Large Sample Evidence of the Determinants of Nonprofit Monitoring Costs: A Resource Dependence Framework

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ABSTRACT: Despite the importance of audit and accounting services in nonprofit organizations, few studies have examined determinants of these monitoring costs in this setting. This study provides large sample evidence (n = 32,283 nonprofit entity-years) that reliance on external resources in the form of government grants is associated with higher monitoring costs, and that this effect is increased for large nonprofit organizations. In contrast, reliance on direct contributions, which are more likely to comprise smaller amounts from a more diverse group of resource providers, is associated with lower monitoring costs. We also find that, for larger nonprofits, reliance on internal resources (e.g., investment income) is associated with lower monitoring costs. These results are consistent with the tenets of resource dependence theory, i.e., reliance on certain external support that is hard to replace results in increased monitoring costs, and reliance on internal resources can reduce monitoring costs. These results demonstrate the implications of resource dependence on monitoring and offer practical benefit from the predictive models.

Keywords: nonprofit organizations; monitoring costs; audit fees; resource dependence; government grants.

Data Availability: Data are available from sources indicated in the text.

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INTRODUCTION

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esponsible for meeting social objectives that might otherwise be left unfilled, the nonprofit sector comprises 2.3 million organizations, which contribute 5.5 percent of the U.S. gross domestic product (Blackwood, Roeger, and Pettijohn 2012). Monitoring by stakeholders, including resource providers, is important for ensuring adequate stewardship in meeting these social objectives. Audits are a common monitoring tool and are often required by state authority or by granting agencies as a condition of funding.1 Audits lend credibility to the financial statements, affording nonprofit stakeholders the opportunity to make better decisions with the information contained within the statements. However, the costs of audits and other monitoring may also be viewed as detracting from the organization’s ability to meet its mission. Understanding the determinants of monitoring costs2 may assist nonprofit organizations in negotiating audit pricing (Symonds 2013) and evaluating whether and to what degree dependence on external resources affects monitoring costs (Pfeffer and Salancik 2003). Despite the interest that nonprofit stakeholders, including external resource providers, regulators (federal, state, and local authorities), and beneficiaries, may have in understanding the determinants of monitoring costs, including the effects of resource dependence, little research has been conducted in this area.3

In this study, we employ a resource dependence framework to interpret empirical evidence regarding the determinants of nonprofit monitoring costs, inclusive of audit fees. Fundamentally, resource dependence theory posits that increased dependence on external (internal) resources results in additional (lower) monitoring costs (Pfeffer and Salancik 2003; Miller-Millesen 2003; Ulrich and Barney 1984), which is generally consistent with agency theory (Gaver and Im 2014).4 The few extant nonprofit audit fee studies have been limited to smaller samples consisting almost entirely of large nonprofit organizations (Vermeer, Raghunandan, and Forgione 2009a; Beattie, Goodacre, Pratt, and Stevenson 2001). We use accounting fees reported on Form 990 as a proxy for monitoring costs, inclusive of audit fees (Tate 2007; Pearson, Brooks, and Neidermeyer 1998),

1 Per the Multi-State Filer Project’s Unified Registration Statement, some states (22 of 50 states in 2008) require audits of nonprofit organizations. While audit requirements may differ by state, often the size of the nonprofit organization dictates whether an audit conducted in accordance with Generally Accepted Accounting Standards (GAAS) is required. State-by-state requirements are available from the website of the Multi-State Filer Project at: http://multistatefiling.org/ and from annual Multistate Guide to Regulation and Taxation of Nonprofits published by Commerce Clearing House.

2 We define monitoring costs as accounting fees as reported in Form 990, which include audit fees and other fees paid to external accountants. We limit our sample to nonprofit organizations that are required to have an audit based on state-specific criteria, and for a subset of our sample, audit fees comprise approximately 90.8 percent of accounting fees.

3 Freeman (1984, 46) defines a stakeholder as “any group or individual who can affect or is affected by the achievement of an organization’s objectives.” As such, external resource providers (e.g., donors) are among a nonprofit organization’s stakeholders.

4 Agency theory has been used in nonprofit studies, despite the absence of owners. Generally, these studies have considered resource providers (e.g., donors) as principals and managers as agents and examined the resulting agency costs associated with the monitoring imposed by resource providers (Fama and Jensen 1983a, 1983b). Resource dependence theory may be more directly applicable to nonprofits, as it explicitly considers an organization’s need for resources, and that in procuring external resources, the nonprofit’s decisions and actions may be affected. Both theories support a positive association between reliance on external resource providers and monitoring costs.

5 Accounting fees are reported on Line 11c of Form 990, Return of Organization Exempt from Tax, and includes, “accounting and auditing fees charged by outside firms and individuals” (IRS 2008).
allowing us to extend our examination to a larger sample that also includes smaller and more diverse nonprofit organizations. In a sample of nonprofit organizations subject to state-specific audit requirements (n = 32,283 over the period 1998 through 2008), we model monitoring costs as a series of externally generated resources (disaggregated components of public support including direct contributions, indirect contributions, and government grants; debt; and program revenues, e.g., fee-for-service contracts), as well as internally generated resources (e.g., investment income).6

In the full sample, we find positive associations between reliance on government grants and monitoring costs, and a negative association between reliance on direct contributions and monitoring costs. This result is consistent with resource dependence theory, i.e., reliance on external resources of large amounts that are difficult to replace, e.g., government grants, imposes significant costs, while reliance on external resources that are obtained from multiple, more diversified sources, e.g., direct contributions, may mitigate resource dependence and result in lower monitoring costs.

We also consider whether the effects of resource dependence differ based on nonprofit size, given the variation in the size of the organizations in our sample. Central to resource dependence theory is the balance of power between the nonprofit organization and the resource provider, i.e., the degree to which a nonprofit is dependent upon a resource provider is shaped by the ability of the nonprofit to acquire alternative resources (Malatesta and Smith 2014). In contrast with small nonprofit organizations, large nonprofit organizations may have the wherewithal to obtain replacement funding if funding is lost. However, if the lost funding is a significant amount (e.g., large government grants), then there may be scarce opportunities for equivalent resources to replace it. When we incorporate size of the nonprofit as a potential moderating variable7 in our analyses, we find that large nonprofit organizations incur additional monitoring costs associated with government grants. In addition, we find that these large nonprofits experience lower monitoring costs associated with reliance on internal resources in the form of investment income.

We replicate these primary analyses in three major National Taxonomy of Exempt Entities (NTEE) categories, including health (n = 10,595), human services (n = 6,660), and education (n = 7,992).8 Consistent with the primary analyses, government grants are associated with higher monitoring costs in all three models, and direct contributions are associated with lower monitoring costs in two of the three NTEE categories (health and human services). Furthermore, among large nonprofits in all three categories, investment income is associated with lower monitoring costs. One notable difference is that the moderating effect of size on the association between government grants and monitoring costs is only found in the education NTEE category.

Our study of the determinants of nonprofit monitoring in a resource dependence framework extends the literature in two ways. First, this large sample allows us to test models of audit and accounting fees across a wider cross-section of nonprofits than previous studies’

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6 We treat investment income as an internally generated resource (Gaver and Im 2014). The earnings are generated from previous donor gifts (e.g., fixed assets or cash donations), and they do not rely on additional contributions from the original donors.

7 We use the term “moderate” to indicate that a variable, such as size, changes (either increases or decreases) the strength of a relationship between another independent variable and a dependent variable (Baron and Kenny 1986).

8 These three NTEE categories comprise 78 percent of our sample. The other two major NTEE categories are (1) arts, culture, and humanities; and (2) public and societal benefit. Refer to Table 2 for sample composition.
samples (Vermeer et al. 2009a; Beattie et al. 2001). Because our sample is limited to nonprofit organizations that are subject to state-specific requirements for having an audit and audit fees comprise the majority of accounting fees, the resulting model may therefore provide practical benefit to nonprofit stakeholders seeking to benchmark nonprofit audit fees. Second, we build upon Vermeer et al. (2009a) by considering a wider range of resource dependence variables, most notably adding internal resources (i.e., investment income), which has not been previously examined. The design provides a robust test of the complementary aspects of resource dependence in this setting, i.e., external support in the form of government grants results in increased monitoring costs in the full sample and internal support results in decreased monitoring costs for large nonprofit organizations. Furthermore, the analyses suggest that some external resources, e.g., direct contributions, may mitigate the monitoring costs imposed by other external resources, e.g., government grants. These results should be of interest to nonprofit organizations and their governing boards in their efforts to shape revenue portfolios to minimize monitoring costs (Gaver and Im 2014; Vermeer, Raghunandan, and Forgione 2006).

In the sections that follow, we present the development of our hypotheses in the second section; present our methodology, including empirical models, sources of data and sample selection, and descriptive statistics in the third section; present our empirical results in the fourth section; and conclude with implications of the study in the fifth section.

DEVELOPMENT OF HYPOTHESES

Resource dependence theory posits that external resource providers may impose monitoring costs on an organization (Pfeffer and Salancik 2003). Dhaliwal, Radhakrishnan, Tsang, and Yang (2012) note that, among a firm’s stakeholders, external resource providers control resource supply and may therefore significantly influence its operations. Operating in uncertain environments, organizations therefore seek to manage resources to minimize the monitoring costs associated with external resources. This resource management is important in the nonprofit setting, as the external resource providers are diverse, including donors (individual, corporate, and foundation), feeder organizations (e.g., United Way), government agencies via grants, banks and other lenders, as well as the beneficiaries of nonprofit services or other entities on their behalf (e.g., insurance providers and government agencies via fee-for-service arrangements through Medicare and Medicaid). Nonprofit organizations may also rely on internally generated support through investments obtained from previous endowment gifts and other accumulated donations. These internal resources may, following resource dependence theory, mitigate the need for external resources and therefore reduce monitoring costs. Figure 1 presents a graphical depiction of these external and internal resources available in the nonprofit setting, and we expect external (internal) resources to be associated with higher (lower) monitoring costs.

Monitoring costs in the form of audit fees have been studied extensively in the for-profit setting. Simunic’s (1980) seminal work provides evidence, via analytical modeling and regression analyses, that characteristics of the audit client including size, complexity, risk characteristics of the assets, and industry impact audit fees. Subsequent studies of audit fees in the for-profit setting generally affirm these findings.9 Determinants studied range from the

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9 Hay, Knechel, and Wong (2006) provide a meta-analysis of this body of literature. They analyze 147 audit fee studies over the period 1977 through 2003, with 144 addressing for-profit entities.
FIGURE 1
Research Model

EXTERNAL RESOURCES
- Providers
  - Individual and Corporate Donors and Foundations
  - Feeder Organizations
  - State and Local Governments
  - Federal Government
- Revenues/Support
  - Direct Contributions
  - Indirect Contributions
  - State and Local Government Grants and Federal Grants below Single Audit Threshold
  - Federal Government Grants resulting in Single Audit
  - Banks and Other Lenders
  - Beneficiaries, and Other Providers on Their Behalf (e.g., Insurance)

INTERNAL RESOURCES
- Investment Income

NONPROFIT ORGANIZATIONS

MONITORING
Accounting and Audit Fees

CONTROL VARIABLES
Program Ratio, Executive Compensation, Total Assets, Accounts Receivable/Inventory, Current Ratio, December Year-End, NTEE Categories, Years, and States
adoption of International Financial Reporting Standards (Kim, Liu, and Zheng 2012; De George, Ferguson, and Spear 2013) to social capital (Jha and Chen 2015), and they use samples that span U.S. and international firms, industries, and various client sizes (e.g., Peel and Roberts [2003] and Francis and Simon [1987] study audit fees among smaller clients). Although to a lesser degree, audit fees among government organizations have also been studied, with some results consistent with the for-profit audit fee literature. For example, Rubin (1988) provides evidence that size, complexity, and exposure to loss are associated with audit fees among a sample of 189 cities. In addition, evidence also suggests that setting-specific factors, e.g., political factors, affect government audit fees (Baber, Brooks, and Ricks 1987; Baber 1983).10,11

These studies provide a foundation for emerging studies of the determinants of nonprofit audit fees, with some consistent findings. Vermeer et al. (2009a), for example, find in a sample of 125 large U.S. nonprofit organizations that factors studied in the for-profit and governmental settings—size, complexity, and risk are associated with audit fees. Beattie et al. (2001) report similar findings among a sample of 210 large U.K. charities. The nature of nonprofit organizations, however, also requires consideration of unique factors that may be associated with audit fees. Employing resource dependence theory, Vermeer et al. (2009a) incorporate external resource dependence variables specific to this nonprofit setting including contributions and federal grants that require a Single Audit, i.e., one conducted in accordance with Office of Management and Budget (OMB) Circular A-133. They find that dependence on external resources including the Single Audit and debt are positively associated with audit fees. In the only study we are aware of which examines the determinants of nonprofit accounting and audit fees, Pearson et al. (1998) report program ratio (i.e., the ratio of program expenses to total expenses) and executive compensation, commonly scrutinized nonprofit metrics, as determinants.

Dhaliwal et al. (2012) and Chen (2009) utilize resource dependence theory to explain relationships between a for-profit organization and its stakeholders. Like for-profit organizations, nonprofit organizations also depend upon scarce external resources. Resource dependence theory may help explain the monitoring costs imposed on nonprofit organizations by external stakeholders.12 For example, using this theory, empirical evidence suggests that nonprofit dependence on external resources is associated with (1) lower excess CEO compensation (Gaver and Im 2014);13 (2) nonprofit audit committee composition (Vermeer et al. 2006) and activities

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10 Municipal audit fees are reported to have decreased in real dollars over the 1970s through the 1990s as a result of increased competition (Sanders, Allen, and Korte 1995; Jensen and Payne 2005). Ward, Elder, and Kattelus (1994) suggest that the number of audit adjustments is greater in the public sector environment than in the private sector, also having implications for audit fees.

11 As other examples of setting-specific factors, Fischer, Johnson, and Elder (2004) examine the role of endowments and student enrollments in shaping university audit fees, and Copley, Doucet, and Gaver (1994) examine the relationship between quality control review outcomes and audit fees among federal grant awardees.

12 Agency theory has also been used to examine monitoring costs in nonprofit organizations (e.g., Core, Guay, and Verdi 2006). Agency theory and resource dependence theory are complementary. Refer to Hillman and Dalziel (2003) and Hillman, Withers, and Collins (2009) for an integration of agency and resource dependence theories in the firm setting. Refer to Gaver and Im (2014) for an application of these theories in the nonprofit setting.

13 Gaver and Im (2014) hypothesize and find that, due to the monitoring induced by government grants, nonprofits will be constrained in setting executive compensation.
and (3) the likelihood that nonprofits would follow their Arthur Andersen audit teams to a new firm (Vermeer 2008).15

Essentially, the acquisition of external resources transfers some control of the nonprofit organization to the resource provider (Pfeffer and Salancik 2003), where external resources for a nonprofit organization include revenues—contributions including government grants, as well as program revenues (Kearns 2007)—and debt. With regard to revenue resources specifically, two primary strategies include (1) developing primary revenue streams that provide stability (Grønbjerg 1992), and (2) emphasizing revenue diversification that offers the benefits of decreased revenue volatility (e.g., Carroll and Stater 2009; Galaskiewicz and Bielefeld 1998; Bielefeld 1992; Galaskiewicz 1990). Resource dependence theory is particularly relevant to the second strategy, as it suggests that organizations attempt to manage revenue portfolios—and resources more broadly—such that reliance on external resources is minimized, retaining greater control over their operations and minimizing monitoring costs (Pfeffer and Salancik 2003; Ulrich and Barney 1984).

In formulating our hypotheses, we consider the external resource dependence variables studied by Vermeer et al. (2009a), including contributions, debt, and federal funding that necessitates a Single Audit. In addition, we incorporate program service revenue as an additional external resource that may include government contracts structured as fee-for-service arrangements (e.g., Medicaid and Medicare revenues), as well as other exchange-based revenues (e.g., admission fees charged to museum patrons).16 Previous studies do not consider the role of internally generated resources; we therefore also include investment income (internal resource that does not depend upon the receipt of new resources, but rather is generated from prior contributions). We expect that reliance on external resources results in higher monitoring costs and reliance on internal resources will result in lower monitoring costs (Gaver and Im 2014). Based on these tenets of resource dependence theory, we formalize two complementary hypotheses:

H1a: Dependence on external resources varies directly with monitoring costs.

H1b: Dependence on internal resources varies inversely with monitoring costs.

We further consider the differential impact that various types of external resources can have on monitoring costs in large nonprofit organizations. Government grants impose significant

14 Vermeer et al. (2006) and Vermeer et al. (2009b) posit that resource dependence is associated with increased monitoring, which is operationalized with nonprofit audit committee compositions (e.g., more independent members, having a financial expert on the committee) and increased audit committee activities (e.g., number of meetings with external auditors).

15 Vermeer (2008) posits that the monitoring associated with external resources will decrease the likelihood that nonprofits will follow their Arthur Andersen audit team to another firm.

16 The IRS (2008, 30) states: “Program service revenue includes income earned by the organization for providing a government agency with a service, facility, or product that benefited that government agency directly rather than benefiting the public as a whole. Program service revenue also includes tuition received by a school, revenue from admissions to a concert or other performing arts event or to a museum; royalties received as author of an educational publication distributed by a commercial publisher; interest income on loans a credit union makes to its members; payments received by a Section 501(c)(9) organization from participants for health and welfare benefits coverage; insurance premiums received by a fraternal beneficiary society; and registration fees received in connection with a meeting or convention.”
monitoring costs (Gaver and Im 2014; Tate 2007; Vermeer et al. 2006), and although relatively stable, have been linked to decreased autonomy and increased monitoring activities for the recipient organization (Froelich 1999; Rushton and Brooks 2007). Grantors may impose additional monitoring when there is increased financial and reputational risk associated with funding larger nonprofit organizations, which are more likely to receive single awards that are larger than those received by smaller nonprofit organizations. Malatesta and Smith (2014) suggest that power is the inverse of resource dependence, and Pfeffer and Salancik (2003, 259) state: “To the extent participants furnish resources that are more critical and scarce, they obtain more control over the organization.” This would suggest that nonprofit size might exacerbate the impact of government grants on monitoring costs. However, large nonprofit organizations may have the network, reputation, and skills to replace such awards. We explore the potential moderating effect of size on the relationship between government grants and monitoring costs in the following hypothesis, stated in the null form:

**H2:** The association between monitoring costs and government grants is independent of nonprofit size.

Finally, we also incorporate analyses to examine whether there are differential effects across nonprofit types as an extension of the primary tests designed to evaluate full sample effects of resource dependence. Wilsker and Young (2010) and Fischer, Wilsker, and Young (2011) suggest that the publicness of the services provided is related to a nonprofit organization’s revenue mix. For example, Similarly, Kerlin and Pollak (2011) identify health and education nonprofits as outliers in terms of revenue composition, i.e., they provide private benefits to patients or students. These organizations likely have a revenue mix that emphasizes program service revenues rather than donations, which may have implications for resource dependence. We therefore conduct additional analyses by NTEE category.

**METHODOLOGY**

**Empirical Model and Variables**

To test the hypotheses above, we estimate regression models that build upon nonprofit (Vermeer et al. 2009a; Beattie et al. 2001; Pearson et al. 1998) and for-profit audit fee literature (e.g., Simunic 1980; Francis and Wang 2005), as well as Pearson et al. (1998), who examine monitoring costs more broadly. We include both external and internal resource variables, as well as control variables. We also incorporate robust, clustered errors on nonprofit organization (Petersen 2009). The model is depicted below:

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17 Rushton and Brooks (2007, 89) state: “Resource dependency refers to the case in which nonprofits become overly reliant on government as a source of funds.” In exploring the risks of over-reliance on government funding, Rushton and Brooks (2007, 89) also state: “The clear implication of these dangers is that nonprofits are wise to diversify funding sources to the extent that they can, not relying excessively on government funding” (emphasis in the original).

18 Antonsen and Jorgensen (1997, 337) define publicness as “organizational attachment to public sector values: for example, due process, accountability, and welfare provision.” The publicness of a nonprofit has been defined by how public the services are that it provides (Fischer et al. 2011) and by a collectiveness index that captures the ratio of donations to total revenues for nonprofits, where a nonprofit that has a higher donations revenue ratio is presumed to be more public (Weisbrod 1988).
LAFEES_{it} = \beta_0 + \beta_1 \text{DIRECT_RATIO}_{it} + \beta_2 \text{UMBRELLA}_{it} + \beta_3 \text{GRANT_SINGLE}_{it} + \beta_4 \text{DEBT}_{it} + \beta_5 \text{PROG_REV}_{it} + \beta_6 \text{INV_INC}_{it} + \beta_7 \text{SIZE}_{it} \\
+ \beta_8 \text{SIZE}_{it} \times \text{GRANT_SINGLE}_{it} + \beta_9 \text{SIZE}_{it} \times \text{INV_INC}_{it} + \beta_{10} \text{PROGRAM}_{it} + \beta_{11} \text{LCOMP}_{it} + \beta_{12} \text{LTA}_{it} + \beta_{13} \text{ARINV}_{it} + \beta_{14} \text{CURRENT}_{it} + \beta_{15} \text{DECEMBER}_{it} + \beta_{16} \text{STATE_EFFECTS}_i + \beta_{17} \text{NTEE INDUSTRY}_i + \beta_{18} \text{YEAR FIXED EFFECTS}_t + \epsilon_{it} (1)

As a proxy for monitoring costs, the dependent variable, LAFEES, is accounting fees reported on Line 11c of Form 990 and obtained from the NCCS SOI database (Tate 2007; Pearson et al. 1998). We limit our sample to those nonprofit organizations that are subject to state-specific audit requirements for the specified year, resulting in a dependent variable that is inclusive of audit fees given the emphasis in the prior literature (e.g., Vermeer et al. 2009a). The Commerce Clearing House (2012, 1114) defines accounting fees as follows:

Accounting fees include fees paid for audit, tax, and bookkeeping services to outside accountants. Salaries paid to current or former board members or employees performing accounting functions are reported in either officer compensation (Line 5 or 6) or other salaries (Line 7).

We use a log transformation on the fees variable to address skewness in the measure, consistent with both the for-profit (e.g., Francis and Wang 2005) and nonprofit audit fee literature (Vermeer et al. 2009a; Pearson et al. 1998).

We disaggregate contributions that have been included in previous models as an aggregate measure (Vermeer et al. 2009a; Pearson et al. 1998). The components reported on Form 990 are (1) direct contributions, (2) indirect contributions, and (3) government grants. Our use of disaggregated components of contributions allows us to consider unique implications of various...

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19 Accounting fees are inclusive of audit fees and specifically exclude internal accounting expenses. For a subset of our sample, we compare this accounting fees variable to audit fees. We use data from the Cultural Data Project (CDP) database, which began collecting information in 2002 from arts and cultural organizations that voluntarily remit this information in order to be considered for certain grant opportunities. Instructions for completing the CDP submission (CDP 2014) state: “How much did your organization spend to retain a public accounting firm to perform your organization’s annual audit or review?” As more fully described in the sample selection, we limit our sample to those nonprofit organizations that can reasonably conclude are subject to audits based on state criteria. When we then match our sample to the CDP database for our sample period, it can be reasonably assumed that the CDP variable captures audit (rather than review) fees. There were 265 matching observations, and the correlation between total assets from the two databases was 0.9918, with p < 0.01. For the 265 matching observations, audit fees comprise approximately 90.8 percent of accounting fees (r = 0.8579; p < 0.01).

20 The IRS (2008) defines direct support as “contributions, gifts, grants, and bequests that the organization receives directly from the public.” These amounts can be cash or noncash, and they can be received from individuals, foundations, or other nongovernmental entities. In contrast, indirect support is defined as “contributions received indirectly from the public through solicitation campaigns conducted by federating fundraising agencies and other similar fundraising organizations” (IRS 2008; emphasis added). The IRS cites the United Way as a common intermediary for indirect support. These contributions differ from direct support in that resource providers may require different monitoring, perhaps placing more requirements on the intermediary, rather than the ultimate recipient nonprofit organization. The last category, government grants, is defined by whether its purpose is to “enable the donee to provide a service to, or maintain a facility for, the direct benefit of the public rather than to serve the direct and immediate needs of the grantor even if the public pays part of the expense of providing the service or facility” (IRS 2008). Basically, the government grants category captures contributions that are designed to further the nonprofit’s mission and not to subcontract government services.
external resources. While direct support may comprise many smaller contribution amounts, indirect support and government grants are more likely to include larger individual grants, gifts, or contributions. Resource dependence is shaped in part by the scarcity of the type of support, suggesting that the larger individual gifts that may be expected from indirect support and government grants may be associated with higher monitoring costs.\textsuperscript{21} Disaggregating contributions also allows us to explore conflicting findings in prior studies.\textsuperscript{22}

Our external resource dependence variables include \textit{DIRECT\_RATIO}, measured as direct contributions, scaled by total revenue; \textit{UMBRELLA}, a dichotomous variable equal to 1 if the nonprofit organization reports indirect contributions (Gaver and Im 2014); \textit{GRANT\_SINGLE}, a dichotomous variable equal to 1 if the nonprofit organization reports government grants on its Form 990 or is subject to a Single Audit in the specified year (Gaver and Im 2014);\textsuperscript{23} \textit{DEBT}, measured as bonds and mortgages scaled by total assets; and \textit{PROG\_REV}, measured as program service revenues scaled by total revenues. Support for H1a is indicated by a positive coefficient on these variables. We also include reliance on internal resources, \textit{INV\_INC}, which includes investment income and rent income, scaled by total revenue.\textsuperscript{24} Support for H1b would be indicated by a negative coefficient on this variable. The model incorporates the interaction effects of each of two resource dependence variables (\textit{GRANT\_SINGLE} and \textit{INV\_INC}) with \textit{SIZE}, which is a dichotomous variable that captures whether each nonprofit organization’s total assets are above the sample median. A significant coefficient on the first of these interaction terms would support H2. All variables are winsorized at the 1 percent level (J. Krishnan, J. Krishnan, and Song 2011) and defined fully in Table 1.

We also include two nonprofit-specific control variables (Pearson et al. 1998). The first nonprofit-specific risk variable is program ratio, \textit{PROGRAM}, and it is measured as the ratio of program expenses to total expenses, a commonly used measure of efficiency in the nonprofit sector. This ratio has been empirically linked to donations and executive compensation in the nonprofit setting (Krishnan, M. Yetman, and R. Yetman 2006; Baber, Daniel, and Roberts 2002; Tinkelman 1998; Okten and Weisbrod 2000). Despite its potential usefulness to donors, its reliability is questioned in the literature in part due to the unaudited nature of the IRS Form 990, from which the ratio is generally derived, as various studies have documented both intentional and unintentional misstatement of this important ratio (Keating, Parsons, and Roberts 2008; Krishnan et al. 2006; Jones and Roberts 2006; Tinkelman 1998). Furthermore, recent evidence suggests that donors may discount the program ratio when there are indicators of misstatement such as zero fundraising expenses reported (M. Yetman and R. Yetman 2013). Fundamentally, a program ratio that would otherwise be preferable (a percentage that nears 100 percent) may

\textsuperscript{21} In addition, the nonprofit literature emphasizes the importance of revenue diversification in this setting, giving us further support for disaggregating contributions into its three components. For comprehensive discussions of nonprofit revenue portfolio strategy, see Kearns (2007), Froelich (1999), and Chang and Tuckman (1994).

\textsuperscript{22} While Vermeer et al. (2009a) report no statistical association between contributions and audit fees, Pearson et al. (1998) report a negative association, and Beattie et al. (2001) report a positive association.

\textsuperscript{23} We tested our models for multicollinearity. Program revenue, \textit{PROG\_REV}, had a variance inflation factor (VIF) greater than 10 when all of our resource dependence variables are continuous. We follow Gaver and Im (2014) in using a dichotomous variable to measure our resource dependence variables’ indirect contributions, \textit{UMBRELLA}, and government grants and single audits, \textit{GRANT\_SINGLE}, to eliminate problems with multicollinearity.

\textsuperscript{24} We follow Gaver and Im (2014) in measuring investment income, \textit{INV\_INC}, as interest revenue, dividend revenue, net rent revenue, net gains from sales of assets other than inventory, and other investment income.
| Variable | Description |
|----------|-------------|
| **Dependent Variable** | |
| LAFEES  | log of accounting fees ($) from Form 990 (Line 31); |
| **Resource Dependence Variables** | |
| DIRECT_RATIO | measured as the ratio of direct contributions from Form 990 (Line 1a) scaled by total revenue from the Form 990 (Line 12); |
| UMBRELLA | 1 if a nonprofit received indirect contributions in the current year from Form 990 (Line 1b), and 0 otherwise; |
| GRANT_SINGLE | 1 if a nonprofit was subject to a Single Audit (based on Federal Audit Clearinghouse filings) in the current year or received government support (grants) in the current year from Form 990 (Line 1c), and 0 otherwise; |
| DEBT | measured as bonds and mortgages from Form 990 (Lines 64a and 64b) scaled by total assets at end of the year from the Form 990 (Line 59); |
| PROG_REV | measured as the ratio of program revenue from Form 990 (Line 2) scaled by total revenue from the Form 990 (Line 12); |
| INV_INC | measured as the ratio of investment income from Form 990 (interest revenue from Line 4 plus dividend revenue from Line 5 plus net rent revenue from Line 6c plus net gain from sales of assets other than inventory from Line 8d plus other investment income from Line 7) scaled by total revenue from Form 990 (Line 12); |
| SIZE | 1 if nonprofit assets exceed median assets, used to examine the moderating effects of size with resource dependence variables on accounting and audit fees; |
| **Nonprofit-Specific Control Variables** | |
| PROGRAM | measured as program expenses from the Form 990 (Line 13) scaled by total expenses from the Form 990 (Line 17); |
| LCOMP | log of compensation of officers and directors from the Form 990 (Line 25); |
| **Other Control Variables** | |
| LTA | log of total assets at the end of year per the Form 990 (Line 59b); |
| ARINV | measured as the sum of accounts receivables from the Form 990 (Line 47c) and inventory (Line 52) scaled by total assets at the end of the year from the Form 990 (Line 59); |
| CURRENT | measured as cash (Line 45), accounts receivable (Line 47), pledges receivable (Line 48), and grants receivable (Line 49) to accounts payable and accrued expenses (Line 60) and grants payable (Line 61) from the Form 990; |
| DECEMBER | 1 if fiscal year end is December, and 0 otherwise; |
| HEALTH | 1 if NTEE Major Groups E, F, G, or H, and 0 otherwise; |
| HUMAN SERVICES | 1 if NTEE Major Groups I, J, K, L, M, N, O, or P, and 0 otherwise; |
| EDUCATION | 1 if NTEE Major Group B, and 0 otherwise; |
| PUBLIC BENEFIT | 1 if NTEE Major Groups R, S, T, U, V, or W, and 0 otherwise; |
| ARTS | 1 if NTEE Major Group A, and 0 otherwise; and |
| OTHER | 1 if excluded from NTEE Major Groups that include Health, Human Services, Education, Public Benefit, or Arts, and 0 otherwise. |
be viewed as having been manipulated—i.e., it is too good to be true. This indication of manipulation may also signal audit risk, and therefore may be associated with higher monitoring costs.

The second nonprofit-specific risk variable is executive compensation, \( LCOMP \). Baber et al. (2002) document differences in the monitoring of compensation between the for-profit and nonprofit sector. In the absence of residual claimants, nonprofit organizations may be scrutinized by regulatory bodies if their executive compensation is not viewed as fair and reasonable (GuideStar 2011). Executive compensation in charitable organizations has received national media attention, e.g., the compensation of Boys & Girls Clubs of America Executive Director Roxanne Spillett was challenged by Senator Chuck Grassley (Perry 2010). While balancing fiscal responsibility with the need to pay competitive salaries to attract and retain the best executive talent is generally viewed as favorable, achieving this balance in practice may prove challenging. As a result, higher executive compensation may draw additional regulatory attention that, at the extreme, could result in revocation of tax-exempt status (GuideStar 2011).\(^{25}\) This increased risk may also result in higher monitoring costs.

Guided by the extant literature, we include a number of additional control variables. Vermeer et al. (2009a) employ two measures of auditee complexity: size and asset composition. Fundamentally, large nonprofit organizations are likely more complex and therefore require additional monitoring in the form of audit procedures. Consistent with the audit fee literature, we use the natural logarithm of total assets (\( LTA \)), as a proxy for size. We expect \( LTA \) to have a positive and significant relationship with accounting and audit fees. Certain assets may be more vulnerable to the risk of loss and/or require more judgment in their estimation. In the for-profit audit fee literature, Simunic (1980) described accounts receivable and inventory as having greater loss exposure. The nonprofit audit fee literature has also incorporated a sum of these two accounts, scaled by total assets, as a variable that proxies for complexity (Vermeer et al. 2009a; Pearson et al. 1998; Ellis and Booker 2011). Consistent with both literature streams, we expect a positive and significant relationship between \( ARINV \) and monitoring costs.

Liquidity has also been documented as having a relationship with monitoring costs in various organization types. Within the for-profit audit fee literature, Gul and Goodwin (2010) document a negative association between credit ratings quality and audit fees, suggesting that more liquid firms pose less risk to auditors. Similarly, liquidity has been shown to be inversely related to audit fees in the nonprofit sector (e.g., Vermeer et al. 2009a). We include \( CURRENT \), measured as current assets scaled by current liabilities, as a proxy for liquidity (Krishnan and Yetman 2012; Keating et al. 2008; Tuckman and Chang 1991; Verbruggen, Christiaens, Reheul, and Van Caneghem 2015) and expect an inverse relationship with monitoring costs.\(^{26}\)

Beattie et al. (2001) incorporate workload compression into their model of nonprofit audit fees. Whether in the nonprofit or for-profit setting, auditors may increase their audit fees in their busy season to price their services to incorporate the difficulty of completing the audit in a timely manner.

\(^{25}\) GuideStar (2011) discusses the standard for “fair and reasonable” compensation for nonprofit executives, as well as a summary of recent cases in which nonprofit executive compensation levels have been challenged. The consequences for compensation that are deemed excessive can range from fines to revocation of tax-exempt status.

\(^{26}\) Nonprofit organizations do not have to present a classified balance sheet, and Form 990 also does not classify assets and liabilities as current or noncurrent. In the alternative, we measure the current ratio as the sum of cash, accounts receivable, pledges receivable, and grants receivable, scaled by the sum of accounts payable and accrued expenses and grants payable, consistent with Krishnan and Yetman (2012).
manner. In a for-profit setting, Lopez and Peters (2012) find that 64 percent of fiscal year-ends occur in December, and that audit quality may be adversely affected as a result. Although 80.5 percent of the nonprofit organizations in their U.K. sample have fiscal year-ends occurring in December or March, Beattie et al. (2001) find no statistical effect of their corresponding workload compression variable. It is unclear why their measure of workload compression did not reveal a statistically significant impact on audit fees. However, consistent with intuition and the previous empirical results of Lopez and Peters (2012), we expect that the presence of a December fiscal year-end will be positively associated with monitoring costs.27

We control for fixed effects associated with differences in state regulations of nonprofit organizations (Desai and Yetman 2015), as well as NTEE industry and year effects (Petrovits, Shakespeare, and Shih 2011; Keating, Fischer, Gordon, and Greenlee 2005). For purposes of isolating industry-specific effects, we employ the major NTEE categories: health, human services, education, arts, human services, public benefits, and other; where the “other” category is included in the intercept. The remaining NTEE category variables therefore capture the intercept shift associated with a particular NTEE classification, relative to the other category. For the year effects, the first year (1998) of the sample period is considered by the intercept.

We also replicate Model 1 in three specific industries that comprise the largest portion of our sample—health, human services, and education. The primary analyses include control variables for the major NTEE categories; however, we acknowledge that these dichotomous variables only capture the intercept shift associated with each industry. Two of the three industries analyzed that are especially unique are (1) education, and (2) healthcare (Kerlin and Pollak 2011). In these two industries, fee-for-service revenues—tuition fees and patient charges—constitute a significant portion of revenues. This suggests that these organizations provide services that carry private rather than public benefit (Fischer et al. 2011; Wilsker and Young 2010). As a result, it could be, in these settings, that diversifying revenues (i.e., securing direct or indirect public support) could decrease monitoring costs as a result of shifting, to the degree possible, emphasis from the more common revenue stream (tuition fees and patient charges). In these analyses, we examine differences in parameter estimates across the three industries.

Data

IRS Form 990 financial information is obtained from the National Center for Charitable Statistics (NCCS) operated by the Urban Institute. We employ the Statistics of Income (SOI) database in our analyses, which provides financial information for nonprofit organizations, including our variable of interest—accounting and audit fees. The SOI database includes nonprofit organizations exceeding a specified size and a sample of other nonprofit organizations below the

27 However, the amount of time allowed for completing a nonprofit audit is nine months when subject to the Single Audit. Therefore, workload compression may not be as significant. In addition, it should be noted that the sample in Beattie et al. (2001) is comprised entirely of very large charitable nonprofit organizations in the U.K., which may have some implications for this anomalous finding. More specifically, an audit firm may not incorporate a premium for busy season for such an organization, particularly if the other elements of such an audit result in price premiums, i.e., size and complexity.
specified size, and is designed to represent all nonprofit organizations.\textsuperscript{28} We also utilize the database provided by the Federal Audit Clearinghouse to determine whether the nonprofit organizations in our sample are subject to an A-133 audit (i.e., Single Audit) for each of the years in our sample from 1998–2008. The resulting dataset includes 164,441 nonprofit entity years (23,992 unique nonprofits). In order to ensure that our dependent variable, monitoring costs, includes audit fees, we remove from the sample any nonprofit organizations that were not subject to state audit requirements, following an approach similar to Yetman and Yetman (2012, 2013).\textsuperscript{29} This results in the elimination of 95,676 nonprofit-entity years (12,943 unique nonprofits) from the sample. We also remove observations that are duplicate filings as well as observations that are missing the necessary information for our analyses. Our final sample is 32,283 nonprofit entity-years (6,514 unique nonprofits), and the sample reconciliation is presented in Panel A of Table 2.

Panel B of Table 2 reflects the distribution of the final sample by NTEE classification. As depicted, most of our sample is concentrated in health (10,595 observations; 32.82 percent), human services (6,660 observations; 20.63 percent), and education (7,992 observations; 24.76 percent). The remaining sample comprises public benefits-related nonprofit organizations (2,765 observations; 8.56 percent), arts-related nonprofit organizations (2,380 observations; 7.37 percent), and other nonprofit organizations (1,891 observations; 5.86 percent).\textsuperscript{30}

\textsuperscript{28} The NCCS provides a number of databases, each with its own advantages and disadvantages. We utilize the SOI database because it includes accounting and audit fees that are necessary for our analyses. The Guide to Using NCCS Data states: “The SOI files include more than 300 variables for all 501(c)(3) organizations with $50 million or more in assets (the threshold has ranged from $10 to $30 million in earlier years) and all organizations filing under Sections 501(c)(4) through 501(c)(9) with $10 million or more in assets and a sample of a few thousand smaller organizations per year that is selected to represent the entire universe of nonprofit organizations” (NCCS 2013). Therefore, although the stratified sample in the SOI database excludes some smaller nonprofit organizations, it is designed to represent all nonprofit organizations (NCCS 2013). Smaller nonprofits may move in and out of the database based on the randomized selection each year. We note that we do not include any lagged variables in our study, which would potentially eliminate smaller nonprofit organizations from our sample and result in a sample that is more skewed toward large nonprofit organizations. Yetman and Yetman (2012, 2013) identify two circumstances when nonprofits are required to be audited. First, states may require audits; the state requirements for nonprofit audits are summarized in (1) Commerce Clearing House’s Multistate Guide to Regulation and Taxation of Nonprofits, and (2) on the Multi-State Filer Project website (http://multistatefiling.org/). Second, nonprofits may be required to be audited if receiving feeder organization funds greater than a certain amount (typically greater than $100,000 per Yetman and Yetman [2012, 2013]). In our main analysis, we apply state- and year-specific criteria, e.g., donations and total revenue, obtained from the CCH guide and the Multi-State Filer Project in determining whether a nonprofit organization is subject to audit. This process excludes some nonprofit organizations that may be subject to audit based on other requirements (i.e., feeder organizations and/or grantor agencies), but provides the benefit of assurance that the organizations in our sample were more likely to be subject to audit, consistent with our intent to limit the sample to audited nonprofit organizations and more closely follow the extant literature. In our sensitivity analysis, we include Yetman and Yetman’s (2012, 2013) feeder organization audit requirement. Our results do not change.

\textsuperscript{30} We compare our sample to the sample of Vermeer et al. (2009a), which presents evidence of audit fee determinants for 125 of the largest 1,000 U.S. nonprofit organizations. Their sample is comprised of 54 percent hospitals. In untabulated results, we note that NTEE hospital categories E20, E21, E22, and E24 comprise only 19.6 percent of nonprofits in our sample. Among our sample, hospitals have an average size of $217 million in total assets. Vermeer et al. (2009a) do not provide average hospital size; however, their overall average is $525 million in total assets.
Table 3 presents the descriptive statistics for the sample including means, medians, and standard deviations for each variable, both in the aggregate and by NTEE major classification. The mean (median) accounting and audit fees (AFEES) is $85,004 ($43,159); the mean (median) size, based on assets (ASSETS) is $117 million ($35.59 million); and a December year-end (DECEMBER) is common—reflected in 31.4 percent of the nonprofit-year observations. In terms of revenue sources, which serve as proxies for some of the resource dependence variables in our models, direct contributions (DIRECT_RATIO) comprise 20.1 percent of total revenues, 26.5 percent of nonprofits report indirect contributions (UMBRELLA), and 55.7 percent of nonprofits either report government grants via Form 990 or are subject to a Single Audit in the specified year. PROG_REV captures resource dependence associated with program services revenues, with a

### TABLE 2
Sample Description

#### Panel A: Sample Selection

|                           | Number of Observations 1998–2008 | Number of Entities 1998–2008 |
|---------------------------|-----------------------------------|------------------------------|
| Original data from Statistics of Income (SOI)\(^a\) | 164,441                           | 23,992                       |
| Less:                     |                                   |                              |
| Organizations not subject to audit based on state audit requirements | (95,676)                          | (12,943)                     |
| Multiple reports for same EIN\(^b\)       | (1,775)                           | (228)                        |
| Observations missing data | (34,707)                          | (4,307)                      |
| Full Sample               | 32,283                            | 6,514                        |

\(^a\) Data are available from The Urban Institute.

\(^b\) Removal of multiple organizations filing under the same EIN.

\(^c\) The National Taxonomy of Exempt Entities (NTEE) is a classification system for nonprofit organizations created by the National Center for Charitable Statistics (NCCS).

#### Panel B: Sample by NTEE Classification

| NTEE Classification\(^c\) | Number of Entities 1998–2008 | Percent of Entities 1998–2008 |
|---------------------------|------------------------------|------------------------------|
| Health                    | 10,595                       | 32.82                        |
| Human Services            | 6,660                        | 20.63                        |
| Education                 | 7,992                        | 24.76                        |
| Public Benefit            | 2,765                        | 8.56                         |
| Arts                      | 2,380                        | 7.37                         |
| Other                     | 1,891                        | 5.86                         |
| Full Sample               | 32,283                       | 100.00                       |

Descriptive Statistics

Table 3 presents the descriptive statistics for the sample including means, medians, and standard deviations for each variable, both in the aggregate and by NTEE major classification. The mean (median) accounting and audit fees (AFEES) is $85,004 ($43,159); the mean (median) size, based on assets (ASSETS) is $117 million ($35.59 million); and a December year-end (DECEMBER) is common—reflected in 31.4 percent of the nonprofit-year observations. In terms of revenue sources, which serve as proxies for some of the resource dependence variables in our models, direct contributions (DIRECT_RATIO) comprise 20.1 percent of total revenues, 26.5 percent of nonprofits report indirect contributions (UMBRELLA), and 55.7 percent of nonprofits either report government grants via Form 990 or are subject to a Single Audit in the specified year. PROG_REV captures resource dependence associated with program services revenues, with a
### TABLE 3
Descriptive Statistics

| Variable     | Health (A) | Human Services (B) | Education (C) | Other (D) | All (E)     |
|--------------|------------|--------------------|---------------|-----------|-------------|
| **AFEES**    |            |                    |               |           |             |
| ($ in thousands) | 124.094   | 48.963             | 86.471        | 58.588    | 85.004      |
| Mean         | 124.094    | 48.963             | 86.471        | 58.588    | 85.004      |
| Median       | 71.546     | 25.126             | 47.948        | 28.500    | 43.159      |
| Std. Dev.    | [151.981]  | [80.219]           | [120.466]     | [96.511]  | [124.305]   |
| **DIRECT_RATIO** |          |                    |               |           |             |
| Mean         | 0.070      | 0.164              | 0.193         | 0.443     | 0.201       |
| Median       | 0.003      | 0.045              | 0.111         | 0.415     | 0.058       |
| Std. Dev.    | [0.191]    | [0.247]            | [0.224]       | [0.334]   | [0.283]     |
| **UMBRELLA** |            |                    |               |           |             |
| Mean         | 0.379      | 0.371              | 0.115         | 0.161     | 0.265       |
| Median       | 0.000      | 0.000              | 0.000         | 0.000     | 0.000       |
| Std. Dev.    | [0.485]    | [0.483]            | [0.319]       | [0.368]   | [0.441]     |
| **GRANT_SINGLE** |         |                    |               |           |             |
| Mean         | 0.522      | 0.515              | 0.663         | 0.529     | 0.557       |
| Median       | 1.000      | 1.000              | 1.000         | 1.000     | 1.000       |
| Std. Dev.    | [0.500]    | [0.499]            | [0.473]       | [0.499]   | [0.497]     |
| **DEBT**     |            |                    |               |           |             |
| Mean         | 0.300      | 0.278              | 0.252         | 0.111     | 0.242       |
| Median       | 0.271      | 0.169              | 0.188         | 0.000     | 0.157       |
| Std. Dev.    | [0.262]    | [0.306]            | [0.251]       | [0.221]   | [0.271]     |
| **PROG_REV** |            |                    |               |           |             |
| Mean         | 0.785      | 0.546              | 0.603         | 0.204     | 0.564       |
| Median       | 0.943      | 0.627              | 0.722         | 0.058     | 0.708       |
| Std. Dev.    | [0.322]    | [0.377]            | [0.315]       | [0.282]   | [0.387]     |
| **INV_INC**  |            |                    |               |           |             |
| Mean         | 0.057      | 0.067              | 0.109         | 0.150     | 0.092       |
| Median       | 0.015      | 0.017              | 0.047         | 0.056     | 0.026       |
| Std. Dev.    | [0.145]    | [0.143]            | [0.169]       | [0.226]   | [0.175]     |
| **PROGRAM**  |            |                    |               |           |             |
| Mean         | 0.824      | 0.832              | 0.806         | 0.784     | 0.813       |
| Median       | 0.850      | 0.855              | 0.826         | 0.808     | 0.837       |
| Std. Dev.    | [0.132]    | [0.125]            | [0.112]       | [0.148]   | [0.131]     |
| **LCOMP**    |            |                    |               |           |             |
| Mean         | 13.215     | 11.950             | 12.936        | 12.385    | 12.704      |
| Median       | 13.334     | 11.902             | 13.053        | 12.346    | 12.751      |
| Std. Dev.    | [1.273]    | [1.111]            | [1.113]       | [1.226]   | [1.288]     |
| **ASSETS**   |            |                    |               |           |             |
| ($ in millions) | 152.224   | 34.532             | 166.734       | 84.366    | 116.747     |
| Mean         | 152.224    | 34.532             | 166.734       | 84.366    | 116.747     |
| Median       | 62.950     | 9.701              | 56.342        | 22.749    | 35.59       |
| Std. Dev.    | [252.403]  | [75.656]           | [300.391]     | [182.589] | [233.118]   |

(continued on next page)
TABLE 3 (continued)

| Variable | Health (A) | Human Services (B) | Education (C) | Other (D) | All (E) |
|----------|------------|--------------------|---------------|-----------|---------|
|          | ARINV      |                    |               |           |         |
| Mean     | 0.198      | 0.133              | 0.061         | 0.089     | 0.127   |
| Median   | 0.142      | 0.032              | 0.014         | 0.006     | 0.036   |
| Std. Dev | 0.242      | 0.272              | 0.169         | 0.262     | 0.244   |
| CURRENT  |            |                    |               |           |         |
| Mean     | 3.614      | 5.828              | 5.643         | 11.477    | 6.287   |
| Median   | 1.282      | 1.574              | 1.459         | 2.188     | 1.470   |
| Std. Dev | 17.779     | 21.899             | 21.328        | 34.251    | 24.068  |
| DECEMBER |            |                    |               |           |         |
| Mean     | 0.425      | 0.371              | 0.048         | 0.396     | 0.314   |
| Median   | 0.000      | 0.000              | 0.000         | 0.000     | 0.000   |
| Std. Dev | 0.494      | 0.483              | 0.214         | 0.489     | 0.464   |
| n        | 10,595     | 6,660              | 7,992         | 7,036     | 32,283  |

*, **, *** Denote significance at < 0.10, < 0.05, and < 0.01, respectively, two-tailed test of differences of sample means.

^, ^^, ^^^ Denote significance at < 0.10, < 0.05, and < 0.01, respectively, two-tailed Mann-Whitney-Wilcoxon median test that would not be applicable to the dichotomous variables UMBRELLA, GRANT_SINGLE, and DECEMBER.

The log of accounting fees and assets are reported in regression models as LAFEES and LTA, respectively. Variables are defined in Table 1, and the NTEE categories Health, Human Services, and Education are also defined in Table 1. Column (D) "Other" includes the following three NTEE categories: Art, Public Benefit, and Other.
mean of 56.4 percent of total revenues, with significant variation across NTEE categories. Investment income, \( \text{INV\_INC} \), as our measure of reliance on internally generated resources, is a much smaller component of total revenues, 9.2 percent.\(^{31}\) \( \text{DEBT} \), a proxy for resource dependence (where the resource provider is the lender) has a mean of 24.2 percent of assets.

Table 3 also provides the results of tests of differences in sample means and medians for each of the variables between (1) health and human services, (2) health and education, and (3) human services and education. Accounting and audit fees differ statistically among these three categories, with health ($124,094) as the most expensive, followed by education ($86,471) and human services ($48,963). This is not entirely explained by size, given that education nonprofits have higher assets than health nonprofits ($167 million versus $152 million). Health nonprofits have significantly higher investments in accounts receivable and inventory (19.8 percent as compared to 13.3 and 6.1 percent for human services and education, respectively) and significantly higher executive compensation than human services and education, along with a lower current ratio, which potentially contribute to the difference in monitoring costs.

Our resource dependence variables, \( \text{DIRECT\_RATIO} \), \( \text{UMBRELLA} \), \( \text{GRANT\_SINGLE} \), \( \text{DEBT} \), \( \text{PROG\_REV} \), and \( \text{INV\_INC} \), also reflect significant variation across these three industries. Health nonprofits appear to rely most on \( \text{PROG\_REV} \), likely in the form of Medicare, Medicaid, and insurance payments, at 78.5 percent of their total revenues, with human services and education nonprofits means of 54.6 percent and 60.3 percent, respectively. Education nonprofits rely to a significantly greater extent on government grants, with a mean percentage of 66.3 percent, compared to health (52.2 percent) and human services (51.5 percent). Direct contributions, \( \text{DIRECT\_RATIO} \), differ significantly among the three categories (means of 7.0, 16.4, and 19.3 percent of total revenues, respectively, for health, human services, and education). \( \text{INV\_INC} \) varies significantly among the three categories of nonprofits with health at 5.7 percent, and human services and education at 6.7 and 10.9 percent, respectively.\(^{32}\) \( \text{DEBT} \) also varies significantly, with education having the lowest mean of 25.2 percent and health having the highest mean of 30.0 percent.

We examine pairwise correlations for all of the variables in our study. In Table 4, we present the correlations for the variables of interest, as well as the primary control variables. As depicted, \( \text{PROGRAM} \) and \( \text{LCOMP} \) are positively correlated with \( \text{LAFEES} \) (Pearson et al. 1998). In untabulated results, \( \text{LAFEES} \) are positively correlated with \( \text{LTA} \) and \( \text{ARINV} \), and negatively correlated with \( \text{CURRENT} \), consistent with the for-profit audit fee literature. Consistent with the analyses in Table 3, \( \text{LAFEES} \) are higher in \( \text{HEALTH} \) and \( \text{EDUCATION} \) industries. The pairwise correlations also suggest positive associations between \( \text{DEBT} \) and \( \text{LAFEES} \), between \( \text{GRANT\_SINGLE} \) and \( \text{LAFEES} \), and between \( \text{PROG\_REV} \) and \( \text{LAFEES} \), consistent with \( \text{H1a} \). We also note a negative association between \( \text{INV\_INC} \) and \( \text{LAFEES} \), consistent with \( \text{H1b} \). We note statistically significant correlations among some of the resource dependence variables, e.g., between \( \text{PROG\_REV} \) and \( \text{DIRECT\_RATIO} \). However, variance inflation factors are all below 4, consistent with Gaver and Im (2014) who use a similar set of resource dependence variables as independent variables.

\(^{31}\) Note that the sum of revenue sources including \( \text{DIRECT\_RATIO} \), \( \text{PROG\_REV} \), and \( \text{INV\_INC} \) is less than 100 percent as not all revenue sources are included in our analyses. For example, in health nonprofits, the total of these revenue sources is 91.2 percent.

\(^{32}\) We also considered the variation in \( \text{INV\_INC} \) by nonprofit size. Nonprofit organizations above (below) the median total assets have an average \( \text{INV\_INC} \) of 10.2 (8.2) percent.
TABLE 4
Correlations between Selected Variables Included in Accounting Fee Model

Panel A: Correlation: Variables LAFEES to PROG_REV

|        | (1) LAFEES | (2) DIRECT_RATIO | (3) UMBRELLA | (4) GRANT_SINGLE | (5) DEBT | (6) PROG_REV |
|--------|------------|------------------|--------------|------------------|----------|-------------|
| (1) LAFEES | 1.00       |                  |              |                  |          |             |
| (2) DIRECT_RATIO | -0.26      | 1.00             |              |                  |          |             |
| (3) UMBRELLA | 0.08       | -0.08            | 1.00         |                  |          |             |
| (4) GRANT_SINGLE | 0.24       | -0.14            | 0.11         | 1.00             |          |             |
| (5) DEBT | 0.16       | -0.34            | 0.02         | 0.06             | 1.00     |             |
| (6) PROG_REV | 0.32       | -0.69            | 0.03         | 0.01             | 0.40     | 1.00        |
| (7) INV_INC | -0.10      | 0.05             | -0.11        | -0.15            | -0.17    | -0.42       |
| (8) PROGRAM | 0.15       | -0.20            | 0.06         | 0.07             | 0.08     | 0.22        |
| (9) LCOMP | 0.67       | -0.23            | 0.08         | 0.21             | 0.08     | 0.30        |
| (10) HEALTH | 0.26       | -0.32            | 0.18         | -0.05            | 0.15     | 0.40        |
| (11) HUMAN SERVICES | -0.20     | -0.07            | 0.12         | -0.04            | 0.07     | -0.02       |
| (12) EDUCATION | 0.06      | -0.02            | -0.19        | 0.12             | 0.02     | 0.06        |

Panel B: Correlation: Variables INV_INC to EDUCATION, continued from Panel A

|        | (7) INV_INC | (8) PROGRAM | (9) LCOMP | (10) HEALTH | (11) HUMAN SERVICE | (12) EDUCATION |
|--------|-------------|-------------|-----------|-------------|-------------------|----------------|
| (7) INV_INC | 1.00       |             |           |             |                   |                |
| (8) PROGRAM | -0.16      | 1.00        |           |             |                   |                |
| (9) LCOMP | -0.10       | 0.09        | 1.00      |             |                   |                |
| (10) HEALTH | -0.14      | 0.06        | 0.28      | 1.00        |                   |                |
| (11) HUMAN SERVICES | -0.07   | 0.08        | -0.30     | -0.36       | 1.00              |                |
| (12) EDUCATION | 0.05    | -0.03       | 0.10      | -0.40       | -0.29             | 1.00           |

All variables defined in Table 1.
The table reports Pearson correlations for all variables except LTA, ARINV, CURRENT, ARTS, and OTHER.
The sample comprises 32,283 firm-year observations covering the period 1998–2008.
Correlations greater than 0.02 in absolute value are significant at the 0.001 level (two-tailed).

EMPIRICAL RESULTS

Primary Results

Table 5 presents our primary regression results. Three models are presented, the first of which reflects the organizations in our sample that intersect with the largest 1,000 nonprofit organizations as determined by revenue size from the SOI database based on 2003 information. This analysis (Model 1) provides a basis for comparison to nonprofit audit fee literature and Vermeer et al. (2009a). Our full sample results are presented in Model 2 (main effects) and Model 3 (main effects and size interaction effects). Moderating effects of size have not been previously examined in the literature, given that the samples were generally comprised of only large nonprofit organizations. Presenting the results side-by-side offers the ability to determine which resource
dependencies continue to reflect an effect regardless of size and which ones may have different effects based on organization size.

Model 1 results are similar to Vermeer et al. (2009a), for the common control variables LTA, ARINV, and CURRENT, as well as the resource dependence variable GRANT_SINGLE (positive and significant). Models 2 and 3 present the regression results for the full sample, with a modest increase of explanatory power from the second model to the third model when interaction terms with size are incorporated ($R^2$ in Model 2 = 0.586; $R^2$ in Model 3 = 0.588). GRANT_SINGLE is positive and statistically significant in both Models 2 and 3 ($\beta = 0.261$ and 0.225, respectively), consistent with H1a. In terms of economic significance, the latter coefficient suggests that the presence of a government grant is associated with a 22.5 percent increase in monitoring costs or

33 DIRECT_RATIO and UMBRELLA are insignificant, similar to the lack of significance noted by Vermeer et al. (2009a) related to an aggregate contributions ratio. DEBT is insignificant in our model but positive in Vermeer et al. (2009a), perhaps due to a different sample composition based on their survey respondents.

### TABLE 5

|                  | Model 1 Largest 1,000 Nonprofits | Model 2 Full Sample Main Effects | Model 3 Full Sample with Interactions |
|------------------|----------------------------------|----------------------------------|--------------------------------------|
| Pred. Sign       | Coeff. (t-stat)                  | Coeff. (t-stat)                  | Coeff. (t-stat)                      |
| DIRECT_RATIO     | $+0.287 (-0.86)$                 | $-0.170 (-3.37)**$               | $-0.194 (-3.84)**$                   |
| UMBRELLA         | $+0.055 (-0.85)$                 | $0.018 (0.88)$                   | $0.015 (0.71)$                       |
| GRANT_SINGLE     | $+0.236 (3.20)**$                | $0.261 (13.66)**$                | $0.225 (9.06)**$                     |
| DEBT             | $+0.203 (1.25)$                  | $0.047 (1.27)$                   | $0.052 (1.42)*                       |
| PROG_REV         | $+0.137 (-0.71)$                 | $0.037 (0.87)$                   | $0.002 (0.06)$                       |
| INV_INC          | $-0.030 (-0.08)$                 | $-0.352 (-5.05)**$               | $-0.066 (-0.82)$                     |
| SIZE             | $0.049 (1.98)**$                 |                                  | $0.067 (2.00)**                      |
| SIZE $\times$ GRANT_SINGLE | ??                     |                                  | $-0.597 (-6.21)**                    |
| SIZE $\times$ INV_INC | ??                     |                                  | $0.069 (2.02)**                      |
| PROGRAM          | $+0.149 (0.45)$                  | $0.193 (2.50)**$                 | $0.231 (3.01)**                      |
| LCOMP            | $+0.232 (5.72)**$                | $0.301 (25.98)**$                | $0.298 (25.91)**                     |
| LTA              | $+0.347 (6.97)**$                | $0.267 (32.68)**$                | $0.269 (33.07)**                     |
| ARINV            | $+0.281 (1.55)$                  | $0.454 (11.99)**$                | $0.456 (12.11)**                     |
| CURRENT          | $-0.008 (-2.43)**$               | $-0.002 (-4.76)**$               | $-0.002 (-4.88)**                    |
| DECEMBER         | $+0.008 (0.10)$                  | $-0.139 (-6.02)**$               | $-0.141 (-6.11)**                    |
| Constant         | $3.215 (3.43)**$                 | $1.999 (7.63)**$                 | $1.961 (7.40)**                      |
| NTEE Indicators  | Included                         | Included                         | Included                             |
| State Indicators | Included                         | Included                         | Included                             |
| Year Indicators  | Included                         | Included                         | Included                             |
| Observations     | $3,410$                          | $32,283$                         | $32,283$                             |
| $R^2$            | $0.296$                          | $0.586$                          | $0.588$                              |

***, **, * Indicate statistical significance at the 0.01, 0.05, and 0.10 levels (one-tailed for predicted signs and two-tailed for others), respectively.

This table reports the results of regression models explaining LAFEES. The period covered is 1998–2008. t-statistics are computed based on standard errors clustered by nonprofit. Variable definitions are in Table 1.
$19,126 when applied to the mean accounting and audit fees of $85,004. DEBT is positive and significant in Model 3, also consistent with H1a. In addition, DIRECT_RATIO is negative and statistically significant in both Models 2 and 3. Although direct contributions (DIRECT_RATIO) are derived from external resource providers, which suggests a positive association with monitoring costs, the number of providers is typically greater than the number of providers of grant awards (i.e., federal, state, or local government agencies). A single direct contribution would therefore be more easily replaced than one government grant, if lost, mitigating resource dependence and the associated monitoring costs (Malatesta and Smith 2014; Pfeffer and Salancik 2003). The negative impact of INV_INC noted in the second model only holds among large nonprofit organizations in Model 3 (SIZE × INV_INC), partially supporting H1b. Finally, in Model 3, SIZE × GRANT_SINGLE is positive and significant, rejecting the null H2 and suggesting that the impact of grants is greater for large nonprofit organizations. If individual grant awards are large among these organizations, then there are fewer equivalent available resources to replace them, increasing dependence on this external resource and disproportionately increasing monitoring costs (Malatesta and Smith 2014; Pfeffer and Salancik 2003).

Control variables generally behave consistently with expectations and prior literature. Both PROGRAM and LCOMP are positive and statistically significant in Models 2 and 3 (Pearson et al. 1998). LTA and ARINV are both positively associated with LAFEES, and CURRENT is negatively associated with LAFEES (Vermeer et al. 2009a; Hay et al. 2006). DECEMBER is negatively associated with LAFEES, although we would expect a positive association if a December year-end is indicative of audit firm workload compression. When we estimate the specifications separately for large and small nonprofit organizations (based on median asset size), we note the negative coefficient for smaller, but no association of larger, nonprofit organizations. We follow Table 5 with two post-estimation tests to support our results. First, we use a Chow test to determine whether there are differences in two of the groups within our sample—those in the largest 1,000 nonprofits and smaller nonprofit organizations (Casterella, Francis, Lewis, and Walker 2004; Craswell, Francis, and Taylor 1995; Francis and Stokes 1986). The test produces a significant F-statistic, affirming differences between the samples used in previous studies and our

34 Although we would have expected debt to have a stronger association with accounting and audit fees, we note that debt is insignificant in the results presented by Beattie et al. (2001).
35 This finding is also consistent with research that emphasizes the benefits of nonprofit revenue portfolio strategy (Kearns 2007; Froelich 1999; Chang and Tuckman 1994).
36 We expected an inverse association between INV_INC and LAFEES for all organizations in our sample. The fact that the association is only significant among large nonprofit organizations is beyond the scope of this study.
37 We explore the possibility of variation in workload compression by firm type in untabulated analyses using a subset of our sample for which audit firm identifying information is available, specifically, nonprofit organizations subject to a Single Audit over the period 2001 through 2008 (n = 7,468). The results suggest that, among Big 4 audit firms, a December (June) year-end is associated with an increase (decrease) in accounting and audit fees, while non-Big 4 audit firms do not show significant workload compression effects.
38 We also note that the proportion of our sample that has a December year-end is smaller (31.4 percent) than in previous studies (Lopez and Peters [2012] report that 64.0 percent of Compustat companies in their sample have a December year-end, and Beattie et al. [2001] report that 80.5 percent of large U.K. nonprofit organizations have a year-end in December or March). We also note that Beattie et al. (2001), despite a larger proportion of their sample having a December year-end, note insignificant findings related to this variable. In addition, nonprofit organizations have a longer window in which to have their audits completed, which may offer some explanation (those subject to a Single Audit have nine months following the end of their fiscal year to have their audit completed and the results filed with the Federal Audit Clearinghouse [OMB 2007]).
sample. It also supports our inclusion of the moderating effects of size, i.e., whether size exacerbates or mitigates the effect of resource dependence on monitoring costs.

In Table 6, we replicate the analyses presented in Table 5 for each of the three NTEE categories that comprise the majority of our sample: (1) health (n = 10,595), (2) human services (n = 6,660), and (3) education (n = 7,992). Although we control for NTEE categories in Table 5, this analysis allows us to explore differential resource dependence effects based on the publicness of the NTEE category and typical revenue mix (Wilsker and Young 2010). Consistent with Table 5, GRANT_SINGLE is positively associated with LAFEES in all three NTEE categories, regardless of nonprofit size. This underscores the monitoring associated with the acceptance of grant funding (Rushton and Brooks 2007) and further supports H1a. In two of the NTEE categories—health and human services—DIRECT_RATIO is negative and significant, consistent with Table 5. Among health nonprofits, which have average program service revenues of 78.5 percent, direct contributions are associated with lower monitoring costs, perhaps as a result of the diversification of revenues that such contributions represent. Similarly, human services nonprofits, which have average program service revenues of 54.6 percent, often participate in fee-for-service contracts with federal, state, and local governments that require the determination of beneficiary eligibility.

### TABLE 6
Accounting Fee Model by NTEE Classification

|                  | Health            | Human Services   | Education          |
|------------------|-------------------|------------------|--------------------|
|                  | Coeff. (t-stat)   | Coeff. (t-stat)  | Coeff. (t-stat)    |
| **DIRECT_RATIO** | −0.247 (−1.69)*   | −0.220 (−2.29)** | −0.108 (−0.96)     |
| **UMBRELLA**     | −0.036 (−1.07)    | 0.038 (0.94)     | −0.346 (−0.74)     |
| **GRANT_SINGLE** | 0.278 (5.03)***   | 0.283 (6.34)***  | 0.284 (5.59)***    |
| **DEBT**         | 0.076 (1.05)      | 0.035 (0.47)     | −0.049 (−0.76)     |
| **PROG_REV**     | −0.028 (−0.32)    | 0.016 (0.19)     | −0.031 (−0.33)     |
| **INV_INC**      | −0.366 (−1.73)*   | 0.119 (0.64)     | 0.092 (0.59)       |
| **SIZE**         | 0.056 (0.94)      | 0.204 (2.93)***  | −0.075 (−1.17)     |
| **SIZE × GRANT_SINGLE** | −0.090 (−1.40) | 0.081 (0.85) | 0.193 (2.86)*** |
| **SIZE × INV_INC** | −0.696 (−3.38)*** | −1.231 (−4.73)*** | −0.305 (−1.79)* |
| **PROGRAM**      | 0.010 (0.08)      | 0.480 (2.19)**   | 0.077 (0.57)       |
| **LCOMP**        | 0.191 (9.57)***   | 0.281 (12.19)*** | 0.325 (14.96)***   |
| **LTA**          | 0.338 (19.80)***  | 0.282 (16.95)*** | 0.279 (17.77)***   |
| **ARINV**        | 0.420 (5.80)***   | 0.498 (6.28)***  | 0.690 (7.15)***    |
| **CURRENT**      | −0.003 (−3.17)*** | −0.002 (−4.10)*** | −0.001 (−2.02)*** |
| **DECEMBER**     | −0.077 (−1.65)*   | −0.287 (−6.64)*** | −0.081 (−1.03)     |
| Constant         | 2.10 (4.42)***    | 1.615 (3.22)***  | 1.903 (6.13)***    |

**State Indicators** | Included | Included | Included
**Year Indicators** | Included | Included | Included

|               | Observations | R²    |
|---------------|--------------|-------|
| Health        | 10,595       | 0.469 |
| Human Services| 6,660        | 0.531 |
| Education     | 7,992        | 0.677 |

***, **, * Indicate statistical significance at the 0.01, 0.05, and 0.10 levels (two-tailed), respectively.

This table reports the results of regression models explaining LAFEES. The period covered is 1998–2008. t-statistics are computed based on standard errors clustered by nonprofit. Variable definitions are in Table 1, and the NTEE categories Health, Human Services, and Educations are also defined in Table 1.
and additional contractual requirements (Boris, de Leon, Roeger, and Nikolova 2010). Generating
direct contributions in these industries diversifies revenue sources (i.e., mitigating dependence on
program service revenue), contributing to this result.

We note that $INV_{INC}$ is negative and significant as a main effect among health nonprofits,
and the interaction term $SIZE \times INV_{INC}$ consistently has a negative significant effect in all three
models. This suggests that large nonprofit organizations, in all three NTEE categories examined,
experience decreased monitoring costs when relying on this internally generated resource. This
result partially supports H1b. Finally, we note that $SIZE \times GRANT_{SINGLE}$ is only significant and
positive among education nonprofits, providing some support for H2. The moderating effect of size
we noted in the full results presented in Table 5 is therefore not reflected among health or human
services nonprofits. Control variables are generally consistent with the results in Table 5. One
difference is that $PROGRAM$, the ratio of program expenses to total expenses, is statistically
associated with $LAFEES$ only among human services nonprofits. This result is consistent with the
greater degree of publicness associated with human services nonprofits than health or education
nonprofits.$^{39}$

### Sensitivity Analyses

We conducted a number of robustness tests to ensure that our statistical inferences are valid.
Probably the most significant of these analyses relates to the potential impact of having a Big 4
auditor. Within the for-profit audit fee literature, Big N auditors have generally been associated with
an audit fee premium (e.g., DeFond, Francis, and Wong 2000; Chan, Ezzamel, and Gwilliam 1993;
Francis and Simon 1987; Francis 1984). In the nonprofit audit fee literature, Beattie et al. (2001) find
evidence in some of their models that Big 6 auditors enjoy an audit premium. Similarly, Vermeer et
al. (2009a) find evidence of a Big 4 audit premium. However, prior literature also suggests the
possibility that the evidence indicates the consequences of alignments of Big 4 audit firms with larger
nonprofit organizations (Lowensohn, Johnson, Elder, and Davies 2007). Indeed, the data indicate
that such an alignment exists. A subset of our sample ($n = 7,468$) subject to a Single Audit reveals
that 49.6 percent of large nonprofit organizations (based on median asset size from the full sample)
are audited by Big 4 audit firms, whereas only 8.1 percent of small nonprofit organizations are
audited by Big 4 firms.$^{40}$ Among this subsample, we estimate specifications with a Big 4 indicator
variable. Results for these specifications are similar qualitatively to those in Tables 5 and 6.

Because our study includes both large and small nonprofit organizations and previous studies
focus on large nonprofit organizations, we acknowledge that our proxy for monitoring costs,
inclusive of audit fees, may operate differently depending on organization size. For example, if
small nonprofit organizations do not have the necessary resources to perform the necessary
accounting tasks, then the proportion of their accounting fees comprised of audit fees may be

$^{39}$ The program ratio is easily derived from the statement of functional expenses, required by SFAS No. 117 for
organizations structured as voluntary health and welfare organizations. These organizations are defined by
their support from the public at large to provide a public benefit to a societal benefit. This is consistent with the
notion of publicness (Wilsker and Young 2010; Fischer et al. 2011). While all nonprofits report the information
necessary to calculate program ratio on Form 990, it is reasonable to conclude that this measure would receive
more scrutiny for those nonprofits soliciting contributions from the public at large (Krishnan et al. 2006).

$^{40}$ For our sensitivity analyses, we standardized the audit firm names in the Federal Audit Clearinghouse
database for the period 2001 through 2008. This time period is shorter than our full sample period of 1998
through 2008. Therefore, the sample of 7,468 is less than the number of nonprofit organizations in our sample
that were subject to a Single Audit.
smaller, i.e., accounting fees would include more amounts paid to external accountants for other, nonaudit services. We include a number of robustness checks to mitigate this concern. For the small subset of our sample that is also included in the CDP database that we use to validate our measure, we find that the proportion of audit fees (from CDP) comprising accounting fees (from NCCS SOI) is similar for both large (91.6 percent) and small (90.1 percent) nonprofit organizations. We also visually examine the distribution of accounting and audit fees in our sample, with the natural log transformation, as compared to those of for-profit organizations from Audit Analytics, and the distributions are similar and both approximate a normal distribution. We replicate Table 5, partitioning our sample into quintiles based on asset size. In these analyses, we omit the size interaction terms, given the basis for the partitions. The results are generally consistent with the primary results. It should be noted that the resource dependence variables are not as consistent across the quintiles, but this is to be expected given the size interaction effects noted in the main analyses. In short, these robustness checks support the use of accounting fees as a proxy for monitoring costs, inclusive of audit fees, and underscore the implications of nonprofit size in moderating the effect of resource dependence on monitoring costs.

Finally, in our primary analyses we use a narrow, conservative approach to determining whether nonprofit organizations in the SOI database are subject to audit. We include only those nonprofit organizations in our sample that we can conclude are subject to standard audits based on state requirements obtained from the Multi-State Filer Project and CCH’s Multistate Guide to Regulation and Taxation of Nonprofits. However, Yetman and Yetman (2012, 2013) use this approach as well as an additional criterion in determining whether a nonprofit organization was subject to audit. This second criterion assumes that nonprofit organizations that receive $100,000 or more in funds from a feeder organization are subject to audit, a common but not universal requirement by feeder organizations (Yetman and Yetman 2013). We therefore expand our sample to organizations in our sample period that reported more than $100,000 of indirect contributions, resulting in a sample of 38,159. The results using this expanded sample are qualitatively similar for both Tables 5 and 6.

CONCLUSION

Collectively, the study’s empirical results provide evidence in a large sample setting of the complementary effects of external and internal resource dependence. Reliance on external resources including government grants is associated with higher monitoring costs in the full sample, and this effect is increased among large nonprofit organizations. In contrast, reliance on direct contributions is associated with lower monitoring costs. Furthermore, for large nonprofit organizations, reliance on internally generated revenues, i.e., investment income, is associated with lower monitoring costs in the full sample. The results are consistent with resource dependence theory; reliance on large external (internal) resources increases (decreases) the need for monitoring, e.g., audit fees.

41 We bifurcate this subset into small and large based on median total assets. We cannot conclude that the similarity noted between the ratios of audit fees to accounting fees between small and large nonprofit organizations in this subset of our sample holds for other organizations in our sample. However, we are not aware of any systematic differences that would suggest that the ratios would not be similar between small and large nonprofit organizations in the full sample.
42 We also replicate our results in Tables 5 and 6 using alternative proxies for size (incorporating total revenue instead of total assets) and for ARINV (adding pledges and grants receivable to the calculation). In both cases, our results remain qualitatively unchanged.
The results by the NTEE categories of health, human services, and education nonprofit organizations reflect similarities with the full sample, but also provide resource dependence insight into these categories. Consistent with the full sample results, reliance on government grants is associated with higher monitoring costs in all three NTEE categories, and \( SIZE \times INV\_INC \) is associated with lower monitoring costs in all three NTEE categories.

There are limitations that should be considered in efforts to generalize the results. Our sample composition differs from the distribution of the full population of U.S. nonprofits. Furthermore, our data do not afford the opportunity to consider Big 4 firm effects within the full sample or governance characteristics. Despite these limitations, this study provides evidence that is consistent with resource dependence theory, including the complementary effects of external and internal resources. The results provide nonprofit stakeholders with the tools to understand the implications of accepting external resources and, given that our sample consists of audited nonprofit organizations, offer models that can be used to predict nonprofit monitoring costs inclusive of audit fees.

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