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Post-SOX downward auditor switches and their impacts on the nonprofit audit market

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ABSTRACT

This study examines the extent of downward auditor switches from Big 4 audit firms by nonprofit organizations (NPOs) after enactment of the Sarbanes-Oxley Act (SOX). Although SOX provisions do not directly apply to nonprofit organizations, capacity constraints and client realignments due to SOX may have reduced the Big 4 presence in the nonprofit audit market. We find that downward switches from a Big 4 firm increased in the post-SOX period. Universities and colleges are more likely than other NPOs to have downward switches from a Big 4 audit firm in the post-SOX period compared to the pre-SOX period. These results suggest that SOX had differential impacts on NPOs depending on the nature of the organization. Risky NPOs, as indicated by the existence of internal control deficiencies, were more likely to have downward auditor switches. NPOs are more likely to choose a non-Big 4 specialist following a downward switch compared to other NPOs with non-Big 4 auditors, consistent with higher demand for audit quality by these organizations. We do not find significant evidence that downward switches for these organizations are associated with decreases in subsequent donations. However, we find that downward switchers are associated with increases in material weaknesses in internal control.

1. Introduction

The demise of the Arthur Andersen accounting firm and the implementation of the Sarbanes-Oxley Act of 2002 (SOX), especially the internal control provisions of Section 404, significantly impacted the audit market for publicly traded companies. For example, Hogan and Martin (2009) report increased auditor switches by public companies following these events, especially downward switches from the Big 4 to non-Big 4 firms. These switches affected the risk characteristics of audit firms' client portfolios, with the Big 4 dropping riskier clients and increasing the riskiness of the client base for Second Tier audit firms. However, Chang et al. (2010) provide evidence for publicly-traded companies that these downward switches were not perceived negatively based on market reactions to the switches. Nevertheless, it is not clear that these effects extend to other audit markets.

There is little evidence on the effects of SOX on other audit markets, including the nonprofit audit market. Because of the significance of these changes in the market for public company audit clients and the potential capacity constraints SOX imposed on Big 4 audit firms, these impacts may have been felt in other markets. However, because of the unique requirements of nonprofit accounting and auditing, it is unclear that effects found in the market for publicly-traded companies would extend to other audit markets such as nonprofit organizations (NPOs).

The nonprofit sector represents an important part of the U.S. economy, with more than 1.4 million nonprofits registered with the

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IRS and active in 2009 (Roeger et al., 2011). Audit quality is important in the nonprofit sector, especially after several organizations were associated with high-profile financial scandals (Fremont-Smith and Kosaras, 2003). Several studies find that accounting information affects nonprofit contributions (e.g., Tinkelman, 1999; Parsons, 2007); contributions are also related to audit quality (Kitching, 2009). Structural auditor realignments related to SOX may impact audit quality, donations, and other resources received by nonprofit organizations.

We examine whether downward auditor switches from Big 4 to non-Big 4 auditors are more likely for nonprofit organizations in the SOX period, and whether these changes are related to risk and other characteristics of the organization. We also examine whether downward switches from Big 4 auditors affect the magnitude of charitable giving and the quality of internal control. Understanding the impacts of SOX and capacity constraints on the nonprofit audit market can assist regulators and researchers in evaluating audit quality and the current audit market structure in the nonprofit sector.

We find an increase in downward auditor switches by NPOs following SOX compared to the pre-SOX period. The GAO (2006) reports that audit fees increased considerably after the passage of SOX. The substantial increase in audit fees and related audit effort likely affected the demand for assurance staff. Consistent with the argument that these changes are driven by capacity constraints, we observe that the number of downward switches peaked in the period 2004–2006.

The auditor switches also vary by sector. The number of auditor switches is significantly higher for universities in the post-SOX period compared to other charitable organizations. Universities are larger and more similar to commercial entities, and staff on these engagements could be readily redirected to public company audits. The Big 4 may have reduced their presence in the college and university market to reallocate resources to public company audits. In contrast, audits of other nonprofits may be performed to enhance an audit firm's reputation or for charitable reasons, and audits of these organizations may help balance the risk of the audit firm's client portfolio. As a result, the Big 4 may be more likely to continue serving these clients.

Downward switches are related to audit risk characteristics; switches are negatively associated with auditee size and positively associated with internal control deficiencies. Consistent with evidence in the governmental sector (Jensen and Payne, 2005; Lowensohn et al., 2007), we find that downward switchers are more likely to choose a non-Big 4 specialist.

We do not find that downward switch organizations are associated with significant decreases in subsequent donations in the post-SOX period. These results suggest that donor decisions are not affected by the downward switch decision.

Downward switches are associated with increases in material weaknesses in internal control. When we combined material weaknesses and reportable conditions, downward switches are also associated with this broader measure of control deficiencies for the full sample. The increase in control deficiencies is also significant for colleges and universities, but not for other nonprofit organizations. However, the interaction of SOX and the downward switch variable indicates that downward switches are less likely to be associated with control deficiencies post-SOX compared to the pre-SOX period.

The following section reviews the literature and develops hypotheses. Section three presents the data sources and methodology, and the fourth section summarizes the results. The last section provides a summary and conclusions.

2. Development of research questions and hypotheses

Many NPOs are required by various regulators and oversight bodies to be audited. Approximately half of the states require NPOs to be audited when revenues exceed a threshold amount; this amount varies by state. NPOs that have federal expenditures in excess of $500,000 annually are required to have a Single Audit under the requirements of Office of Management and Budget (OMB) Circular A-133.[1] Kitching (2009) argues that information asymmetry is greater in nonprofit organizations than in corporations, because nonprofits have two principals – donors and recipients of the charitable services. She further argues that the choice of a Big 4 auditor is a signal of the charity's reputation and credibility of its financial reports. She finds that donations to large charitable organizations are positively related to use of a Big 4 auditor (Big 5 for the period of her study), indicating that use of a Big 4 auditor is beneficial for at least some nonprofit organizations.

The demise of Arthur Andersen and the expanded audit procedures required by SOX resulted in a substantial increase in the demand for audit services and audit fees for public companies (Raghunandan and Rama, 2006). The sudden increase in demand for the services of Big 4 auditors likely imposed capacity constraints.[2] The period after SOX was also marked by significantly increased frequency of auditor switches by public companies, and an increasing percentage of downward switches from the Big 4 (e.g., Rama and Read, 2006; Hogan and Martin, 2009; Landsman et al., 2009).

Although capacity constraints imposed by SOX impacted the market for publicly-traded companies, it is unclear whether SOX would affect other audit markets. Several studies (e.g., Rama and Read, 2006; Doogar et al., 2007; Landsman et al., 2009) find that the Big 4 dropped riskier public clients. Staffing resources devoted to these clients could be readily redeployed to other public clients, especially those required to report under Section 404. Having invested in developing expertise and clients in the nonprofit audit market, it is unclear whether audit firms would abandon this investment, and whether staff serving nonprofit clients could be readily transferred to serve public company clients. Audit firms may also serve nonprofit clients for charitable or reputation reasons and thus

[1] The threshold for A-133 audits was $300,000 of annual federal expenditures prior to December 31, 2003, and rose to $500,000 for fiscal years ending after December 31, 2013. In 2013 the OMB issued the *Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards* to replace Circular A-133 and seven other circulars, and raised the threshold limit to $750,000 for single audits of fiscal years beginning on or after January 1, 2015.

[2] Anecdotal evidence suggests that the capacity constraints and lack of fee competition may have been temporary. However, the effects of auditor changes related to capacity constraints are less transitory. Existing evidence on auditor changes for public companies (e.g., Rama and Read, 2006; Hogan and Martin, 2009; Landsman et al. 2009) and fees (Raghunandan and Rama, 2006) is consistent with the existence of capacity constraints.

may prefer to retain these clients. Audit firms may also be reluctant to reduce their client base in other markets if these clients help balance the overall risk of an audit firm's client portfolio and bring in additional revenues. Alternatively, the increased work and fees for public company clients may have caused the Big 4 to raise fees for other clients, which may have caused some NPOs to initiate switches.

We argue that based on the evidence of the effect of SOX in the public company audit market, it likely had spillover effects that impacted the NPO audit market. We investigate whether SOX resulted in increased downward switches by NPOs compared to the pre-SOX period.

H1. NPOs are more likely to have downward switches from a Big 4 auditor to a non-Big 4 auditor during the post-SOX period compared to the pre-SOX period.

2.1. Client characteristics impacting propensity for auditor change

The downward switches in the public company audit market were attributed in the popular press to risk management by audit firms (Bryan-Low, 2003; Byrnes, 2003; Hindo, 2003) and resource and capacity constraints (Plitch and Wei, 2004; Taub, 2004). Pre-SOX studies find that auditors are more likely to resign from clients with higher litigation risk and financial distress (e.g., Krishnan and Krishnan, 1997) and from clients with greater audit risk (Johnstone and Bedard, 2004), as well as clients whose characteristics no longer match well with the auditor (Shu, 2000). Post-SOX studies document that downward switching from the Big 4 to smaller audit firms is also more likely for riskier clients (e.g., Rama and Read, 2006; Doogar et al., 2007; Landsman et al., 2009). Landsman et al. (2009) find that auditor switches in the post-SOX period are related to client risk. Hogan and Martin (2009) report that downward auditor switches from the Big 4 resulted in increased measures of business and audit risk for Second Tier audit firms; the Second Tier firms also attempted to manage audit risk by dropping their riskiest clients.

It is unclear whether downward switches in other markets are related to client risk because of differences in litigation risk and other characteristics of the markets. Although litigation risk is low in NPOs, reputation costs may motivate Big 4 firms to drop risky NPOs in order to minimize risk and devote effort and resources to less risky clients. Accordingly, we expect that downward switches by NPOs will be related to financial risk characteristics of the NPOs.

In addition to risks related to a client's financial condition, auditors may be concerned with financial reporting risks. Tate (2007) finds that auditor choice by nonprofit organizations is related to the number of accounting problems identified, including qualified opinions, going concern matters, internal control weaknesses, or questioned costs. Similarly, Keating et al. (2008) find that misreporting of fundraising expenses involving telemarketing is related to the extent of external monitoring. If the Big 4 firms decide to drop NPO clients to provide additional resources to serve public company clients, or if the auditor switches are related to engagement profitability, the downward switches may be unrelated to measures of client risk. However, based on previous research, we expect downward switches to be more likely in organizations with accounting problems as measured by the existence of internal control deficiencies, as well as financial risk measured by a negative operating surplus and the ratio of liabilities to assets.

H2. Downward switches are more likely for riskier NPOs.

2.2. Choice of successor auditor

If there is increased downward switching in the post-SOX period, NPOs may attempt to limit the impact of the downward change by choosing a non-Big 4 specialist. Previous use of a Big 4 auditor suggests that the NPO had higher demand for audit quality. The reputation of a non-Big 4 specialist can also help the NPO to maintain donor confidence and donation levels. In general, a positive relationship is expected between specialization and audit quality (Gramling and Stone, 2001).

There is limited evidence on the effect of specialization on audit quality for nonprofits. Fischer et al. (2004) find that Big 4 specialists receive higher audit fees for audits of private colleges and universities. Several studies find that specialization is associated with higher quality for governmental entities (e.g., Deis and Giroux, 1992; O'Keefe et al., 1994). Lowensohn et al. (2007) find that a structural change in the Florida governmental market that eliminated a restriction on price competition in competitive bidding resulted in increased use of non-Big 4 specialists, and these specialists were associated with higher perceived audit quality. Stanley and DeZoort (2007) suggest that the selection of an industry specialist auditor can mitigate the lack of client-specific knowledge in the initial audit engagement years, resulting in a reduced likelihood of restatement. As a result, the choice of a specialist auditor may mitigate negative effects of a downward switch. We define specialists based on audit firm market share measured by total revenues of nonprofit auditees.[3]

H 3. NPOs that switch from a Big 4 auditor are more likely to use a non-Big 4 specialist compared to other NPOs that have non-Big 4 audit firms.

[3] We describe the specialist measures in the model development section of the paper, and also test alternative measures of specialization in the results section of the paper, including a measure based on the number of clients (Petrovits et al. 2011).

2.3. Impact of downward auditor switches from a Big 4 auditor

In general, a downward switch from a Big 4 auditor is expected to result in negative reactions from financial statement users (e.g., Smith, 1988; Knechel et al., 2007). However, Chang et al. (2010) find an increasingly positive reaction to switches from Big 4 audit firms to smaller audit firms in the post-SOX period, which they argue indicates the market is becoming more receptive to smaller audit firms.

There is limited information on audit quality for nonprofit organizations. Krishnan and Schauer (2000) find that nonprofit disclosure quality is positively related to auditor size; conversely, the results in Tate (2009) are not consistent with higher audit quality for Big 5 auditors. However, consistent with findings in other audit markets (Hay et al., 2006), Vermeer et al. (2009) find that the Big 4 firms receive a fee premium in the audit of nonprofit organizations. Big 4 audit firms have also been associated with lower perceived audit quality in government audit markets (Lowensohn et al., 2007; Samelson et al., 2006). Although the government audit market is different than the nonprofit audit market, the two markets share similar characteristics, including a lower Big 4 market share than the public company audit market.

An extensive literature addresses the effects of NPO financial measures on donor decisions (e.g., Tinkelman, 1999; Parsons, 2007). Kitching (2009) examines a sample of larger, well-known nonprofits and finds that donations are higher for entities audited by Big 5 firms. Accordingly, a downward switch may have a negative impact on donations if donors are aware of the switch and regard it as a negative signal.

H4a. Downward switches by NPOs from a Big 4 auditor are associated with lower donations in the year following the switch compared to NPOs that do not switch auditors or have lateral changes.

Tate (2007) finds that auditor changes by nonprofit organizations are positively related to accounting problems such as internal control deficiencies or going concern opinions. Hypothesis two predicts that downward switches will be related to internal control deficiencies prior to the downward switch. We investigate whether downward switches are associated with a subsequent increase in internal control deficiencies following the switch.

There are several reasons why downward switches may result in increased control deficiencies. Big 4 firms may drop clients that are becoming more risky, with declining control environments. The NPO may also change from a Big 4 auditor because of increased fees in the post-SOX environment due to financial constraints. NPOs in poor financial condition may have fewer resources to invest in controls. Smaller audit firms may also lack the technical resources to help NPOs resolve control deficiencies and be more conservative in assessing control deficiencies because their size may make them more vulnerable to sanctions in a quality review. However, smaller audit firms may be associated with the reporting of fewer internal control deficiencies if they provide audits of lower quality (DeAngelo, 1981).

H4b. Downward switches by NPOs from a Big 4 auditor are associated with increased control deficiencies in the year following the switch compared to NPOs that do not switch auditors or have lateral changes.

3. Data and model development

We identify auditor switches over the period 1998–2009 from the United States Federal Audit Clearinghouse (FAC) of A-133 audit reports.[4] Organizations that have annual federal expenditures in excess of $500,000 ($300,000 prior to December 31, 2003) are subject to A-133 compliance audits. As a result, the nonprofits included in the data are larger on average than the population of all nonprofits. We use the Audit Analytics Other Independent Audit (OIA) Data Module that includes cleansed FAC data. The FAC data only indicates whether an auditor change has occurred and does not indicate whether the change was initiated by the client or auditor. In practice, it is difficult to determine whether a switch was initiated by the client or auditor, and our hypotheses should apply to both types of switches.

We identify auditor switches in the FAC database. We then matched the organizations in the FAC database with Form 990 information from the IRS Statistics of Income (SOI) data with required financial and other data.[5] As reported in Panel A of Table 1, after eliminating observations with missing data, we identify 576 downward switches from the Big 4 and a comparison sample of 6095 observations with Big 4 auditors that did not switch or had lateral switches.[6]

Panel B of Table 1 summarizes the downward switches and control group distribution by sector. Approximately 45% (257) of the downward switches involved colleges and universities, further supporting analyzing these entities separately from other nonprofits. There were 319 downward switches involving other nonprofits, representing 55% of the downward switches. We also include information on the NTEE classification of the downward switches for other nonprofits. The largest number of downward switches were in the human services sector, with 95 downward switches, followed by 93 downward switches for health organizations. Compared to

[4] The Federal Audit Clearinghouse database is available at http://harvester.census.gov.sac.

[5] We use the SOI data because it contains additional variables included in our models that are not available in the Core files from the National Center for Charitable Statistics (NCCS). NCCS data is available for a fee at http://nccsdataweb.urban.org. The NCCS Core data includes data on a larger number of organizations than the SOI data. Matching the FAC database with Core data identifies 1267 downward switches and a control sample of 11,246 observations. In sensitivity analysis we discuss the impact of using SOI data compared to the Core file.

[6] Nonprofits with a Big 4 auditor can be included in the control group for each year they had no switch or a lateral switch. The control sample includes 866 unique nonprofits.

Table 1
Sample selection and sample sector and year distribution.

	Number of observations
Panel A: Sample Selection	
Federal Audit Clearinghouse Audit Data (1998–2009)	456,785
After Merging with NCCS SOI Data	36,107
After Removing non-Big 4 observations	10,659
After Removing the Observations with Missing Data	6671
Control Group - Lateral Switches and No Switches	6095
Final Sample - Downward Switches	576

	Sample		Control	
Sector	Count	Percentage	Count	Percentage
Panel B: Downward Switch Sample and Control Group Distribution by Sector				
Universities/Colleges	257	44.62%	2636	43.25%
Other	319	55.38%	3459	56.75%
Other-ACH	30	5.21%	156	2.56%
Other-ED	33	5.73%	297	4.87%
Other-HE	93	16.15%	2093	34.34%
Other-HS	95	16.49%	388	6.37%
Other-OT	68	11.81%	525	8.61%
Total	576	100.00%	6095	100.00%

Year	# of downward switches	# of observations with Big 4 auditors with no switch or lateral switch
Panel C: Sample Distribution by Year		
1998	19	264
1999	21	347
2000	35	460
2001	37	509
2002	39	558
2003	57	579
2004	84	588
2005	81	593
2006	80	590
2007	59	587
2008	31	592
2009	33	428
Total	576	6095

the downward switch sample, the control group includes similar percentages of observations in other nonprofits (56.75%) and universities and colleges (43.25%). The sector distribution of the control sample is not significantly different from that of the downward switch sample based on a chi-squared test.

Table 1, Panel C summarizes the sample distribution by year. Downward switches increased significantly in 2003, and peaked over the period 2004–2006, consistent with the peak in increases in audit fees for public companies (AlAli et al., 2017). The number of downward switches decreased after 2007 to levels comparable to the period just before the enactment of SOX.

3.1. Downward switch model

Based on our discussion in Section 2, we hypothesize that downward switches will be higher in the post-SOX period. Tate (2007) examines factors associated with auditor switches by nonprofit organizations. We develop a similar model to assess whether downward switches in the post-SOX period are associated with client risk factors.

$$Prob(DOWN_t) = \alpha_0 + \alpha_1 SOX + \alpha_2 SURPLUS_{t-1} + \alpha_3 GC_{t-1} + \alpha_4 RISK_{t-1} + \alpha_5 ICD_{t-1} + \alpha_6 DA_{t-1} + \alpha_7 (GRANTS/REVENUES)_{t-1} + \alpha_8 (CONTRIBUTIONS/REVENUES)_{t-1} + \alpha_9 (PROGREV/REVENUES)_{t-1} + \alpha_{10} Ln(TOTALREVENUES)_{t-1} + \alpha_{11} BUSY.FYE + \alpha_{12} SOX*SURPLUS_{t-1} + \alpha_{13} SOX*GC_{t-1} + \alpha_{14} SOX*RISK_{t-1} + \alpha_{15} SOX*ICD_{t-1} + \alpha_{16} SOX*DA_{t-1} + \alpha_{17} SOX*GRANTS/REVENUES_{t-1} + \alpha_{18} SOX*CONTRIBUTIONS/REVENUES_{t-1} + \alpha_{19} SOX*PROGREV/REVENUES_{t-1} + \alpha_{20} SOX*TOTALREVENUES_{t-1} + \alpha_{21} SOX*BUSY.FYE + \Sigma \beta_i SECTOR + \varepsilon \quad (1)$$

where:[7]

DOWN = An indicator variable set to 1 if an NPO changed from a Big 4 auditor to a non-Big 4 auditor, 0 otherwise.
SOX = An indicator variable set to 1 if a fiscal year is 2002 and after, 0 otherwise.
SURPLUS = The NPO's operating surplus or loss for the year scaled by total revenue.[8]
GC = An indicator variable set to 1 if an NPO received a going concern opinion in the prior year, 0 otherwise.
RISK = An indicator variable set to 1 if an NPO is classified as "not low risk" during the Single Audit, 0 otherwise.
ICD = An indicator variable set to 1 if an auditor includes a reportable condition or material weakness in the Single Audit report, and 0 otherwise.[9]
DA = Total liabilities/Total assets.
GRANTS/REVENUES = Total government grants/Total revenues.
CONTRIBUTIONS/REVENUES = Total contributions/Total revenues.
PROGREV/REVENUES = Total program revenues/Total revenues.
Ln(TOTAL_REVENUES) = Natural log of a client's total revenues.
BUSY_FYE = An indicator variable set to 1 if the NPO has a December year-end, 0 otherwise.
SECTOR = Indicator variables identifying whether the industry of the NPO is Arts, Cultures and Humanities (ACH); Education (ED); Health (HE); Human Services (HS); Public and Societal Benefits (PSB); or other (OTH).

As developed in Hypothesis 1, downward switches are expected to be more likely in the post-SOX period. The likelihood of a downward switch is also likely to vary across types of nonprofit organizations. Discussions with a Big 4 partner with oversight of the firm's regional government and nonprofit practice indicate that the firm redeployed many staff to public company audits during the SOX period. Staff can more likely be redeployed from entities that have some characteristics similar to commercial entities, such as colleges and universities. As a result, Big 4 firms may reduce their presence in this sector to reallocate resources to public company audits. Accordingly, we expect downward switches to be more likely for colleges and universities.

In contrast, audits of charitable organizations are very different from audits of commercial entities, and it would be more difficult to utilize staff that specialize in audits of other nonprofits on audits of commercial entities. Because charitable entities are very different from commercial entities, they also help balance the risk of the audit firm's client portfolio. Further, audits of other charitable organizations may be performed by an audit firm for charitable reasons to enhance the firm's reputation, which may also help the firm recruit clients. As a result, Big 4 firms may be less likely to leave clients in other nonprofit sectors. Accordingly, we test Model 1, excluding sector indicators, separately for colleges and universities and all other organizations.[10] The other category includes many "pure charities" and similar entities, such as the YMCA, Teach for America, Girl Scouts, and many religious organizations, historic societies, and other community service organizations.

Hypothesis 2 indicates that downward switches will be more likely for riskier NPOs. Client risk is measured by presence of a negative operating surplus, receiving a going concern opinion, being classified as "not low risk" in a Single Audit, presence of internal control deficiencies, and a higher ratio of liabilities to assets. Consistent with Hypothesis 2, we expect that these risk variables will be more likely to be associated with downward switches in the post-SOX period.

A Big 4 audit firm may be more likely to retain an NPO if the organization receives more of its support from grants and public contributions for reputational reasons, measured by the ratio of these sources to total revenues. However, such support may be less stable, indicating greater risk. Accordingly, we do not predict a sign for these variables. We also control for entity size measured by the natural log of revenues. Smaller entities are likely to be less valuable as clients due to lower fees. In addition, the auditor–client mismatch is likely the greatest for smaller entities.[11] Finally, if downward switches are motivated by capacity constraints, they should be more likely for NPOs with a busy season year-end, which we measure as entities with a December year end.[12] We also interact SOX

[7] Our sample period covers three different Form 990 formats. As a result, we do not report the Form 990 line numbers for any variables that come from Form 990.
[8] Although the terms profit and loss are not applicable in the nonprofit sector, we use the term "surplus" to refer to a positive operating surplus for expositional convenience.
[9] Reportable conditions are now referred to as significant deficiencies. We use the term reportable conditions since the change in terminology occurred during our sample period.
[10] We thank an anonymous reviewer for suggesting this sector classification. We also considered a separate classification for hospitals since they also have characteristics similar to for-profit entities, but there were very few observations and downward switches in the hospital sector.
[11] Auditee size was the most significant variable in Shu's (2000) auditor–client mismatch model. We follow Shu (2000) in modeling the auditor–client mismatch; client size was the only significant variable in the model.
[12] Shu (2000) notes that auditors are now able to perform many audit procedures prior to year-end. As alternative measures, we define busy season audits as entities with December or January year-ends, and entities with December, January, or February year-ends, as well as with October, November, and December year-ends.

with each of the other variables to see if the impacts of risk and other variables differ in the pre-SOX and SOX periods; we report models with and without these interaction terms.

3.2. Selection of specialist auditor model

Hypothesis 3 predicts that downward switchers will be more likely to choose non-Big 4 specialist auditors. To test this prediction, we apply an auditor selection model to nonprofits that used a non-Big 4 auditor during the sample period. We modify the downward switch model, using choice of a specialist auditor as the dependent variable. We add the downward switch variable and its interaction with SOX to model 1.

$$\begin{aligned} Prob(SPECIALIST_t) = {} & \alpha_0 + \alpha_1 DOWN_t + \alpha_2 SOX + \alpha_3 SURPLUS_{t-1} + \alpha_4 GC_{t-1} + \alpha_5 RISK_{t-1} + \alpha_6 ICD_{t-1} + \\ & \alpha_7 DA_{t-1} + \alpha_8 (GRANTS/REVENUES)_{t-1} + \alpha_9 (CONTRIBUTIONS/REVENUES)_{t-1} + \\ & \alpha_{10} Ln(TOTALREVENUES)_{t-1} + \alpha_{11} BUSY\,FYE + \alpha_{12} SOX*DOWN + \\ & \alpha_{13} SOX*SURPLUS + \alpha_{14} SOX*GC + \alpha_{15} SOX*RISK + \alpha_{16} SOX*ICD + \\ & \alpha_{17} SOX*DA + \alpha_{18} SOX*GRANTS/REVENUES + \\ & \alpha_{19} SOX*(CONTRIBUTIONS/REVENUES) + \alpha_{20} SOX*Ln(TOTALREVENUES) + \\ & \alpha_{21} SOX*BUSY\,FYE + \Sigma \beta_i SECTOR + \varepsilon \end{aligned} \tag{2}$$

where:

$SPECIALIST_t$ = An indicator variable set to 1 if an NPO uses a non-Big 4 specialist, 0 otherwise.

As with the downward switch model, we test model 2 separately, excluding sector indicators, for universities and all other organizations. We define industry specialists based on audit firms' share of industry revenues. We further discuss measurement of industry specialization in Section 4.2.

3.3. Donation model

We use the following model to test whether subsequent contributions are affected by downward switches.

$$\begin{aligned} Ln(CONTRIBUTIONS)_{t+1} = {} & \beta_0 + \beta_1 DOWN_t + \beta_2 SPECIALIST_t + \beta_3 SOX + \beta_4 DOWN*SOX + \\ & \beta_5 SPECIALIST*SOX + \beta_6 GC_t + \beta_7 ICD_t + \beta_8 Ln(FUNDRAISINGEXP)_t + \\ & \beta_9 Ln(PROGREV)_t + \beta_{10} LnPRICE_t + \beta_{11} GROWTH_t + \beta_{12} RISK_t + \\ & \beta_{13} COMPLEXITY_t + \beta_{14} SURPLUS_t + \beta_{15} Ln(TOTALREVENUES)_t + \\ & \beta_{16} Ln(CONTRIBUTIONS)_t + \beta_{17} LnAGE_t + \Sigma \eta_i SECTOR + \Sigma \theta_i YEAR + \xi \end{aligned} \tag{3}$$

where:

$Ln(FUNDRAISINGEXP)_t$ = Natural log of fundraising expenses.
$Ln(PROGREV)_t$ = Natural log of program service revenues.
$LnPRICE_t$ = Natural log of price, measured as the reciprocal of program service expense ratio.
$GROWTH_t$ = The growth in assets, measured as the ratio of end-of-year total assets to beginning-of-year total assets
$COMPLEXITY_t$ = Number of revenue sources (0 − 3) included on an NPO's Form 990
$Ln(CONTRIBUTIONS)_t$ = Natural log of total contributions in the prior year.
$LnAGE_t$ = Natural log of the number of years between the Rule Date (when registered nonprofit organization obtained formal recognition of their tax exempt status by the IRS) and the current fiscal year.
$YEAR$ = Year indicators.

Kitching (2009) finds that use of a non-Big 5 auditor is associated with lower contributions. Consistent with H_{4a}, we predict a negative coefficient for DOWN that downward switches will have a negative impact on contributions. Because ICDs suggest that financial information is less reliable, we also expect ICDs to be associated with lower donations. Kitching (2009) finds that program revenues are negatively associated with contributions except for larger charities, as these other sources of revenues crowd out donations, and we expect a negative sign for *Ln(PROGREV)*.

Contributions are expected to be associated with the variable *Ln(FUNDRAISINGEXP)* that measures fundraising expenses (Weisbrod and Dominguez, 1986; Tinkelman, 1999), as well as prior year contributions (*LnCONTRIBUTIONS*). The variable *LnAGE* is a proxy for the reputation of the organization and is expected to be positively associated with donations, although results have been insignificant in other studies after controlling for size (Tinkelman, 1999; Kitching, 2009).

Previous studies include measures for the price of donations (Weisbrod and Dominguez, 1986; Tinkelman, 1998, 1999, 2004;

(*footnote continued*)
Results are not significantly different using these alternative definitions.

Table 2
Descriptive statistics.

Variable Name	Mean	Standard deviation	Lower quartile	Median	Upper quartile	t Statistics	Wilcoxon Z-tests
Panel A: Sample (N = 576)							
TOTAL CONTRIBUTIONS	23,121,539	63,576,085	3,526,029	8,184,078	17,231,704	−13.31***	−8.09***
PROGRAM REVENUES	71,592,254	183,530,295	7,418,710	26,184,716	60,596,320	−16.46***	−16.57***
TOTAL REVENUES	105,317,455	244,227,177	24,166,875	47,099,823	89,690,758	−18.74***	−20.15***
TOTAL EXPENSES	96,970,194	218,404,683	23,059,776	43,553,338	84,191,777	−18.61***	−20.26***
FUNDRAISING EXPENSES	1,435,090	2,376,333	139,259	732,427	1,647,009	−14.53***	−4.29***
PRICE	1.86	2.87	1.12	1.20	1.36	−3.10**	2.64***
TOTAL ASSETS	202,381,996	491,785,150	44,973,810	96,825,274	192,900,218	−17.03***	−18.42***
TOTAL LIABILITIES	75,099,750	145,312,481	12,026,805	27,523,470	72,484,437	−17.06***	−19.12***
AGE	53.08	117.20	30.00	51.00	64.00	−0.38	0.57
SURPLUS	0.06	0.18	0.00	0.04	0.12	1.33	−0.01
DA	0.42	0.32	0.19	0.33	0.54	−4.73***	−5.84***
GRANTS/REVENUES	0.14	0.22	0.01	0.03	0.15	2.43**	2.98***
CONTRIBUTIONS/REVENUES	0.31	0.31	0.08	0.19	0.50	5.26***	7.49***
PROGREV/REVENUES	0.59	0.32	0.34	0.69	0.86	−4.98***	−6.21***
SOX	0.81	0.40	1.00	1.00	1.00	3.72***	3.42***
GC	0.01	0.08	0.00	0.00	0.00	−1.09	−0.90
RISK	0.36	0.48	0.00	0.00	1.00	2.76***	2.86***
ICD	0.23	0.42	0.00	0.00	0.00	7.40***	9.82***
BUSY FYE	0.17	0.37	0.00	0.00	0.00	−3.18***	−2.92***
SPECIALIST	0.53	0.50	0.00	1.00	1.00	25.26***	57.95***
GROWTH	0.22	1.93	−0.01	0.05	0.12	−0.60	−0.92
COMPLEXITY	2.69	0.50	2.00	3.00	3.00	0.74	0.26

Variable name	Mean	Standard deviation	Lower quartile	Median	Upper quartile
Panel B: Control group (N = 6,095)					
TOTAL CONTRIBUTIONS	71,879,270	197,522,357	4,843,129	13,734,905	43,979,085
PROGRAM REVENUES	289,551,984	843,861,148	26,928,484	88,674,000	294,911,000
TOTAL REVENUES	404,173,964	958,844,205	64,192,437	147,257,993	393,323,360
TOTAL EXPENSES	370,624,757	901,382,017	60,334,990	131,853,698	367,604,638
FUNDRAISING EXPENSES	3,818,234	10,206,245	0	1,117,977	3,469,032
PRICE	2.27	4.31	1.11	1.18	1.31
TOTAL ASSETS	869,683,898	2,606,495,809	106,089,387	283,196,259	750,638,211
TOTAL LIABILITIES	372,318,314	1,275,010,712	39,799,596	111,202,608	307,700,018
AGE	55.02	136.53	27.00	52.00	63.00
SURPLUS	0.04	0.76	0.00	0.05	0.11
DA	0.48	0.32	0.25	0.40	0.65
GRANTS/REVENUES	0.11	0.21	0.01	0.02	0.10
CONTRIBUTIONS/REVENUES	0.24	0.30	0.03	0.13	0.30
PROGREV/REVENUES	0.66	0.33	0.46	0.79	0.92
SOX	0.74	0.44	0.00	1.00	1.00
GC	0.01	0.10	0.00	0.00	0.00
RISK	0.31	0.46	0.00	0.00	1.00
ICD	0.10	0.30	0.00	0.00	0.00
BUSY FYE	0.22	0.41	0.00	0.00	0.00
SPECIALIST	0.00	0.00	0.00	0.00	0.00
GROWTH	0.27	1.48	-0.01	0.06	0.12
COMPLEXITY	2.67	0.54	2.00	3.00	3.00

Variable Name	Universities/Colleges				Other			
	Sample (n = 257)		Control (n = 2636)		Sample (n = 319)		Control (n = 3459)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Panel C: Descriptive Statistics for Sample vs. Control Group by Sector								
TOTAL CONTRIBUTIONS	14,320,781	7,838,280	84,347,262	16,633,603	30,211,804	8,861,094	62,377,789	11,351,100
PROGRAM REVENUES	59,210,679	35,922,062	224,341,053	85,908,538	81,567,378	12,836,799	339,247,275	95,025,601
TOTAL REVENUES	82,672,752	50,376,557	378,814,822	126,342,251	123,560,993	41,682,777	423,499,404	172,460,544
TOTAL EXPENSES	73,652,222	46,784,191	323,199,144	111,760,360	115,756,147	38,102,611	406,766,392	165,117,727
FUNDRAISING EXPENSES	1,508,976	1,137,430	5,103,485	2,418,043	1,375,565	299,927	2,838,783	85,692
PRICE	1.66	1.21	1.93	1.18	2.05	1.19	3.11	1.18
TOTAL ASSETS	204,725,820	119,259,376	1,272,309,553	351,688,042	200,493,711	72,101,945	562,854,980	240,624,279
TOTAL LIABILITIES	71,363,401	38,071,267	450,017,714	112,142,312	78,109,912	19,350,724	313,105,935	110,237,225
AGE	54.39	59.00	58.04	57.00	52.02	38.00	52.72	44.00
SURPLUS	0.08	0.07	0.08	0.07	0.04	0.03	0.01	0.03

(continued on next page)

Table 2 *(continued)*

Variable Name	Universities/Colleges				Other			
	Sample (n = 257)		Control (n = 2636)		Sample (n = 319)		Control (n = 3459)	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
DA	0.38	0.33	0.40	0.32	0.44	0.33	0.54	0.48
GRANTS/REVENUES	0.06	0.02	0.07	0.03	0.19	0.06	0.14	0.02
CONTRIBUTIONS/REVENUES	0.19	0.15	0.18	0.14	0.41	0.33	0.29	0.08
PROGREV/REVENUES	0.71	0.76	0.70	0.76	0.49	0.49	0.63	0.83
SOX	0.81	1.00	0.72	1.00	0.81	1.00	0.75	1.00
GC	0.00	0.00	0.00	0.00	0.01	0.00	0.02	0.00
RISK	0.31	0.00	0.25	0.00	0.41	0.00	0.35	0.00
ICD	0.29	0.00	0.09	0.00	0.18	0.00	0.10	0.00
BUSY FYE	0.01	0.00	0.03	0.00	0.29	0.00	0.36	0.00
SPECIALIST	0.54	1.00	0.00	0.00	0.52	1.00	0.00	0.00
GROWTH	0.13	0.06	0.39	0.06	0.29	0.05	0.24	0.05
COMPLEXITY	2.84	3.00	2.84	3.00	2.57	3.00	2.55	3.00

Note: Tests are all two-tailed. * denotes $p \leq 0.10$; comparison of downward switchers to control group in Panel B.
*** denotes $p \leq 0.01$.
** denotes $p \leq 0.05$.

Kitching, 2009) and entity complexity (Petrovits et al., 2011). Assuming a constant tax rate, the price of giving simplifies to the ratio of total expenses to program service expenses. Similar to Petrovits et al. (2011), we use the natural log of this measure (*LnPRICE*). The variable *COMPLEXITY* is the number of revenue sources reported on Form 990. Other variables are as defined in Model 1.

3.4. Internal control deficiency model

Petrovits et al. (2011) investigate the causes and consequences of internal control problems in nonprofit organizations. They find that control problems are related to growth, financial health, size, and complexity of the organization. We add the downward switch variable to a model of internal control deficiencies based on Petrovits et al. (2011) in order to investigate the effect of downward switches on subsequent internal control deficiencies.

$$\begin{aligned} Prob(ICD)_{t+1} = {} & \eta_0 + \eta_1 DOWN_t + \eta_2 SPECIALIST_t + \eta_3 SOX + \eta_4 GC_t + \eta_5 RISK_t + \eta_6 ICD_t + \\ & \eta_7 GROWTH_t + \eta_8 SURPLUS_t + \eta_9 Ln(TOTALREVENUES)_t + \eta_{10} LnAGE_t + \\ & \eta_{11} COMPLEXITY_t + \eta_{12} DOWN{*}SOX + \eta_{13} SPECIALIST{*}SOX + \Sigma\lambda_i SECTOR + \\ & \Sigma\nu_i YEAR + \mu \end{aligned} \quad (4)$$

The variables were defined previously, and as with the other models, we test the donation and ICD models separately for universities and all other organizations. We also use two measures of the dependent variable ICD – a material weakness and a material weakness or reportable condition. As indicated by H_{4b} that predicts downward switches to be associated with increased control deficiencies, we expect a positive coefficient on DOWN, as the Big 4 firms may drop clients that are becoming more risky, with declining control environments. Consistent with Petrovits et al. (2011), we expect specialists to be associated with fewer internal control deficiencies. We interact the downward switch and specialist variables with SOX to see if these relationships changed post-SOX based on the changing nature of downward switches.

3.5. Data

Panel A of Table 2 presents descriptive statistics for the 576 NPOs with downward switches from a Big 4 auditor, while Panel B includes descriptive information on the 6095 NPO observations with Big 4 auditors that did not switch or had lateral switches. The last two columns of Panel A report t-statistics and Wilcoxon Z-tests comparing downward switchers to those that did not have downward switches. Downward switchers are considerably smaller than non-switchers, with mean total revenues of $97.0 million for downward switchers compared to $404.2 million for the control group.[13]

Consistent with the argument that downward switches are more likely for riskier NPOs, downward switchers have significantly more internal control deficiencies (0.23) than non-switchers (0.10) and are more likely to be classified as not low risk (0.36) than non-switchers (0.31). Downward switchers also had a significantly lower mean debt ratio (0.42) than non-switchers (0.48).

Although downward switchers have lower contributions than non-switchers, the ratio of contributions to revenues of 0.31 is significantly higher than the mean of 0.24 for non-switchers. One possible explanation is that the total amount of contributions may be more important than the percentage of revenues from contributions in the switch decision. Downward switchers have a higher

[13] As noted in footnote 6, an entity can be included in the control sample multiple times. We also calculated descriptive statistics using the average for the 866 unique entities that are included in the control sample. The descriptive statistics using this approach are qualitative similar to those reported in Table 2.

Table 3
Pearson correlation matrix.

	DOWN	SOX	Sur-plus	GC	RISK	ICD	DA	GRT/ REV	CONT/ REV	PROGRE-V/ REV
DOWN	1.000	**0.042**	0.006	−0.011	**0.035**	**0.120**	**−0.058**	**0.031**	**0.066**	**−0.060**
SOX		1.000	−0.016	**0.027**	**−0.262**	**0.094**	**0.174**	**−0.032**	**−0.037**	**0.092**
Surplus			1.000	−0.019	−0.016	−0.002	**−0.113**	−0.011	−0.003	**−0.060**
GC				1.000	**0.047**	**0.072**	**0.230**	**−0.041**	**−0.070**	**0.076**
RISK					1.000	**0.115**	**0.040**	−0.002	**−0.031**	0.011
ICD						1.000	**0.069**	**0.027**	**0.029**	−0.022
DA							1.000	**0.030**	**−0.128**	**0.271**
GRT/REV								1.000	**0.765**	**−0.645**
CONT/REV									1.000	**−0.860**
PROGREV/ REV										1.000
Ln(TOT _REV)										
BUSY FYE										
Specialist										
LnFund _EXP										
LnPrice										
Comp -lexity										
Growth										
LnCONT										
LnAGE										

	Ln (TOT_ REV)	BUSY FYE	Special-ist	LnFund_E-XP	LnPrice	Comp -lexity	Growth	Ln CONT	LnAGE
DOWN	**−0.227**	**−0.036**	**0.710**	**0.027**	−0.020	−0.009	0.009	**−0.043**	0.008
SOX	**0.124**	0.005	**0.064**	0.021	**0.109**	**−0.203**	**−0.113**	0.009	**0.052**
Surplus	**0.101**	**−0.043**	0.006	**0.062**	**−0.053**	**0.026**	**0.117**	**0.119**	**0.030**
GC	0.016	**0.134**	−0.009	**−0.103**	**0.070**	−0.019	**−0.030**	**−0.066**	**−0.024**
RISK	−0.002	**0.091**	0.000	**−0.125**	−0.005	**0.166**	**−0.052**	**−0.082**	**−0.083**
ICD	**0.028**	0.018	**0.103**	**0.025**	**0.046**	**−0.027**	**−0.053**	**0.027**	**0.027**
DA	**0.067**	**0.237**	−0.023	**−0.306**	**0.312**	**−0.080**	**−0.436**	**−0.205**	**−0.077**
GRT/REV	**−0.173**	**−0.049**	−0.015	**−0.062**	**−0.034**	**0.025**	**−0.084**	**0.307**	**−0.127**
CONT/REV	**−0.261**	**−0.074**	0.009	**0.162**	−0.006	**0.026**	**−0.057**	**0.426**	**−0.101**
PROGREV/ REV									
Ln(TOT _REV)	1.000	**0.085**	**−0.101**	**0.069**	**−0.057**	0.003	**0.083**	**0.386**	**0.032**
BUSY FYE		1.000	−0.023	**−0.328**	**0.054**	**−0.037**	**−0.155**	**−0.185**	**−0.123**
Specialist			1.000	**0.031**	−0.007	−0.021	−0.004	−0.021	0.013
LnFund _EXP				1.000	**−0.048**	0.016	**0.275**	**0.434**	**0.177**
LnPrice					1.000	**−0.034**	**−0.349**	**−0.116**	**−0.025**
Comp -lexity						1.000	**0.051**	**0.034**	**−0.052**
Growth							1.000	**0.364**	**0.120**
LnCONT								1.000	**0.062**
LnAGE									1.000

Note: Coefficients that are significant at the 5% level or less are in bold. See Appendix A for variable definitions.

ratio of grant revenue to total revenue (0.14) than non-switchers (0.11). In contrast, the ratio of program revenue to total revenue for downward switchers of 0.59 is significantly lower than the 0.66 ratio for non-switchers. There is significant variation in these ratios across sectors. The ratio of program revenue to total revenue (ratio of contributions/total revenue) for universities and colleges is 71% (19%), and other nonprofits 49% (41%), consistent with the argument that colleges and universities are more similar to commercial entities.

We conduct separate analyses for universities and colleges and other nonprofits. Panel C provides mean and median values by sector for the sample and control groups; only means are reported for dichotomous variables.

Table 3 contains the Pearson correlations for the variables. As expected, downward switches are positively correlated with the SOX variable and internal control deficiencies, as well as auditee risk and grant revenue. Also consistent with our expectations, downward switches are negatively correlated with revenues, contributions, the ratio of debt to assets, and busy season year-end.

Contributions are significantly positively correlated with total revenues and the contributions to revenues variables. Surprisingly, internal control deficiencies are positively related to revenues and contributions. Although increased revenues may provide resources to invest in controls, additional revenues may increase organizational complexity. Variance inflation factors are well below 10, suggesting the regression results are not significantly impacted by multicollinearity.

4. Results

4.1. SOX and downward switches

Table 4 presents the results of the downward switch model. We report results for the full sample of 6671 observations with 576 downward switches, as well as separately for colleges and universities and all other observations. All p-values are based on Huber-White standard errors clustered by NPOs for all the regressions in this study. Because SOX is the research variable of interest and the full model includes the interaction of SOX with the other independent variables, we first report a reduced model that excludes the interaction terms in Table 4 Panel A. As predicted in Hypothesis 1, the SOX variable is highly significant for the full sample and both subsamples, indicating that clients were more likely to replace Big 4 auditors, and/or Big 4 auditors were more likely to resign from NPO engagements after the enactment of SOX.[14,15] The coefficient on the SOX variable is larger for the university subsample, indicating that downward switches were more likely for colleges and universities, even after controlling for risk factors associated with downward switches. These results are consistent with the argument that audit firms were likely to continue serving nonprofits in other sectors for charitable and reputation reasons, and that audit resources in the university and colleges could more easily be directed toward public company audits, or Big 4 firms may have perceived these clients as less desirable than clients in other sectors.[16]

As expected, the downward switches are negatively related to the size of the organization measured by total revenues. Downward switches are also positively related to the existence of internal control deficiencies, and positively related to the risk variable for the full sample. Contrary to expectations, downward switches are negatively related to the ratio of total liabilities to total assets.

Panel B of Table 4 presents the results of the full model with the inclusion of all the interaction terms. The SOX variable is now only marginally significant for the full sample, but remains highly significant for the university sample. The ICD variable remains significant for the full sample and university sample but the risk variable is no longer significant. Contrary to expectations, the going concern variable is negative and significant for the full sample and both subsamples, while the interaction of SOX with going concern is positive and significant for the full sample and other nonprofit subsample. However, we note that very few nonprofits receive going concern opinions. Overall, these results are consistent with the second hypothesis that downward switches are more likely for risky NPOs, but provide only limited support for increased sensitivity to risk in the post-SOX period.[17]

4.2. Choice of successor auditor

Consistent with most studies of auditor specialization, we develop a specialist measure using audit firms' share of the audit market based on client revenues audited. We develop this measure separately for colleges and universities and other nonprofits. We define an audit firm as a specialist if it audits greater than 5% of total revenues in the college and university sector in that year, or more than 1% of total revenues for other nonprofits. These somewhat arbitrary cutoffs were based on examination of market shares by audit firms in the two types of organizations.[18]

[14] Table 1 indicates that downward switches occurred more frequently immediately after the adoption of SOX. We divide the data into an early-SOX (2002–2006) and late-SOX (2007–2009) periods. Downward switches were more likely in both periods.

[15] As an alternative test, we define a downward switch as a change from a Big 4 auditor or a specialist. The SOX variable is no longer significant using this broader definition of downward switches. This provides additional evidence that the Big 4 downward switches are attributable to SOX, rather than other factors that may be associated with lower demand for audit quality by nonprofit entities.

[16] The other category includes several NTEE categories. We run the downward switch model by sector; the SOX variable is not significant for educational organizations other than colleges and universities included in the other nonprofit category but is significant for all other sectors in the other category.

[17] Vermeer (2008) finds that there was significant downward switching by former Andersen clients, and that this was impacted by the location of the client as entities outside major metropolitan areas had fewer auditor choices. Our results are qualitatively unchanged when we exclude former Andersen clients from our analysis. As a robustness test, following Vermeer (2008), we include an indicator variable if the NPO is outside the top 10 major metropolitan areas; the variable was not significant and the results are qualitatively unchanged with the inclusion of the variable.

[18] We also test a measure of specialization based on Petrovits et al. (2011) and define specialists as firms that conduct 100 or more A-133 audits for the audit year. In

Table 4

Downward Switch Model Results for H_1 & H_2. $Prob(DOWN) = \alpha_0 + \alpha_1 SOX + \alpha_2 SURPLUS_{t-1} + \alpha_3 GC + \alpha_4 RISK + \alpha_5 ICD_{t-1} + \alpha_6 DA_{t-1} + \alpha_7 (GRANTS/REVENUES)_{t-1} + \alpha_8 (CONTRIBUTIONS/REVENUES)_{t-1} + \alpha_9 (PROGREV/REVENUES)_{t-1} + \alpha_{10} Ln(TOTALREVENUES)_{t-1} + \alpha_{11} BUSY.FYE_t + \Sigma \beta_t SECTOR + \varepsilon$.

		Complete Sample (N = 6671, with 576 Downward Switches)		*Universities/Colleges* (N = 2893, with 257 Downward Switches)		*Other* (N = 3778, with 319 Downward Switches)	
	Expected Sign	*Coefficient*	*p-value*	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Panel A: Results for Tests without Interaction Terms							
Intercept	n/a	5.873***	< 0.001	11.653***	< 0.001	4.994***	< 0.001
SOX	+	0.800***	< 0.001	1.125***	< 0.001	0.682***	< 0.001
SURPLUS	–	−0.005**	0.045	−0.010	0.110	−0.004	0.175
GC	+	0.180	0.816	−9.628***	< 0.001	0.238	0.727
RISK	+	0.239**	0.037	0.216	0.261	0.185	0.212
ICD	+	0.503***	0.001	0.440*	0.058	0.525***	0.008
DA	+	−0.875***	0.005	−0.368	0.366	−1.212***	0.001
(GRANTS/REVENUES)	?	0.153	0.687	0.774	0.398	0.367	0.366
(CONTRIBUTIONS/REVENUES)	?	−0.078	0.765	−0.991	0.111	0.313	0.384
(PROGREV/REVENUES)	?	0.283	0.245	−0.347	0.319	0.515	0.237
Ln (TOTAL_REVENUES)	–	−0.476***	< 0.001	−0.791***	< 0.001	−0.436***	< 0.001
BUSY_FYE	+	−0.039	0.841	−1.325	0.203	−0.059	0.745
SECTOR		Included					
Max-rescaled R^2			13.40%		14.39%		12.02%
Wald Chi-Square			11.53***		36.05***		9.88***

(continued on next page)

Table 4 *(continued)*

		Complete Sample (N = 6671, with 576 Downward Switches)		*Universities/Colleges* (N = 2893, with 257 Downward Switches)		*Other* (N = 3778, with 319 Downward Switches)	
	Expected Sign	*Coefficient*	*p-value*	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Panel B: Results for Tests with Interaction Terms		$Prob(DOWN) = \alpha_0 + \alpha_1 SOX + \alpha_2 SURPLUS_{t-1} + \alpha_3 GC + \alpha_4 RISK + \alpha_5 ICD_{t-1} + \alpha_6 DA_{t-1} + \alpha_7 (GRANTS/REVENUES)_{t-1} + \alpha_8 (CONTRIBUTIONS/REVENUES)_{t-1} + \alpha_9 (PROGREV/REVENUES)_{t-1} + \alpha_{10} Ln(TOTALREVENUES)_{t-1} + \alpha_{11} BUSYFYE_t + \alpha_{12} SOX*SURPLUS + \alpha_{13} SOX*GC + \alpha_{14} SOX*RISK + \alpha_{14} SOX*ICD + \alpha_{15} SOX*DA + \alpha_{16} SOX*GRANTS/REVENUES + \alpha_{17} SOX*CONTRIBUTIONS/REVENUES + \alpha_{18} SOX*PROGREV/REVENUES \alpha_{19} SOX*TOTALREVENUES + \alpha_{20} SOX*BUSY.FYE + \Sigma \beta_i SECTOR + \varepsilon$					
Intercept	n/a	4.809***	< 0.001	5.620***	0.002	5.260***	0.001
SOX	+	2.484*	0.077	11.691***	< 0.001	0.284	0.865
SURPLUS	–	−0.005	0.048	−0.006	0.138	−0.005	0.182
GC	+	−10.778***	< 0.001	−10.022***	< 0.001	−10.764***	< 0.001
RISK	+	0.257	0.249	−0.006	0.986	0.443	0.152
ICD	+	0.868**	0.014	0.975**	0.046	0.685	0.213
DA	+	−0.373	0.316	−0.355	0.551	−0.404	0.410
(GRANTS/REVENUES)	?	0.799	0.183	0.276	0.804	1.021	0.198
(CONTRIBUTIONS/REVENUES)	?	−0.597	0.274	−0.117	0.875	−0.850	0.308
(PROGREV/REVENUES)	?	0.084	0.871	0.701	0.399	−0.342	0.602
Ln(TOTAL_REVENUES)	–	−0.418***	< 0.001	−0.486***	< 0.001	−0.435***	< 0.001
BUSY_FYE	+	−0.142	0.664	−0.426	0.784	−0.165	0.636
*SOX*SURPLUS*	–	0.028	0.275	0.962**	0.020	0.036	0.202
*SOX*GC*	+	11.129***	< 0.001	−0.041	0.976	11.147***	< 0.001
*SOX*RISK*	+	−0.012	0.962	0.225	0.581	−0.321	0.363
*SOX*ICD*	+	−0.416	0.287	−0.623	0.257	−0.149	0.802
*SOX*DA*	+	−0.694	0.172	0.433	0.582	−1.013	0.100
SOX GRANTS/REVENUES*	?	−0.961	0.172	0.129	0.941	−1.043	0.230
*SOX*CONTRIBUTIONS/REVENUES*	?	0.740	0.245	−0.258	0.847	1.955*	0.052
SOX PROGREV/REVENUES*	?	0.223	0.693	−1.275	0.169	1.454	0.100
*SOX*TOTAL_REVENUES*	–	−0.092	0.220	−0.563***	< 0.001	−0.019	0.839
*SOX*BUSY_FYE*	+	0.128	0.700	−1.222	0.537	0.130	0.728
SECTOR		Included					
Max-rescaled R^2			13.84%		16.42%		13.01%
Wald Chi-Square			52.95***		26.21***		47.09***

Note: Tests are all two-tailed.

*** denotes p ≤ 0.01.

** denotes p ≤ 0.05.

* denotes p ≤ 0.10. See Appendix A for variable definitions.

To test whether downward switchers are more likely to choose a non-Big 4 specialist auditor, we identify all auditor switches over the sample period involving selection of a non-Big 4 auditor using the auditor selection model in model 2.[19] To develop the sample, of the 36,107 observations in Table 1, we identify 25,448 observations that have non-Big 4 auditors. Of these 25,448 observations, there are 7104 observations that have auditor switches. After removing 26 observations that have missing values, Table 5 has 7078 observations in the sample. As with the downward switch model, we apply the model to the complete sample of auditor switchers, as well as subsamples for colleges and universities and other nonprofits.

Descriptive statistics for this sample are reported in Panel A of Table 5. Approximately 13.5% of the observations are downward switchers, and 22.5% use specialist auditors.

Regression results are reported in Panel B of Table 5. Consistent with the third hypothesis, downward switchers are more likely to choose a specialist auditor. However, colleges and universities are not more likely to choose a non-Big 4 specialist auditor. One explanation is that colleges and universities with a demand for high audit quality may require a Big 4 auditor. The interaction of SOX and DOWN is insignificant, indicating that downward switchers are not more likely to choose a non-Big 4 specialist post-SOX. Larger entities are more likely to choose a non-Big 4 specialist, especially post-SOX. Entities that are not classified as low risk and entities that receive a larger portion of their revenues from grants are less likely to choose a non-Big 4 specialist.

4.3. Effects of downward switches

Table 6 presents the results for model 3 of the effects of Big 4 downward switches on contributions. Kitching (2009) finds that contributions are related to auditor quality for larger NPOs. Neither the downward switch variable nor the interaction of DOWN and SOX is significant. Although the downward switch variable is negative for other nonprofits, it is not significant. The interaction of DOWN and SOX is positive, but not significant for other nonprofits. Chang et al. (2010) provide evidence that downward switches for publicly-traded companies were not perceived negatively in the post-SOX period. While other nonprofits might be reluctant to initiate a downward switch due to a potential adverse effect on donations, there is no evidence that such changes were perceived negatively.

The specialist variable and the specialist-SOX interaction term are not significant for the full sample or either subsample. As expected, current year contributions are positive and significantly related to prior year contributions and total revenues, and are positively related to fundraising expense for other nonprofits. Contributions are negatively associated with the surplus variable. Contrary to expectations, the coefficients for a prior year ICD is insignificant. Contributions are negatively associated with program revenues and receipt of a going concern opinion. There is no significant association between contributions and complexity, which measures the number of revenue sources.

Panel A of Table 7 reports the results of the internal control deficiency model using material weaknesses (more severe form of deficiencies) as the dependent variable. Downward switches are associated with increased material weaknesses, and specialists are associated with fewer material weaknesses for the full sample and each subsample. The interaction of SOX with downward switches is negative and significant, indicating that downward switches are associated with fewer material weaknesses post-SOX compared to the pre-SOX period. The interaction of specialization and SOX is positive and significant, indicating that specialists report more material weaknesses post-SOX. As expected, current year material weaknesses are positively associated with prior year control deficiencies, and classification of as not being low-risk.

Table 7 Panel B presents the results of the effects of Big 4 downward switches on the broader measure of internal control deficiencies that includes reportable conditions. Downward switches are positively associated with an increase in internal control deficiencies for the full sample and college and university subsample. Although specialists were associated with fewer material weaknesses, specialist are not significantly associated with the broader measure of control deficiencies. The prior year deficiency and risk variables are positively associated with increased control deficiencies, consistent with the results in Panel A.[20]

4.4. Use of SOI data versus Core files

Our primary analysis uses SOI data rather than the Core files because the SOI files include more data items that reduce the potential for omitted variables. The cutoff for inclusion of nonprofits in the SOI files is currently $50 million in total assets, and was $10 million before the year 2000 (Feng et al., 2014). As a result, nonprofits in the SOI files are larger on average than nonprofits included in the Core files. We repeat our analyses using the Core files. The results for downward switches using the Core files are consistent with the results using SOI data. That is, we find consistent support that downward switches are more likely in the SOX period, and downward switchers are more likely to select specialist auditors. When we partition the data between large and small nonprofits based on the SOI file cutoffs, we find a positive correlation between downward switches and subsequent contributions for

(*footnote continued*)
addition, we test alternative specialist cutoffs of 30 and 50 clients. We also define specialists based whether they have 30 (or 50) clients within each NTEE (National Taxonomy of Exempt Entities) sector for the audit year. We also define a specialist as having more than 50 clients and more than 10% of the market in a state. Downward switchers are significantly associated with choice of a specialist auditor using these alternative measures.

[19] We also compare the selection of non-Big 4 specialists by downward switch NPOs to the use of specialists in the overall population of NPOs with non-Big 4 auditors. In untabulated univariate results, we find that downward switch NPOs are significantly more likely to use non-Big 4 specialists, consistent with downward switch NPOs attempting to maintain a high level of quality by selecting specialist audit firms.

[20] The risk, prior year ICD, and going concern variables measure similar constructs, which could impact the results, although the correlations among these variables (see Table 3) are comparatively low. Exclusion of the risk variable from the regression models does not significantly affect the results.

Table 5
Specialist Choice Model Results for H_3.

Variable (N = 7078)	Mean	Stand Deviation	Lower Quartile	Median	Upper Quartile
Panel A: Descriptive Statistics for the Sample of Table 5					
SPECIALIST	0.225	0.418	0.000	0.000	0.000
DOWN	0.135	0.342	0.000	0.000	0.000
SOX	0.479	0.500	0.000	0.000	1.000
SURPLUS	−0.027	4.486	−0.017	0.035	0.124
GC	0.009	0.095	0.000	0.000	0.000
RISK	0.545	0.498	0.000	1.000	1.000
ICD	0.200	0.400	0.000	0.000	0.000
DA	0.531	2.377	0.176	0.413	0.805
(GRANTS/REVENUE)	0.226	0.323	0.000	0.033	0.399
(CONTRIBUTIONS/REVENUE)	0.397	0.391	0.041	0.273	0.753
Ln(TOTAL_REVENUE)	15.911	1.854	14.714	16.100	17.162
BUSY_FYE	0.274	0.446	0.000	0.000	1.000

		Complete Sample (N = 7078 with 1595 Specialists)		*Universities/Colleges* (N = 1305 with 431 Specialists)		*Other* (N = 5773 with 1164 Specialists)	
	Expected Sign	*Coefficient*	*p-value*	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Panel B: Regression Results.	$Prob(Specialist_t) = \alpha_0 + \alpha_1 DOWN_t + \alpha_2 SOX + \alpha_3 SURPLUS_{t-1} + \alpha_4 GC_{t-1} + \alpha_5 RISK_{t-1} + \alpha_6 ICD_{t-1} + \alpha_7 DA_{t-1} + \alpha_8 (GRANTS/REVENUES)_{t-1} + \alpha_9 (CONTRIBUTIONS/REVENUES)_{t-1} + \alpha_{10} Ln(TOTALREVENUES)_{t-1} + \alpha_{11} BUSY.FYE_t + \alpha_{12} SOX*DOWN + \alpha_{13} SOX*SURPLUS + \alpha_{14} SOX*GC + \alpha_{15} SOX*RISK + \alpha_{16} SOX*ICD + \alpha_{17} SOX*DA + \alpha_{18} SOX*GRANTS/REVENUES + \alpha_{19} SOX*(CONTRIBUTIONS/REVENUES) + \alpha_{20} SOX*Ln(TOTALREVENUES) + \alpha_{21} SOX*BUSY.FYE + \Sigma \beta_i SECTOR + \varepsilon$						
Intercept	n/a	-5.963***	< 0.001	-7.795	0.956	-6.042***	< 0.001
DOWN	+	0.424***	0.009	0.117	0.667	0.664***	0.001
SOX	+	-3.445***	< 0.001	-9.029***	0.001	-3.037***	< 0.001
SURPLUS	–	-0.020	0.829	0.140	0.820	-0.008	0.935
GC	+	-0.576	0.355	-10.933	0.985	-0.537	0.391
RISK	+	-0.301***	0.001	-0.335	0.138	-0.263**	0.014
ICD	+	0.064	0.557	-0.315	0.180	0.169	0.175
DA	+	0.007	0.605	0.567	0.102	0.007	0.606
(GRANTS/REVENUES)	?	-0.945***	< 0.001	-0.415	0.651	-0.970***	< 0.001
(CONTRIBUTIONS/REVENUES)	?	-0.028	0.867	-0.291	0.617	0.015	0.933

(continued on next page)

Table 5 *(continued)*

		Complete Sample (N = 7078 with 1595 Specialists)		*Universities/Colleges* (N = 1305 with 431 Specialists)		*Other* (N = 5773 with 1164 Specialists)	
	Expected Sign	*Coefficient*	*p-value*	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Ln(TOTAL_REVENUES)	+	0.303***	< 0.001	0.230***	0.007	0.299***	< 0.001
BUSY_FYE	+	0.138	0.177	0.444	0.475	0.165	0.123
*SOX*DOWN*	+	0.219	0.251	0.419	0.212	0.011	0.963
*SOX*SURPLUS*	–	-0.001	0.994	-0.616	0.510	-0.012	0.904
*SOX*GC*	+	0.402	0.608	10.397	0.985	0.414	0.609
*SOX*RISK*	+	0.235*	0.074	0.241	0.420	0.207	0.169
*SOX*ICD*	+	0.183	0.235	0.778**	0.016	0.010	0.955
*SOX*DA*	+	-0.117	0.405	-1.110*	0.095	-0.090	0.540
*SOX*GRANTS/REVENUES*	–	0.184	0.563	0.844	0.557	0.095	0.773
*SOX*CONTRIBUTIONS/REVENUES*	–	-0.281	0.258	-1.222	0.258	-0.234	0.361
SOX Ln(TOTAL_REVENUES)*	+	0.209***	< 0.001	0.548***	0.001	0.190***	< 0.001
*SOX*BUSY_FYE*	+	0.100	0.487	0.090	0.930	0.049	0.745
SECTOR		Included					
Max-rescaled R^2			21.26%		16.45%		21.17%
Wald Chi-Square			843.81***		134.00***		671.80***

Note: Tests are all two-tailed.

*** denotes p ≤ 0.01.

** denotes p ≤ 0.05.

* denotes p ≤ 0.10. See Appendix A for variable definitions.

Table 6
Effects of Downward Switches and Having a Specialist Auditor on Contributions - Results for Test of $H4_a$.

$$Ln(CONTRIBUTIONS)_{t+1} = \beta_0 + \beta_1 DOWN_t + \beta_2 SPECIALIST_t + \beta_3 SOX + \beta_4 GC_t + \beta_5 ICD_t + \beta_6 Ln(FUNDRAISINGEXP)_t + \beta_7 Ln(PROGREV)_t + \beta_8 LnPRICE_t + \beta_9 GROWTH_t + \beta_{10} RISK_t + \beta_{11} COMPLEXITY_t + \beta_{12} SURPLUS_t + \beta_{13} Ln(TOTALREVENUES)_t + \beta_{14} Ln(CONTRIBUTIONS)_t + \beta_{15} LnAGE_t + \beta_{16} DOWN*SOX + \beta_{17} SPECIALIST*SOX + \Sigma\eta i SECTOR + \Sigma\theta i YEAR + \xi$$

		Complete Sample (N = 6671)		*Universities/Colleges* (N = 2893)		*Other* (N = 3778)	
	Exp. Sign	*Coefficient*	*p-value*	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Intercept	n/a	1.139***	0.008	−1.160*	0.060	2.141***	< 0.001
$DOWN_t$	–	−0.019	0.845	0.119	0.388	−0.174	0.235
$SPECIALIST_t$	+	−0.073	0.606	0.041	0.763	−0.083	0.737
SOX	?	−0.049	0.735	−0.278**	0.027	−0.098	0.515
GC_t	–	−0.324**	0.050			−0.366**	0.033
ICD_t	–	−0.001	0.991	−0.008	0.800	−0.007	0.935
$Ln(FUNDRAISINGEXP)_t$	+	0.030***	< 0.001	0.004	0.595	0.038***	< 0.001
$Ln(PROGREV)_t$	–	−0.065***	< 0.001	−0.107*	0.062	−0.067***	< 0.001
$LnPRICE_t$	–	−0.052	0.467	0.087***	0.004	0.002	0.972
$GROWTH_t$	?	−0.001	0.884	−0.002	0.593	−0.005	0.709
$RISK_t$	?	0.017	0.750	0.019	0.519	0.010	0.900
$COMPLEXITY_t$	–	−0.015	0.805	−0.007	0.929	0.088	0.228
$SURPLUS_t$	?	−0.204***	< 0.001	−0.496***	0.003	−0.185***	< 0.001
$Ln(TOTAL\_REVENUES)_t$	+	0.477***	< 0.001	0.442**	0.023	0.442***	< 0.001
$Ln(CONTRIBUTIONS)_t$	+	0.489***	< 0.001	0.697***	< 0.001	0.450***	< 0.001
$LnAGE_t$	+	−0.052*	0.053	0.000	0.995	−0.056	0.139
*DOWN*SOX*	?	−0.017	0.871	−0.203	0.137	0.165	0.293
*SPECIALIST*SOX*	?	−0.056	0.746	−0.014	0.924	−0.116	0.699
YEAR		Included		Included		Included	
SECTOR		Included					
R^2			74.87%		87.43%		70.72%
F Value			151.35***		485.20***		88.01***

Note: Tests are all two-tailed.
*** denotes p ≤ 0.01.
** denotes p ≤ 0.05.
* denotes p ≤ 0.10. See Appendix A for variable definitions.

the smaller nonprofits. One possible explanation is that smaller nonprofits are largely governed by major donors that may have supported or have been unconcerned with the downward switch, and these entities may be more dependent on continued donations. Another explanation is that the downward switch was part of an effort to reduce costs, and donors may have positively responded to these efforts to reduce costs.

5. Summary and conclusions

The demise of Arthur Andersen and the implementation of SOX profoundly impacted the market for public company audits, resulting in downward auditor switches and changes in the risk characteristics of audit client portfolios. Although the effect of SOX on the public company audit market has been extensively studied, there is little evidence on whether the effects of SOX spilled over into other audit markets, including the NPO audit market. We find that downward switches from Big 4 to non-Big 4 auditors increased in the nonprofit audit market following the implementation of SOX. This spillover effect suggests that regulators should consider potential impacts of regulation of public company auditors on other markets.

Downward switches were more likely for colleges and universities than other nonprofits post-SOX, indicating that changes that impact nonprofit audit markets vary across sectors. Because colleges and universities are more similar to commercial entities than other nonprofits, staff on these engagements could more easily be redeployed to public company audits compared to staff who specialize in audits of other nonprofits. Big 4 firms may also retain other nonprofit clients for charitable reasons to enhance the firm's reputation or to balance the risk of their client portfolio.

Downward switches were negatively related to client size and positively related to the presence of internal control deficiencies. These results suggest that client value and risk, as well as auditor–client match are important for the downward switch decision in both the pre- and post-SOX periods. We also find that downward switchers are more likely to choose a non-Big 4 specialist, compared to other NPOs with non-Big 4 auditors, suggesting that downward switchers try to maintain a high level of audit quality.

Downward switches from the Big 4 are not associated with lower subsequent contributions, but we find that downward switches are associated with increased subsequent material weaknesses and other internal control deficiencies. Future research may examine how governance and other NPO attributes affect the likelihood of downward switches, and whether downward switches affect audit market share and audit pricing in the NPO market.

Public companies must disclose the reasons for auditor changes. However, similar information is unavailable for NPOs. As a result, we do not know whether the client initiated the auditor change, perhaps in response to increased fees, or if the auditor

Table 7
Effects of Downward Switches and Having a Specialist Auditor on Control Deficiencies - - Results for Test of $H4_b$.

$$Prob(ICD)_{t+1} = \eta_0 + \eta_1 DOWN_t + \eta_2 SPECIALIST_t + \eta_3 SOX + \eta_4 GC_t + \eta_5 RISK_t + \eta_6 ICD_t + \eta_7 GROWTH_t + \eta_8 SURPLUS_t + \eta_9 Ln(TOTALREVENUES)_t + \eta_{10} LnAGE_t + \eta_{11} COMPLEXITY_t + \eta_{12} DOWN*SOX + \eta_{13} SPECIALIST*SOX + \Sigma_{\lambda i} SECTOR + \Sigma_{\nu i} YEAR + \mu$$

		Complete Sample (N = 6671)		*Universities/Colleges* (N = 2893)		*Other* (N = 3778)	
	Exp. Sign	*Coefficient*	*p-value*	*Coefficient*	*p-value*	*Coefficient*	*p-value*
Panel A: Material Weaknesses as the Dependent Variable							
Intercept	n/a	−3.466**	0.034	−6.706	0.124	−6.680***	< 0.001
DOWN $_t$	+	2.319***	< 0.001	2.492***	0.001	2.585***	0.002
SPECIALIST $_t$	–	−13.897***	< 0.001	−13.391***	< 0.001	−12.335***	< 0.001
SOX	–	2.253***	0.007	2.698**	0.021	6.964***	< 0.001
GC $_t$	+	1.127**	0.026			0.934*	0.054
RISK $_t$	+	0.903***	< 0.001	1.335***	< 0.001	0.489**	0.040
ICD $_t$	+	1.988***	< 0.001	2.088***	< 0.001	2.066***	< 0.001
GROWTH $_t$	+	0.009	0.777	−0.025	0.663	0.041	0.351
SURPLUS $_t$	–	0.192	0.566	0.441	0.634	0.100	0.713
Ln(TOTAL_REVENUES) $_t$	–	−0.152	0.105	−0.070	0.729	−0.224**	0.018
LnAGE $_t$	+	−0.063	0.582	0.020	0.925	−0.112	0.437
COMPLEXITY$_t$	+	0.040	0.824	0.366	0.423	−0.056	0.776
*DOWN*SOX*	?	−1.679**	0.010	−1.664*	0.054	−1.983**	0.027
*SPECIALIST *SOX*	?	12.973***	< 0.001	11.650***	< 0.001	11.954***	< 0.001
YEAR		Included		Included		Included	
SECTOR		Included					
Max-rescaled R^2			20.84%		23.38%		20.72%
Wald Chi-Square			54.45***		34.79***		160.22***
Panel B: Internal Control Deficiencies (Reportable Conditions and Material Weaknesses) as the Dependent Variable							
Intercept	n/a	−3.169***	< 0.001	−2.229	0.226	−3.194***	0.001
DOWN $_t$	+	0.994***	0.008	1.168**	0.021	0.642	0.348
SPECIALIST $_t$	–	−0.654	0.335	−0.422	0.634	−1.169	0.361
SOX	–	0.646	0.148	0.730	0.282	0.595	0.329
GC $_t$	+	0.651**	0.032			0.569*	0.071
RISK $_t$	+	0.435***	< 0.001	0.533**	0.012	0.315**	0.012
ICD $_t$	+	2.293***	< 0.001	2.166***	< 0.001	2.510***	< 0.001
GROWTH $_t$	+	0.044*	0.063	−0.022	0.535	0.085*	0.059
SURPLUS $_t$	–	0.130	0.506	−0.327	0.259	0.395	0.140
Ln(TOTAL_REVENUES) $_t$	–	0.009	0.852	−0.023	0.782	0.012	0.821
LnAGE $_t$	+	0.081	0.190	0.189*	0.060	0.026	0.739
COMPLEXITY$_t$	+	−0.255***	0.008	−0.520**	0.016	−0.245**	0.020
*DOWN*SOX*	?	−0.787*	0.060	−0.986*	0.087	−0.332	0.648
*SPECIALIST *SOX*	?	−0.098	0.894	−0.751	0.451	0.655	0.621
YEAR		Included		Included		Included	
SECTOR		Included					
Max-rescaled R^2			25.24%		23.27%		28.25%
Wald Chi-Square			26.27***		12.46***		20.66***

Note: Tests are all two-tailed.
*** denotes p ≤ 0.01.
** denotes p ≤ 0.05.
* denotes p ≤ 0.10. See Appendix A for variable definitions.

resigned in an attempt to manage risk. Future studies may be able to obtain information on audit fees and the reasons for the auditor changes in NPOs in order to assess whether the impacts of an auditor switch depend on whether the change was initiated by the client or auditor.

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Appendix A. In Alphabetical order

Variable	Definition	Source
BUSY_FYE	An indicator variable set to 1 if the NPO has a December year end, 0 otherwise	SOI
COMPLEXITY	Number of revenue sources (0 − 3) included on an NPO's Form 990	SOI
CONTRIBUTIONS/ REVENUES	Total contributions/Total Revenues	SOI
DA	Total liabilities/Total assets	SOI
DOWN	An indicator variable set to 1 if an NPO changed from a Big 4 auditor to a non-Big 4 auditor, 0 otherwise	FAC
GC	An indicator variable set to 1 if an NPO received a going concern opinion in the prior year, 0 otherwise	FAC
GRANTS/REVENUES	Total grants/Total Revenues	SOI
GROWTH	The growth in assets, measured as the percentage increase of end-of-year total assets from beginning-of-year total assets	SOI
LnAGE	Natural log of the number of years between the Rule Date (when registered nonprofit organizations obtained formal recognition of their tax exempt status by the IRS) and the current fiscal year	SOI
Ln(CONTRIBUTIONS)	Natural log of total contributions	SOI
Ln (FUNDRAISINGEX-P)	Natural log of fundraising expenses	SOI
LnPRICE	Natural log of the reciprocal of program service expense ratio	SOI
Ln(PROGREV)	Natural log of program service revenues	SOI
Ln(TOTAL_ASSETS)	Natural log of a client's total assets	SOI
Ln (TOTAL_REVENU-ES)	Natural log of a client's total revenues	SOI
ICD	An indicator variable set to 1 if an auditor reports reportable conditions or material weaknesses on a Single Audit report, and 0 otherwise	FAC
PROGREV/REVENUE	Total program service revenues/Total revenues	SOI
RISK	An indicator variable set to 1 if an NPO is classified as "not low risk" during the Single Audit, 0 otherwise	FAC
SECTOR	Indicator variables identify whether the industry of the NPO is Arts, Cultures and Humanities (ACH); Education (ED); Health (HE); Human Services (HS); Public and Societal Benefits (PSB); or other (OTH)	SOI
SOX	An indicator variable set to 1 if a fiscal year is 2002 and after, 0 otherwise	SOI
SPECIALIST	An indicator variable set to 1 if an NPO has a non-Big 4 auditor that meets the industry specialist thresholds (5% market share of industry revenues for Universities/Colleges and 1% market share in Other Sector), 0 otherwise	FAC
SURPLUS	The NPO's operating surplus or loss for the year divided by total revenues	SOI
YEAR	Year indicators	SOI

References

AlAli, F., Elder, R., Zhou, J., May 8, 2017. An analysis of Big 4 pricing and firm size: The differential effect of demand and supply shocks on large and small clients. J. Account., Audit, Finance (forthcoming).

Bryan-Low, C., 2003. Accounting firms aim to dispel cloud of corporate fraud. Wall Str. J. (May 27), C1.

Byrnes, N., 2003. Reform: Who's making the grade. BusinessWeek (September 22), 80.

Chang, H., Cheng, C.A., Reichelt, K., 2010. Market reaction to auditor switching from Big 4 to third-tier small accounting firms. Audit.: J. Pract. Theory 29 (2), 83–114.

Deis, D.R., Giroux, G.A., 1992. Determinants of audit quality in the public sector. Account. Rev. 67 (3), 462–479.

DeAngelo, L., 1981. Auditor size and audit quality. J. Account. Econ. 3 (3), 183–199.

Doogar, R., Fargher, N., Hong, K.P., 2007. Audit Market Contestability in the Post-Enron Era. Working paper, University of Illinois.

Feng, N., Ling, Q., Neely, D., Roberts, A., 2014. Using archival data sources to conduct nonprofit accounting research. J. Pub. Budg. Account. Financ. Manage. 26 (3), 458–493.

Fischer, M.L., Johnson, L.E., Elder, R.J., 2004. The demand for auditor specialization and its effect on private college and university audit fees. Res. Gov. Nonprofit Account. 11, 129–145.

Fremont-Smith, M., Kosaras, A., 2003. Wrongdoing by officers and directors of charities: a survey of press reports. Exempt Org. Tax Rev. 42 (1), 25–59.
Governmental Accountability Office (GAO), 2006. Sarbanes-Oxley Act, Consideration of Key Principles Needed in Addressing Implementation for Smaller Public Companies 6 (GAO-06-361, reporting on the findings and recommendations of the SEC's Advisory Committee on Smaller Public Companies). Washington, D.C.
Gramling, A.A., Stone, D.N., 2001. Audit firm industry expertise: a review and synthesis of the archival literature. J. Account. Literat. 20, 1–29.
Hay, D., Knechel, W.R., Wong, N., 2006. Audit fees: a meta-analysis of the effect of supply and demand attributes. Contemp. Account. Res. 23 (1), 141–191.
Hindo, B., 2003. Audit clients get the heave-ho. BusinessWeek (December 1), 7.
Hogan, C.E., Martin, R.D., 2009. Risk shifts in the market for audits: an examination of changes in risk for "second tier" audit firms. Audit.: J. Pract. Theory 28 (2), 93–118.
Jensen, K.L., Payne, J.L., 2005. The introduction of price competition in a municipal audit market. Audit.: J. Pract. Theory 24 (2), 137–152.
Johnstone, K.M., C. Bedard, J.C., 2004. Audit firm portfolio management decisions. J. Account. Res. 42 (4), 659–690.
Keating, E.K., Parsons, L.M., Roberts, A.A., Roberts, 2008. Misreporting fundraising: how do nonprofit organizations account for telemarketing campaigns? Account. Rev. 83 (2), 417–446.
Kitching, K., 2009. Audit value and charitable organizations. J. Account. Pub. Pol. 28 (6), 510–524.
Knechel, W., Naiker, V., Pacheco, G., 2007. Does industry specialization matter? Evidence from market reaction to auditor switches. Audit.: J. Pract. Theory 26 (1), 19–45.
Krishnan, J., Krishnan, J., 1997. Litigation risk and auditor resignations. Account. Rev. 72 (3), 539–560.
Krishnan, J., Schauer, P., 2000. The differentiation of quality among auditors: evidence from the not-for-profit sector. Audit.: J. Pract. Theory 19 (2), 9–25.
Landsman, W.R., Nelson, K.K., Rountree, B.R., 2009. Auditor switches in the pre- and post-Enron eras: Risk or realignment? Account. Rev. 84 (2), 531–558.
Lowensohn, S., Johnson, J.E., Elder, R.J., Davies, S.P., 2007. Auditor specialization, perceived audit quality, and audit fees in the local government audit market. J. Account. Pub. Pol. 26 (6), 705–732.
O'Keefe, T.B., King, R.D., Gaver, K.M., 1994. Audit fees, industry specialization, and compliance with GAAS reporting standards. Audit.: J. Pract. Theory 13 (2), 41–55.
Parsons, L., 2007. The impact of financial information and voluntary disclosures on contributions to not-for-profit organizations. Beh. Res. Account. 19, 179–196.
Petrovits, C., Shakespeare, C., Shih, A., 2011. Causes and consequences of internal control problems in nonprofit organizations. Account. Rev. 86 (1), 325–357.
Plitch, P., Wei, L., 2004. Moving the market: auditor-client breakups risk, while disclosure often lags. Wall Str. J. (August 3), C3.
Raghunandan, K., Rama, D., 2006. SOX Section 404 material weakness disclosures and audit fees. Audit.: J. Pract. Theory 25 (1), 99–114.
Rama, D.V., Read, W.J., 2006. Resignations by the Big 4 and the market for audit services. Account. Horizons 20 (2), 97–109.
Roeger, K.L., Blackwood, A., Pettijohn, S.L., 2011. The Nonprofit Almanac. The Urban Institute Press, Washington, DC.
Samelson, D.P., Lowensohn, S., Johnson, L.J., 2006. The determinants of auditee satisfaction and perceived audit quality in local government. J. Pub. Budg. Account. Financ. Manage. 18 (2), 139–166.
Shu, S., 2000. Auditor resignations: clientele effects and legal liability. J. Account. Econ. 29 (2), 173–205.
Smith, D., 1988. An investigation of Securities and Exchange Commission regulation of auditor change disclosures: the case of Accounting Series Release No. 165. J. Account. Res. 26 (1), 134–145.
Stanley, J.D., DeZoort, F.T., 2007. Audit firm tenure and financial restatements: an analysis of industry specialization and fee effects. J. Account. Pub. Pol. 26 (2), 131–159.
Tate, S.L., 2007. Auditor change and auditor choice in nonprofit organizations. Audit.: J. Pract. Theory 26 (1), 47–70.
Tate, S.L., 2009. Differences in non-profit organization financial statement and compliance audit assessments between Big 5 and non-Big 5 auditors Res. Gov. Nonprofit Account. 12, 3–33.
Taub, S. 2004. Big 4 seen shedding small clients. CFO.com (September 21). Available at: http://www1.cfo.com/article.cfm/3217664/c 3217674?f_ TodayInFinanceInside.
Tinkelman, D., 1998. Differences in sensitivity of financial statement users to joint cost allocations: the case of nonprofit organizations. . J. Account., Audit. Finance 13 (4), 377–393.
Tinkelman, D., 1999. Factors affecting the relation between donations to not-for-profit organizations and an efficiency ratio. Res. Gov. Nonprofit Account. 10, 135–161.
Tinkelman, D., 2004. Using nonprofit organization-level financial data to infer managers' fund-raising strategies. J. Pub. Econ. 88 (9–10), 2181–2192.
Vermeer, T.E., 2008. Market for former Andersen clients: evidence from government and non-profit sectors. J. Account. Pub. Pol. 27 (5), 394–408.
Vermeer, T.E., Raghunandan, K., Forgione, D.A., 2009. Audit fees at U.S. non-profit organizations. Audit.: J. Pract. Theory 28 (2), 289–303.
Weisbrod, B., Dominguez, N., 1986. Demand for collective goods in private nonprofit markets: can fundraising expenditures help overcome free-rider behavior? J. Pub. Econ. 30 (1), 83–95.

Further reading

U.S. House of Representatives, 2002. The Sarbanes-Oxley Act of 2002. Public Law 107–204 [H.R. 3763]. Washington, D.C.: Government Printing Office.