742)	2.2091*** (0.004)	-2.3712** (0.014)	1.8863** (0.019)
N	2,774	4,561	2,774	4,561	2,570	4,607	2,727	4,046
Adj. R <sup>2</sup>	0.497	0.569	0.500	0.571	0.494	0.564	0.519	0.577
Industry Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Log(Relative Pay)* on its traditional determinants, governance quality, and financial performance for sub-samples of commercial and traditional nonprofits, where commercial nonprofits are defined as those with at least 90% of revenues drawn from program services. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* is excluded from column III to avoid a potentially highly collinear relationship between the *Fundraising Ratio* and *Donations Growth*. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table B2: Determinants of nonprofit financial performance for sub-samples of commercial and traditional nonprofits.**

Performance measure:	<u>Program Spending Ratio</u>		<u>Program Expenses to Assets</u>		<u>Fundraising Ratio</u>		<u>Log(Revenue per Employee)</u>	
	Commercial (I)	Traditional (II)	Commercial (III)	Traditional (IV)	Commercial (V)	Traditional (VI)	Commercial (VII)	Traditional (VIII)
<i>Log(Relative Pay)<sub>it</sub></i>	-0.0116*** (0.001)	-0.0079*** (0.009)	-0.0899*** (0.000)	-0.0621*** (0.000)	-0.0163** (0.042)	-0.0048 (0.179)	-0.2217*** (0.000)	-0.2042*** (0.000)
<i>Governance Index<sub>it</sub></i>	0.2665*** (0.002)	-0.0218 (0.766)	0.3222 (0.336)	0.1595 (0.517)	-0.2979 (0.128)	-0.0046 (0.957)	1.5113*** (0.000)	1.0911 (0.123)
<i>Board Size<sub>it</sub> (÷ 10<sup>2</sup>)</i>	-0.0726 (0.228)	0.0673 (0.109)	-0.2655 (0.256)	-0.1291 (0.360)	-0.2808** (0.037)	-0.1484*** (0.002)	-0.1527 (0.608)	-0.4144 (0.314)
<i>Board Size Squared<sub>it</sub> (÷ 10<sup>4</sup>)</i>	0.1907** (0.040)	-0.0416 (0.457)	0.5117 (0.155)	0.1101 (0.558)	0.5035** (0.014)	0.2273*** (0.000)	0.1942 (0.671)	0.0654 (0.905)
<i>Log(No. of Employees)<sub>it</sub> (÷ 10)</i>	0.0589** (0.019)	0.0355** (0.047)	1.5671*** (0.000)	1.0236*** (0.000)	-0.0513 (0.433)	-0.0220 (0.304)	-3.9518*** (0.000)	-3.6237*** (0.000)
<i>Log(Total Assets)<sub>it</sub> (÷ 10)</i>	0.0219 (0.288)	0.0759*** (0.000)	-1.8212*** (0.000)	-1.1320*** (0.000)	0.1033** (0.043)	0.0400** (0.027)	4.2429*** (0.000)	4.8728*** (0.000)
<i>Log(Age)<sub>it-1</sub> (÷ 10)</i>	0.0283 (0.342)	-0.0695** (0.012)	-0.3908*** (0.001)	-0.1664* (0.073)	-0.1480** (0.026)	-0.0860*** (0.007)	-0.7509*** (0.000)	1.3121*** (0.000)
<i>Liquid Assets/Total Expenses<sub>it-1</sub> (÷ 10)</i>	-0.0255 (0.439)	-0.1325*** (0.000)	-1.4769*** (0.000)	-0.4669*** (0.000)	0.0240 (0.761)	-0.0260 (0.113)	-1.7568*** (0.000)	-0.9688*** (0.000)
<i>Government Revenue<sub>it-1</sub></i>	0.0228 (0.501)	0.0656*** (0.000)	0.0299 (0.821)	0.4540*** (0.000)	-0.1821** (0.024)	0.0022 (0.812)	-0.0150 (0.928)	-2.0361*** (0.000)
<i>Donations Growth<sub>it-1</sub> (÷ 10)</i>	-1.1288*** (0.007)	0.0112 (0.907)	-1.2733 (0.431)	0.0746 (0.817)			-1.9261 (0.367)	-4.4305*** (0.000)
<i>Capital Expenditures<sub>it-1</sub></i>	-0.0446*** (0.000)	-0.0231*** (0.002)	-0.7602*** (0.000)	-0.4936*** (0.000)	-0.0203 (0.417)	-0.0013 (0.880)	-0.7241*** (0.000)	0.1435** (0.042)
<i>Fundraising Dummy<sub>it-1</sub> (÷ 10)</i>	0.0347 (0.452)	-0.0089 (0.856)	-0.0034 (0.985)	0.8536*** (0.000)			0.7649*** (0.001)	4.0156*** (0.000)
<i>Total Liabilities/Total Assets<sub>it-1</sub> (÷ 10)</i>	0.2042*** (0.007)	0.0913 (0.193)	3.7583*** (0.000)	4.3079*** (0.000)	0.3825** (0.034)	-0.1852** (0.026)	2.0426*** (0.000)	4.1918*** (0.000)
Intercept	-0.0400 (0.508)	-0.1085** (0.022)	2.9828*** (0.000)	1.6653*** (0.000)	-0.2982 (0.191)	0.0330 (0.590)	-4.6353*** (0.000)	-7.9317*** (0.000)
N	2,787	4,587	2,787	4,587	2,585	4,635	2,740	4,071
Adj. R <sup>2</sup>	0.022	0.058	0.322	0.376	0.019	0.029	0.598	0.452
Industry Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Industry-Adjusted Financial Performance* on its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay ratio for sub-samples of commercial and traditional nonprofits, where commercial nonprofits are defined as those with at least 90% of revenues drawn from program services. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* and the *Fundraising Dummy* are excluded from the *Fundraising Ratio* regression (column III) to avoid a potentially spurious relationship between the dependent and independent variables. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table B3: Determinants of the CEO-to-employee relative pay ratio modeled as a function of alternative measures of organizational size.**

Performance measure:	Program Spending Ratio		Program Expenses to Assets		Fundraising Ratio		Log(Revenue per Employee)	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
<i>Industry-Adjusted Performance<sub>it</sub></i>	-0.2750*** (0.000)	-0.1502** (0.021)	-0.0714*** (0.000)	-0.0676*** (0.000)	-0.1712*** (0.000)	-0.1418*** (0.001)	-0.1043*** (0.000)	-0.0947*** (0.000)
<i>Governance Index<sub>it</sub></i>	1.1042*** (0.000)	0.4971 (0.116)	1.0764*** (0.000)	0.5027 (0.111)	1.1375*** (0.000)	0.6633** (0.036)	1.3125*** (0.000)	0.8312** (0.011)
<i>Board Size<sub>it</sub> (÷ 10)</i>	0.1443*** (0.000)	0.1513*** (0.000)	0.1402*** (0.000)	0.1479*** (0.000)	0.1151*** (0.000)	0.1316*** (0.000)	0.1280*** (0.000)	0.1449*** (0.000)
<i>Board Size Squared<sub>it</sub> (÷ 10<sup>3</sup>)</i>	-0.1047*** (0.000)	-0.1127*** (0.000)	-0.1011*** (0.000)	-0.1096*** (0.000)	-0.0786*** (0.001)	-0.0952*** (0.000)	-0.0913*** (0.000)	-0.1084*** (0.000)
<i>No. of Employees<sub>it</sub> (÷ 10<sup>4</sup>)</i>	5.5852*** (0.000)		5.5722*** (0.000)		5.4440*** (0.000)		5.3253*** (0.000)	
<i>No. of Employees Squared<sub>it</sub> (÷ 10<sup>8</sup>)</i>	-4.5914*** (0.000)		-4.5645*** (0.000)		-4.4110*** (0.000)		-4.4427*** (0.000)	
<i>Total Assets<sub>it</sub> (÷ 10<sup>10</sup>)</i>	0.7066*** (0.000)		0.6014*** (0.000)		0.6187*** (0.000)		1.0820*** (0.000)	
<i>Total Assets Squared<sub>it</sub> (÷ 10<sup>20</sup>)</i>	-0.1519*** (0.001)		-0.1299*** (0.006)		-0.1357*** (0.002)		-0.2335*** (0.000)	
<i>No. of Employees<sub>it</sub> (÷ 10<sup>4</sup>)</i>		2.0465*** (0.000)		2.0501*** (0.000)		1.9697*** (0.000)		1.9885*** (0.000)
<i>1 / No. of Employees<sub>it</sub></i>		-1.9125*** (0.000)		-1.9510*** (0.000)		-1.7698*** (0.000)		-1.5963*** (0.000)
<i>Total Assets<sub>it</sub> (÷ 10<sup>10</sup>)</i>		-0.4331*** (0.000)		-0.4682*** (0.000)		-0.4389*** (0.000)		-0.3615*** (0.000)
<i>1 / Total Assets<sub>it</sub> (× 10<sup>6</sup>)</i>		-0.1849*** (0.000)		-0.1589*** (0.000)		-0.2754*** (0.000)		-0.2368*** (0.000)
<i>Log(Age)<sub>it-1</sub> (÷ 10)</i>	0.8091*** (0.000)	1.0413*** (0.000)	0.7912*** (0.000)	1.0219*** (0.000)	0.9534*** (0.000)	1.1184*** (0.000)	0.7467*** (0.000)	1.0048*** (0.000)
<i>Liquid Assets/Total Expenses<sub>it-1</sub></i>	-0.0263*** (0.000)	-0.0232*** (0.001)	-0.0298*** (0.000)	-0.0272*** (0.000)	-0.0290*** (0.000)	-0.0366*** (0.000)	-0.0317*** (0.000)	-0.0340*** (0.000)
<i>Government Revenue<sub>it-1</sub></i>	-0.2910*** (0.000)	-0.3677*** (0.000)	-0.2596*** (0.000)	-0.3343*** (0.000)	-0.3063*** (0.000)	-0.3444*** (0.000)	-0.5736*** (0.000)	-0.5980*** (0.000)
<i>Donations Growth<sub>it-1</sub></i>	-0.0509 (0.299)	-0.0747 (0.137)	-0.0545 (0.266)	-0.0782 (0.120)			-0.0667 (0.211)	-0.1100** (0.046)
<i>Capital Expenditures<sub>it-1</sub></i>	0.2984*** (0.000)	0.2951*** (0.000)	0.2796*** (0.000)	0.2755*** (0.000)	0.3274*** (0.000)	0.3161*** (0.000)	0.2180*** (0.000)	0.2136*** (0.000)
<i>Log(Household Income)<sub>it-1</sub></i>	-0.0808 (0.150)	-0.0574 (0.318)	-0.0790 (0.159)	-0.0550 (0.339)	-0.1208** (0.030)	-0.0943 (0.101)	-0.1046* (0.067)	-0.0744 (0.207)
<i>Log(CEO Tenure)<sub>it</sub></i>	0.0715*** (0.000)	0.0650*** (0.000)	0.0677*** (0.000)	0.0624*** (0.000)	0.0728*** (0.000)	0.0719*** (0.000)	0.0739*** (0.000)	0.0663*** (0.000)
<i>Gender Dummy<sub>it</sub></i>	-0.1000*** (0.000)	-0.1321*** (0.000)	-0.1005*** (0.000)	-0.1323*** (0.000)	-0.1116*** (0.000)	-0.1385*** (0.000)	-0.1061*** (0.000)	-0.1366*** (0.000)
<i>Commercial Dummy<sub>it</sub></i>	0.0113 (0.559)	0.0582*** (0.003)	0.0177 (0.364)	0.0669*** (0.001)	-0.0179 (0.361)	0.0416** (0.038)	0.0480** (0.015)	0.0960*** (0.000)
Intercept	2.1071*** (0.001)	2.0580*** (0.002)	2.1166*** (0.001)	2.0544*** (0.002)	2.0305*** (0.002)	1.9602*** (0.003)	2.4228*** (0.000)	2.2461*** (0.001)
N	7,857	7,857	7,857	7,857	7,701	7,701	7,257	7,257
Adj. R <sup>2</sup>	0.466	0.438	0.466	0.439	0.473	0.438	0.477	0.442
Industry Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Log(Relative Pay)* on its traditional determinants, governance quality, and a measure of financial performance after replacing the organizational size

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determinants used in Table 3 (*Log(No. of Employees)* and *Log(Total Assets)*) with alternative measures of size: employees and its squared term, along with total assets and its squared term (columns I, III, V, and VII); and (2) the number of employees and its reciprocal, along with total assets and its reciprocal (columns II, IV, VI, and VII). Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* is excluded from columns V and VI to avoid a potentially highly collinear relationship between the *Fundraising Ratio* and *Donations Growth*. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table B4: Determinants of nonprofit financial performance modeled as a function of alternative measures of organizational size.**

Performance measure:	Program Spending Ratio		Program Expenses to Assets		Fundraising Ratio		Log(Revenue per Employee)	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
<i>Log(Relative Pay)<sub>it</sub></i>	-0.0089*** (0.000)	-0.0050** (0.011)	-0.0475*** (0.000)	-0.0446*** (0.000)	-0.0125*** (0.000)	-0.0096*** (0.002)	-0.2943*** (0.000)	-0.2494*** (0.000)
<i>Governance Index<sub>it</sub></i>	0.1537*** (0.005)	0.1531*** (0.005)	-0.0047 (0.982)	0.2468 (0.232)	-0.0439 (0.604)	-0.0484 (0.572)	1.7783*** (0.001)	1.7092*** (0.001)
<i>Board Size<sub>it</sub> (÷ 10)</i>	0.0017 (0.611)	0.0030 (0.363)	-0.0333*** (0.008)	-0.0198 (0.109)	-0.0166*** (0.001)	-0.0158*** (0.002)	0.0274 (0.382)	0.0323 (0.295)
<i>Board Size Squared<sub>it</sub> (÷ 10<sup>3</sup>)</i>	0.0032 (0.482)	0.0017 (0.706)	0.0373** (0.031)	0.0207 (0.222)	0.0250*** (0.000)	0.0245*** (0.000)	-0.0587 (0.173)	-0.0567 (0.180)
<i>No. of Employees<sub>it</sub> (÷ 10<sup>4</sup>)</i>	0.1913*** (0.000)		0.4236*** (0.000)		0.1070*** (0.009)		0.0240 (0.922)	
<i>No. of Employees Squared<sub>it</sub> (÷ 10<sup>8</sup>)</i>	-0.1798*** (0.000)		-0.1998* (0.078)		-0.1267*** (0.005)		-0.5424** (0.049)	
<i>Total Assets<sub>it</sub> (÷ 10<sup>10</sup>)</i>	0.1126*** (0.000)		-1.0989*** (0.000)		0.1991*** (0.000)		4.0573*** (0.000)	
<i>Total Assets Squared<sub>it</sub> (÷ 10<sup>20</sup>)</i>	-0.0221*** (0.009)		0.2376*** (0.000)		-0.0397*** (0.001)		-0.8909*** (0.000)	
<i>No. of Employees<sub>it</sub> (÷ 10<sup>4</sup>)</i>		0.0549*** (0.000)		0.1667*** (0.000)		0.0268 (0.108)		-0.0084 (0.934)
<i>1 / No. of Employees<sub>it</sub></i>		0.0118 (0.504)		-0.5478*** (0.000)		0.0387 (0.218)		2.9015*** (0.000)
<i>Total Assets<sub>it</sub> (÷ 10<sup>10</sup>)</i>		0.0268 (0.115)		-0.4712*** (0.000)		0.0485** (0.034)		1.3973*** (0.000)
<i>1 / Total Assets<sub>it</sub> (× 10<sup>6</sup>)</i>		-0.0062 (0.225)		0.3713*** (0.000)		-0.0103 (0.279)		-0.5651*** (0.000)
<i>Log(Age)<sub>it-1</sub> (÷ 10)</i>	-0.0191 (0.323)	-0.0027 (0.887)	-0.1008 (0.177)	-0.0404 (0.578)	-0.1021*** (0.001)	-0.0913*** (0.002)	0.1069 (0.559)	0.2328 (0.193)
<i>Liquid Assets/Total Expenses<sub>it-1</sub></i>	-0.0115*** (0.000)	-0.0119*** (0.000)	-0.0866*** (0.000)	-0.0794*** (0.000)	-0.0015 (0.414)	-0.0019 (0.299)	-0.0179 (0.115)	-0.0437*** (0.000)
<i>Government Revenue<sub>it-1</sub></i>	0.0563*** (0.000)	0.0570*** (0.000)	0.6125*** (0.000)	0.5661*** (0.000)	-0.0218** (0.030)	-0.0200** (0.049)	-2.5749*** (0.000)	-2.4487*** (0.000)
<i>Donations Growth<sub>it-1</sub></i>	-0.0010 (0.905)	-0.0018 (0.839)	-0.0397 (0.239)	-0.0435 (0.186)			-0.3539*** (0.000)	-0.3122*** (0.000)
<i>Capital Expenditures<sub>it-1</sub></i>	-0.0272*** (0.000)	-0.0278*** (0.000)	-0.4304*** (0.000)	-0.4093*** (0.000)	-0.0054 (0.546)	-0.0076 (0.396)	-0.5721*** (0.000)	-0.6158*** (0.000)
<i>Fundraising Dummy<sub>it-1</sub></i>	0.0210 (0.522)	0.0288 (0.381)	0.3031** (0.017)	0.3630*** (0.003)			3.3655*** (0.000)	3.2553*** (0.000)
<i>Total Liabilities/Total Assets<sub>it-1</sub></i>	0.1016** (0.039)	0.1218** (0.013)	3.7853*** (0.000)	3.7495*** (0.000)	-0.0191 (0.808)	-0.0013 (0.987)	3.8382*** (0.000)	4.0617*** (0.000)
<i>Commercial Dummy<sub>it</sub></i>	0.0238*** (0.000)	0.0263*** (0.000)	0.1264*** (0.000)	0.1294*** (0.000)	-0.0446*** (0.000)	-0.0430*** (0.000)	0.4031*** (0.000)	0.4206*** (0.000)
Intercept	0.0126 (0.699)	0.0030 (0.927)	0.1034 (0.412)	0.0103 (0.934)	0.0903 (0.177)	0.0960 (0.152)	-0.1790 (0.560)	-0.3298 (0.275)
N	7,897	7,897	7,897	7,897	7,747	7,747	7,296	7,296
Adj. R <sup>2</sup>	0.045	0.041	0.233	0.267	0.028	0.026	0.342	0.365
Industry Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Industry-Adjusted Financial Performance* on its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay ratio after replacing the organizational size determinants used in Table 3 (*Log(No. of Employees)* and *Log(Total Assets)*) with alternative measures of size: employees and its squared term, along with total assets and its squared term (columns I, III, V, and VII); and (2) the number of employees and its reciprocal, along with total assets and its reciprocal (columns II, IV, VI, and VII).

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Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* and the *Fundraising Dummy* are excluded from the *Fundraising Ratio* regression (columns V and VI) to avoid a potentially spurious relationship between the dependent and independent variables. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test. Performance measures multiplied by a factor of 100.

**Table B5: Determinants of nonprofit financial performance modeled as a function of industry-adjusted relative pay.**

Performance measure:	Program Spending	Program Expenses to	Fundraising	Log(Revenue per
	Ratio	Assets	Ratio	Employee)
	(I)	(II)	(III)	(IV)
<i>Industry-Adj. Log(Relative Pay)<sub>it</sub></i>	-0.0099*** (0.000)	-0.0751*** (0.000)	-0.0109*** (0.002)	-0.2116*** (0.000)
<i>Governance Index<sub>it</sub></i>	0.0788 (0.159)	0.1732 (0.390)	-0.0841 (0.340)	1.2012** (0.011)
<i>Board Size<sub>it</sub> (÷ 10<sup>2</sup>)</i>	0.0250 (0.459)	-0.1966 (0.105)	-0.1987*** (0.000)	-0.4715 (0.102)
<i>Board Size Squared<sub>it</sub> (÷ 10<sup>4</sup>)</i>	0.0157 (0.733)	0.2208 (0.184)	0.2971*** (0.000)	0.2965 (0.454)
<i>Log(No. of Employees)<sub>it</sub> (÷ 10)</i>	0.0466*** (0.001)	1.2315*** (0.000)	-0.0094 (0.683)	-3.6344*** (0.000)
<i>Log(Total Assets)<sub>it</sub> (÷ 10)</i>	0.0526*** (0.000)	-1.3759*** (0.000)	0.0610*** (0.002)	4.4874*** (0.000)
<i>Log(Age)<sub>it-1</sub> (÷ 10)</i>	-0.0278 (0.172)	-0.2124*** (0.004)	-0.1033*** (0.001)	0.4196** (0.014)
<i>Liquid Assets/Total Expenses<sub>it-1</sub> (÷ 10)</i>	-0.1180*** (0.000)	-0.5761*** (0.000)	-0.0227 (0.245)	-1.1221*** (0.000)
<i>Government Revenue<sub>it-1</sub></i>	0.0611*** (0.000)	0.4354*** (0.000)	-0.0158 (0.140)	-1.9845*** (0.000)
<i>Donations Growth<sub>it-1</sub> (÷ 10)</i>	-0.0418 (0.642)	-0.0942 (0.771)		-4.7038*** (0.000)
<i>Capital Expenditures<sub>it-1</sub></i>	-0.0303*** (0.000)	-0.5755*** (0.000)	-0.0063 (0.511)	-0.1527*** (0.002)
<i>Fundraising Dummy<sub>it-1</sub> (÷ 10)</i>	0.0198 (0.559)	0.4724*** (0.000)		2.6708*** (0.000)
<i>Total Liabilities/Total Assets<sub>it-1</sub> (÷ 10)</i>	0.1071** (0.037)	3.8652*** (0.000)	0.0028 (0.973)	3.3280*** (0.000)
<i>Commercial Dummy<sub>it-1</sub></i>	0.0248*** (0.000)	0.0783*** (0.000)	-0.0465*** (0.000)	0.5535*** (0.000)
Intercept	-0.1004*** (0.007)	1.9365*** (0.000)	-0.0115 (0.876)	-7.1053*** (0.000)
N	7374	7374	7220	6811
Adj. R <sup>2</sup>	0.045	0.331	0.029	0.481
Industry Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Industry-Adjusted Financial Performance* on its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay ratio, where the relative pay ratio has been adjusted for its industry median. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* and the *Fundraising Dummy* are excluded from the *Fundraising Ratio* regression (column III) to avoid a potentially spurious relationship between the dependent and independent variables. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table B6: Determinants of nonprofit financial performance modeled as a function of excess relative pay.**

Performance measure:	Program Spending	Program Expenses	Fundraising	Log(Revenue per
	Ratio	to Assets	Ratio	Employee)
	(I)	(II)	(III)	(IV)
<i>Excess Compensation</i> <sub>it</sub>	-0.0102*** (0.000)	-0.0788*** (0.000)	-0.0114*** (0.002)	-0.2101*** (0.000)
<i>Governance Index</i> <sub>it</sub>	0.0805 (0.151)	0.1699 (0.400)	-0.0861 (0.331)	1.2136** (0.010)
<i>Board Size</i> <sub>it</sub> (÷ 10 <sup>2</sup> )	0.0244 (0.470)	-0.1907 (0.117)	-0.1974*** (0.000)	-0.4515 (0.119)
<i>Board Size Squared</i> <sub>it</sub> (÷ 10 <sup>4</sup> )	0.0167 (0.719)	0.2129 (0.202)	0.2956*** (0.000)	0.2672 (0.502)
<i>Log(No. of Employees)</i> <sub>it</sub> (÷ 10)	0.0165 (0.180)	1.0098*** (0.000)	-0.0410** (0.044)	-4.2619*** (0.000)
<i>Log(Total Assets)</i> <sub>it</sub> (÷ 10)	0.0475*** (0.000)	-1.4156*** (0.000)	0.0545*** (0.005)	4.3808*** (0.000)
<i>Log(Age)</i> <sub>it-1</sub> (÷ 10)	-0.0303 (0.137)	-0.2381*** (0.001)	-0.1087*** (0.001)	0.3409** (0.048)
<i>Liquid Assets/Total Expenses</i> <sub>it-1</sub> (÷ 10)	-0.1183*** (0.000)	-0.5750*** (0.000)	-0.0222 (0.258)	-1.1366*** (0.000)
<i>Government Revenue</i> <sub>it-1</sub>	0.0617*** (0.000)	0.4349*** (0.000)	-0.0170 (0.115)	-1.9839*** (0.000)
<i>Donations Growth</i> <sub>it-1</sub> (÷ 10)	-0.0285 (0.751)	-0.0550 (0.865)		-4.6565*** (0.000)
<i>Capital Expenditures</i> <sub>it-1</sub>	-0.0304*** (0.000)	-0.5753*** (0.000)	-0.0061 (0.522)	-0.1552*** (0.002)
<i>Fundraising Dummy</i> <sub>it-1</sub> (÷ 10)	0.0266 (0.433)	0.4794*** (0.000)		2.6875*** (0.000)
<i>Total Liabilities/Total Assets</i> <sub>it-1</sub> (÷ 10)	0.1136** (0.027)	3.8755*** (0.000)	0.0054 (0.948)	3.3316*** (0.000)
<i>Commercial Dummy</i> <sub>it-1</sub>	0.0251*** (0.000)	0.0829*** (0.000)	-0.0459*** (0.000)	0.5708*** (0.000)
Intercept	-0.0782** (0.034)	2.1093*** (0.000)	0.0152 (0.836)	-6.6217*** (0.000)
N	7,335	7,335	7,177	6,773
Adj. R <sup>2</sup>	0.046	0.332	0.029	0.481
Industry Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Industry-Adjusted Financial Performance* on its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay ratio measured in excess form, where *Excess Compensation* is defined as the residual from a regression of  $\text{Log}(\text{Relative Pay})_{it}$  on the  $\text{Log}(\text{No. of Employees})_{it}$ ,  $\text{Log}(\text{Total Assets})_{it}$ ,  $\text{Log}(\text{Age})_{it-1}$ ,  $\text{Log}(\text{CEO Tenure})_{it}$ , *Gender Dummy*<sub>it</sub>, and *Commercial Dummy*<sub>it</sub>, as well as industry fixed effects (based on the 26 NTEE major groupings) and year fixed effects. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* and the *Fundraising Dummy* are excluded from the *Fundraising Ratio* regression (column III) to avoid a potentially spurious relationship between the dependent and independent variables. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table B7: Determinants of the CEO-to-employee relative pay ratio, modeled to include state fixed effects.**

Performance measure:	Program Spending Ratio	Program Expenses to Assets	Fundraising Ratio	Log(Revenue per Employee)
	(I)	(II)	(III)	(IV)
<i>Industry-Adjusted Performance</i> <sub>it</sub>	-0.2597*** (0.000)	-0.1419*** (0.000)	-0.1254*** (0.001)	-0.0785*** (0.000)
<i>Governance Index</i> <sub>it</sub>	-0.5356* (0.064)	-0.5220* (0.070)	-0.3512 (0.223)	-0.2061 (0.490)
<i>Board Size</i> <sub>it</sub> (÷ 10)	0.1034*** (0.000)	0.0959*** (0.000)	0.0884*** (0.000)	0.0888*** (0.000)
<i>Board Size Squared</i> <sub>it</sub> (÷ 10 <sup>3</sup> )	-0.0938*** (0.000)	-0.0862*** (0.000)	-0.0844*** (0.000)	-0.0808*** (0.001)
<i>Log(No. of Employees)</i> <sub>it</sub>	0.3115*** (0.000)	0.3268*** (0.000)	0.3096*** (0.000)	0.2805*** (0.000)
<i>Log(Total Assets)</i> <sub>it</sub>	0.0337*** (0.000)	0.0130** (0.041)	0.0336*** (0.000)	0.0713*** (0.000)
<i>Log(Age)</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-0.0591 (0.954)	-0.6144 (0.552)	0.7885 (0.440)	0.1985 (0.853)
<i>Liquid Assets/Total Expenses</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	1.1537* (0.065)	0.5404 (0.389)	1.1018* (0.082)	0.2194 (0.746)
<i>Government Revenue</i> <sub>it-1</sub>	-0.4292*** (0.000)	-0.3739*** (0.000)	-0.4170*** (0.000)	-0.5688*** (0.000)
<i>Donations Growth</i> <sub>it-1</sub> (÷ 10 <sup>2</sup> )	-1.0004 (0.827)	-1.1133 (0.807)		-4.9586 (0.326)
<i>Capital Expenditures</i> <sub>it-1</sub>	0.0971*** (0.001)	0.0313 (0.316)	0.1128*** (0.000)	0.0894*** (0.004)
<i>Log(Household Income)</i> <sub>it-1</sub>	-0.2329 (0.440)	-0.2059 (0.493)	-0.3245 (0.276)	-0.1424 (0.644)
<i>Log(CEO Tenure)</i> <sub>it</sub>	0.0789*** (0.000)	0.0737*** (0.000)	0.0773*** (0.000)	0.0792*** (0.000)
<i>Gender Dummy</i> <sub>it</sub>	-0.0503*** (0.001)	-0.0536*** (0.000)	-0.0494*** (0.001)	-0.0510*** (0.001)
<i>Commercial Dummy</i> <sub>it</sub>	-0.1193*** (0.000)	-0.1052*** (0.000)	-0.1403*** (0.000)	-0.0694*** (0.000)
Intercept	2.2291 (0.500)	2.2908 (0.487)	2.9728 (0.362)	0.9124 (0.787)
N	7,335	7,335	7,177	6,773
Adj. R <sup>2</sup>	0.560	0.563	0.562	0.561
Industry Fixed Effects?	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Log(Relative Pay)* on its traditional determinants, governance quality, and financial performance after including state fixed effects to account for mandatory governance provisions in some U.S. states. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* is excluded from column III to avoid a potentially highly collinear relationship between the *Fundraising Ratio* and *Donations Growth*. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table B8: Determinants of nonprofit financial performance, modeled to include state fixed effects.**

Performance measure:	Program Spending	Program Expenses to	Fundraising	Log(Revenue per
	Ratio	Assets	Ratio	Employee)
	(I)	(II)	(III)	(IV)
<i>Log(Relative Pay)<sub>it</sub></i>	-0.0099*** (0.000)	-0.0791*** (0.000)	-0.0114*** (0.002)	-0.2079*** (0.000)
<i>Governance Index<sub>it</sub></i>	0.0958* (0.090)	0.1867 (0.358)	-0.0488 (0.582)	1.0182** (0.033)
<i>Board Size<sub>it</sub> (÷ 10<sup>2</sup>)</i>	0.0299 (0.380)	-0.1290 (0.290)	-0.1964*** (0.000)	-0.5434* (0.062)
<i>Board Size Squared<sub>it</sub> (÷ 10<sup>4</sup>)</i>	0.0148 (0.750)	0.1527 (0.360)	0.2771*** (0.000)	0.4128 (0.302)
<i>Log(No. of Employees)<sub>it</sub> (÷ 10)</i>	0.0457*** (0.001)	1.2618*** (0.000)	-0.0022 (0.926)	-3.6367*** (0.000)
<i>Log(Total Assets)<sub>it</sub> (÷ 10)</i>	0.0562*** (0.000)	-1.4017*** (0.000)	0.0599*** (0.002)	4.4938*** (0.000)
<i>Log(Age)<sub>it-1</sub> (÷ 10)</i>	-0.0378* (0.067)	-0.1563** (0.035)	-0.0834*** (0.009)	0.4020** (0.021)
<i>Liquid Assets/Total Expenses<sub>it-1</sub> (÷ 10)</i>	-0.1185*** (0.000)	-0.5740*** (0.000)	-0.0199 (0.307)	-1.0871*** (0.000)
<i>Government Revenue<sub>it-1</sub></i>	0.0640*** (0.000)	0.4299*** (0.000)	-0.0178* (0.098)	-1.9929*** (0.000)
<i>Donations Growth<sub>it-1</sub> (÷ 10)</i>	-0.0448 (0.618)	-0.0548 (0.865)		-4.4912*** (0.000)
<i>Capital Expenditures<sub>it-1</sub></i>	-0.0295*** (0.000)	-0.5857*** (0.000)	-0.0111 (0.249)	-0.1407*** (0.005)
<i>Fundraising Dummy<sub>it-1</sub> (÷ 10)</i>	0.0124 (0.718)	0.4916*** (0.000)		2.6763*** (0.000)
<i>Total Liabilities/Total Assets<sub>it-1</sub> (÷ 10)</i>	0.1149** (0.027)	3.9382*** (0.000)	0.0526 (0.527)	3.2286*** (0.000)
<i>Commercial Dummy<sub>it</sub></i>	0.0241*** (0.000)	0.0794*** (0.000)	-0.0452*** (0.000)	0.5447*** (0.000)
Intercept	-0.1569*** (0.005)	1.9622*** (0.000)	0.0385 (0.692)	-5.5495*** (0.000)
N	7,374	7,374	7,220	6,811
Adj. R <sup>2</sup>	0.052	0.338	0.043	0.483
Industry Fixed Effects?	Yes	Yes	Yes	Yes
State Fixed Effects?	Yes	Yes	Yes	Yes
Year Fixed Effects?	Yes	Yes	Yes	Yes

The results represent pooled regressions of *Industry-Adjusted Financial Performance* on its traditional determinants, governance quality, and (the log of) the CEO-to-employee relative pay after including state fixed effects to account for mandatory governance provisions in some U.S. states. Scaling of coefficients (where applicable) is denoted in parentheses to the right of variable names. *Donations Growth* and the *Fundraising Dummy* are excluded from the *Fundraising Ratio* regression (column III) to avoid a potentially spurious relationship between the dependent and independent variables. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.

**Table B9: Estimation of excess liquid asset levels.**

<i>CV(Total Revenue)</i>	1.1967*** (0.000)
<i>Log(Total Revenue)</i>	-0.0505*** (0.000)
<i>Access to Debt</i>	0.0399 (0.150)
<i>CV(Total Revenue) x Access to Debt</i>	-0.2945*** (0.002)
Intercept	1.2350*** (0.001)
N	6,867
Adj. R <sup>2</sup>	0.233
Industry Fixed Effects?	Yes
Year Fixed Effects?	Yes
State Fixed Effects?	Yes

The results represent a pooled regression of *Liquid Assets/Total Expenses* (i.e., “liquid asset levels”) on determinants as in Core, Guay, and Verdi (2006). Excess liquid assets levels are defined to be the residual from this model when estimated on a fiscal year-specific basis. See Appendix A for variable definitions. Industry classifications are based on the 26 NTEE major groupings. All continuous variables are winsorized at the 1<sup>st</sup> and 99<sup>th</sup> percentiles. p-values are shown in parentheses. \*, \*\*, \*\*\* indicates significance at the 0.10, 0.05, 0.01 level for a two-tailed test.