

AUDIT LAG IN SCHOOL DISTRICTS: AN ANALYSIS OF AUDITOR QUALITY AND GOVERNANCE

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ABSTRACT

The predictors of audit reporting lag in school districts in New York State are examined and the following results are observed: significant positive associations with audit lag and reportable internal control weaknesses, school districts not receiving an unqualified report, and districts disclosing a reportable condition with respect to the operation of a major Federal program; and significant negative associations between audit lag and districts reporting a material noncompliance and districts that change auditors. Results also reveal that Long Island school districts have a significantly longer audit lag. Using survey data collected from school districts on Long Island, the association between audit report lag and governance characteristics of boards of education and audit committees is also explored. Findings suggest that in the Long Island, NY market, measures of auditor continuity and board entrenchment (board of education tenure) are associated with longer audit lag. In addition, the findings suggest that auditor concentration (the number of school district audits performed by the auditor) contributes to the longer audit lag found in that market.

Key Words: Audit Lag; School Districts; Governance; Auditor Concentration

INTRODUCTION

In this study we examine predictors of audit reporting lag in school districts located in New York State (NYS). Using survey data collected from school districts located in Long Island, we also explore the association between audit report lag and governance characteristics of school district management, oversight boards, and audit committees.

Together, school boards, school district management, board-designated committees, and mandated-audit committees, have the responsibility to ensure the quality and timeliness of the district's financial reporting. Audit report lag, typically defined as the time from an entity's year-end until the auditor's report date, affects the timeliness of accounting information (Carslaw, Mason, and Mills 2007). This delay affects stakeholders' confidence in the financial reporting process and the reports themselves have less relevance due to the delay. Since

audit lag is a function of both client- and auditor-specific characteristics; we also examine the effect of auditor concentration in the Long Island, NY school district audit market and the effect this concentration has on audit report lag.

LITERATURE REVIEW

Governance

Public-school districts in the U.S. are part of local government and are governed by boards of education (also referred to in this paper as BOE, school boards or school districts). School boards derive their power and authority from the state and are charged with establishing policies and regulations by which district schools are governed (<https://www.nsba.org/about-us/frequently-asked-questions>). School boards in NYS are comprised of volunteers¹ who are elected² by the district residents. Terms generally range from three to five years and are staggered to ensure that all positions are not open at the same time. There are no term limits.

School boards function similarly to corporate boards in that school boards have an oversight role that is separate from the day-to-day management of a district. According to Land (2002), the concept of a small, centralized, lay school board was modeled after corporate boards of directors. Management responsibilities are handled by the superintendent of education, who is appointed by the BOE to serve as Chief Executive Officer (CEO) of the district and who works hand in hand with the board to achieve the goals of the district. The association between management and governing board is an important one in any organization.

The board of directors plays a critical role in the governance of corporations and school boards play a critical role in the governance of school districts. Although there are clear differences between these boards, the fiduciary responsibility for their respective organizations is quite similar. Just as corporate boards must act in the best interest of their stockholders, school boards must act in the best interest of their districts' stakeholders and have legal and moral obligations to students and parents through the enrollment contract (Land 2002). One of the most important roles of a school board is to efficiently and effectively manage district finances. "Who sits on the board, will, in turn, affect the various strategic decisions made by the board and how effectively the board carries out its functions" (Dey and Liu 2011, 2). Given these established parallel entities, we draw on the corporate governance literature to support our analysis.

School District Audits

The primary source of direct funding for independent school districts in NYS is from property taxes. Billions of tax dollars are spent each year to support elementary and secondary education in NYS. The BOE is responsible for overseeing the development of an annual budget that, if passed by community vote, ultimately determines the annual property tax levy.

In addition to our analysis of NYS school districts, we partition out and separately analyze Long Island school districts because of their relative magnitude. Although Long Island school districts represent 20 percent of all school districts

in NYS, the total adopted expenditure budget for all Long Island school districts combined as of June 30, 2012 was approximately 35% of all NYS school budgets (representing \$11.4 billion).

Accountability and safeguarding of district assets and overseeing the district's annual audit are paramount to the school board's responsibility. The importance of school district audits became increasingly clear in 2005 with the exposure of an astonishing \$12 million fraud that was perpetrated against the taxpayers in the Roslyn School District. In response to this theft of taxpayer dollars, the NYS Office of the Comptroller enacted legislation to strengthen oversight and increase accountability of school district finances in NYS. The law addressed several key areas related to auditing of financial statements including enhancements related to annual audits, establishment of audit committees and internal audit functions, and audits of school districts by the Office of the State Comptroller (among other provisions).

More specifically, the education laws of 2005 (NYS Education Law §2116) require each school district with eight or more teachers to establish an audit committee to assist the board in its oversight role to ensure financial accountability. The audit committee is responsible for making recommendations to the full board for hiring the independent (external) auditors and the internal auditors (where applicable) and for reviewing significant audit findings.

Audit Committee

Audit committees play a critical role in efforts to safeguard school districts and corporations alike. "By design, audit committees are expected to maintain a line of defense against management fraud by monitoring the financial reporting function and internal controls of an organization" (Harrast and Mason-Olsen 2007). Research shows that audit committees can affect the quality of an organization's publicly-released information (Bedard, Chtourou, and Courteau 2004).

With respect to composition, audit committees in NYS school districts should have at least three members and may be structured as a subcommittee of the board, the whole board, all non-board members, or any combination thereof. Similar to the Sarbanes-Oxley Act (SOX), which regulates audit committee composition in publicly-held corporations, NYS education law addresses independence and expertise on school district audit committees. However, SOX independence requirements are much more rigorous than NYS education law and, therefore, experience and expertise vary considerably across school districts (NYS Education Law, 2005).

Audit Quality

Saito and McIntosh (2010) indicate that auditors provide a governance mechanism over school districts. Although external auditors are not directly involved in the budget process in which school districts determine how resources are allocated, the auditors' oversight may mitigate the inefficient use of budget dollars. However, as school district financial complexity increases, auditor

governance influence on the budget process may not be as effective. Nevertheless, the authors find a significant positive association between auditing effort, as measured in audit hours, and the efficiency of school district operations, which is measured by average student test scores. Their statistical analysis only focuses on services provided by state auditors, and not private auditors, who are not only appointed by the board of education, but also provide internal control and financial statement audits. Therefore, the results found by Saito and McIntosh (2010) may be limited to the influence by state auditors over budget resources in school districts where management has little or no say in the selection of auditors.

Deis and Giroux (1992) study audit quality in independent school districts in Texas and find that the more school districts an audit firm serves, and the more timely an audit report is issued, the better the audit quality. The authors present the argument that an auditor with many school district clients would be more concerned with reputational effects and thus less likely to lower audit quality. Further, volume in the industry reflects expertise and that expertise results in higher audit quality. Additionally, the authors argue that with a longer tenure, the auditor may fail to maintain an attitude of professional skepticism and thus audit quality suffers.

In a study by Cahan, Jeter, and Naiker (2011) using private market data, the counter-argument is made; that is, audit quality may suffer when the specialist auditor serves a larger proportion of the industry. The authors posit that volume-driving auditors, while passing on audit fee savings to clients, reduce the cost of services rendered in order to maintain profit margins but at the expense of audit quality. Further, reputational damage is minimal for the higher-proportional auditor compared to the lower-proportional auditor, with the latter providing a higher quality audit. In other words, the volume driver will suffer less reputational damage in the event of a substandard audit because that auditor dominates the market; whereas, the auditor not driving the market has most to lose with respect to reputation with one sub-standard audit. Their statistical evidence supports this counter argument; auditors that share a lower proportion of the market produce a higher quality yet, a more costly audit. While those auditors with a higher proportion of the market compete on price while sacrificing audit quality.

Cahan et al. (2011) evaluate audit quality in the context of discretionary accounting accruals, the propensity to issue going concern opinions, and the propensity to meet or beat analysts' forecasts. Their results consistently find that auditors with a higher proportion of the market have clients with higher discretionary accruals, are less likely to issue going concern opinions, and are less likely to inhibit clients' ability to meet or beat analysts' forecasts. Although the authors do not directly measure auditor tenure, there is an implication that with a greater share of the market, there is increased auditor tenure. Anecdotally, the authors find, from survey data, that those auditors with a lower proportion of the market have greater profit margins.

Context and Prediction Rationale

According to the FASB's conceptual framework for financial reporting

(Statement of Financial Accounting Concepts No. 8, 2010), in order for financial information to be useful it must not only faithfully represent what it purports to represent, but must also be presented to stakeholders in a timely manner. Audits contribute to greater efficiency in the use of district funds and, from a governance perspective, are important for government accountability for public education funding (Saito and McIntosh 2010).

Given the importance of auditing for the safeguarding of school district assets and the responsibility of school boards and audit committees to hire the external auditor and oversee the audit process, the composition of oversight boards and significant committees will have an impact on choice of auditor and, hence, the quality of the audit.

We construct a regression model that includes variables suggested by prior research to be important to school district research. Specifically, Orosz (2002) suggests several governance variables including structure of the governance system, school-board size, turnover, and community support and involvement in the private sector, Yermack (1996) found that smaller boards are more efficient and Jensen (1993) suggests that boards with more than seven or eight members are less likely to function effectively. Dey and Liu (2011) found that the Board of Education plays a critical role in the governance of school districts and that board membership affects strategic decision-making.

Although we posit no formal hypotheses, our predictions of governance and independent variable associations to the dependent variable are based on available relevant research presented above and are provided in Table 1.

RESEARCH METHODOLOGY

Research Questions

In this study, we examine attributes leading to audit quality for all NYS school districts. We also examine the impact of school district governance attributes on audit quality for Long Island, NY school districts by investigating the association between school district governance characteristics and audit report lag. Together, school boards, school district management, board-designated committees, and mandated audit committees have the responsibility to ensure the quality and timeliness of the district's financial reporting. Audit report lag, typically defined as the time from an entity's year-end until the auditor's report date, affects the timeliness of accounting information (Carslaw et al. 2007). This delay affects stakeholders' confidence in the financial reporting process and the reports themselves have less relevance in light of the delay. Because audit lag is a function of both client- and auditor- specific characteristics, we also examine the effect on audit lag of auditor specialization

Table 1: Definition of Variables and Regression Result Predictions

Variable	Variable Definition	Expected Sign
<i>School District Governance Variables</i>		
BOE_Tenure	Total tenure years of all board trustees	+
AC_No	Number of members appointed to the audit committee	?
Super_Tenure	Tenure years of the Superintendent of Education	+
AC_CPA	Number of districts reporting at least one CPA on the audit committee	-
Bud_Com	1 if BOE has designated a Budget Committee, 0 otherwise	-
AC_Out	1 if audit committee has at least one outside (non-BOE) member, 0 otherwise	-
Bus_Tenure	Tenure years of the Assistant Superintendent of Business	+
<i>Audit Variables</i>		
Material_Weak	1 if the audit report indicates any reportable conditions or significant deficiencies in the district's internal controls, 0 otherwise	+
Noncompliance	1 if the audit report indicates a material noncompliance on the financial statements, 0 otherwise	+
High_Risk	1 if the auditor assessed the entity as not a low-risk entity, 0 otherwise	+
Report_MP	1 if the district received other than an unqualified audit report on its operations of major Federal programs, 0 otherwise	+
Report_FS	1 if the district received other than an unqualified audit report on the financial statements, 0 otherwise	+
Q_Costs	1 if the auditor identified potential questioned costs, 0 otherwise	+
Condition_MP	1 if the auditor cited a reportable condition on the district's operation of its major Federal programs, 0 otherwise	+
Log_Expend	Natural logarithm of Federal grant expenditures	+
Auditor_Change	1 if the district switched auditors in a given fiscal year, 0 otherwise	+
N_Audits	The number of school district audits an auditor completes in a fiscal year	-
Market_Leader	1 if the auditor has the largest number of Long Island school district audit clients, 0 otherwise	+
<i>Dependent Variable</i>		
Audit_Lag	Number of days from an entity's year end until the auditor's report date. BOE_Tenure - Total tenure years of all board trustees	na

and market dominance in the Long Island school-district audit market.

The following research questions are explored:

RQ1: Is school board governance associated with audit lag?

RQ2: Are manager characteristics associated with audit lag?

RQ3: Is auditor specialization associated with audit lag?

RQ4: Is auditor concentration associated with audit lag?

Audit and Governance Data

The audit report related data used for this study represent data for fiscal years 2008 through 2013 and were obtained directly from the from the Federal Audit Clearinghouse. We restrict the data to independent school districts in NYS and further partition the data for school districts located on Long Island. We exclude school districts in New York City, Syracuse, Buffalo, Yonkers, and Rochester because these districts are component entities within larger governmental organizations (i.e. city or town) hence, the ability to select an auditor and/or audit timing is largely outside their authority.

While governance data for private-sector firms are readily available through numerous electronic databases, such as Audit Analytics, school-district governance data are not readily available. Our governance analysis is limited to the sample of those school districts on Long Island that responded to a survey instrument soliciting information about the district's governance structure. Each Long Island school district was surveyed³ and eighty percent responded to either the voluntary or Freedom of Information Law (FOIL) request.⁴ These districts form the basis for the governance-structure analysis.⁵

The survey determines the tenure of the Board of Education and school administration, particularly the superintendent of education (the "CEO") and the superintendent of business. These administrators play a central and critical role in school district governance and can exert substantial influence over the Board. Lengthy CEO tenure is associated with CEO entrenchment, which negatively effects the organization (Geddes and Vinod 1998).

Statistical Tests

In this section, we present the models used to address the research questions and discuss the independent variables used to investigate the associations between audit report lag and school district auditor and governance characteristics. We model audit report lag following Carslaw, Mason, and Mills (2007) as follows:

$$\text{Audit Lag} = \beta_0 + \beta_1 (\text{Material_Weak}) + \beta_2 (\text{Noncompliance}) + \beta_3 (\text{High_Risk}) + \beta_4 (\text{Report_MP}) + \beta_5 (\text{Report_FS}) + \beta_6 (\text{Q_Costs}) + \beta_7 (\text{Condition_MP}) + \beta_8 (\text{Log_Expend}) + \beta_9 (\text{Auditor_Change}) + \beta_{10} (\text{N_Audits}) + \varepsilon \quad (1)$$

To test the effect of school district governance on audit report lag, we add governance variables to Model (1) above as follow:

$$\begin{aligned} \text{Audit_Lag} = & \beta_0 + \beta_1 (\text{BOE_Tenure}) + \beta_2 (\text{AC_No}) + \beta_3 (\text{Super_Tenure}) + \\ & \beta_4 (\text{AC_CPA}) + \beta_5 (\text{Bud_Comm}) + \beta_6 (\text{AC_Out}) + \beta_7 (\text{Bus_Tenure}) + \\ & \beta_8 (\text{Material_Weak}) + \beta_9 (\text{Noncompliance}) + \beta_{10} (\text{High_Risk}) + \\ & \beta_{11} (\text{Report_MP}) + \beta_{12} (\text{Report_FS}) + \beta_{13} (\text{Q_Costs}) + \beta_{14} (\text{Condition_MP}) + \\ & \beta_{15} (\text{Log_Expend}) + \beta_{16} (\text{Auditor_Change}) + \beta_{17} (\text{N_Audits}) + \varepsilon \end{aligned} \quad (2)$$

We omit school district specific and fiscal year subscripts from the models above and use OLS regression to estimate the models.

RESULTS AND ANALYSIS

The untabulated descriptive statistics for the independent variables and governance variables are summarized as follows. For the total sample, the average number of audit clients for each auditor is approximately 22 school districts and auditor changes in the sample average 8% per year. Auditor modifications of the standard audit report for material weaknesses and other compliance issues are relatively low. Approximately 29% of school districts are assessed as high-risk clients by the auditor.

Of interest to note in the sample segregated for NYS excluding Long Island and the Long Island only sample, respectively, is that approximately 27% of Long Island school districts were assessed by their auditors as high risk compared to 29% for all other districts in NYS. The natural log of budget expenditures for Long Island districts were significantly greater (\$14.61) than for all other districts in NYS (\$14.35). Auditors of Long Island districts, on average, audit significantly more districts each year (30.64) than do auditors of all other NYS districts (20.36). This finding is consistent with results showing that only 5% of Long Island's school districts reported a change in auditor, whereas 9% of all other NYS districts reported a change in auditor.

Governance data show that BOE Tenure is about 5.6 years, districts on average have about 5 members on their audit committee, and 41% have a budget committee. While only 26% of the audit committees had a CPA representative, 37% of audit committees had a non-BOE member as a member. Both the tenure of the superintendent of education and the superintendent of business is approximately 5 years.

Univariate tests were conducted to identify significant mean differences between groups for each of the independent variables. The mean values for audit lag were computed for each independent variable. For continuous variables (*Log_Expend* and *N_Audits*), 'Yes' was assigned if the result was above the median value and 'No' was assigned if the result was below the median value.

The untabulated results are summarized as follows: For the total sample (N=3,131), a significant difference in audit lag is found for the *Noncompliance* variable ($p < .05$); that is, an unexpected lower audit lag of 164 days for the 233 district observations disclosing noncompliance versus 175 days for the 2,898 district observations without compliance disclosures. For school districts that receive other than an unqualified report on major programs' operations (*Report_MP*), audit lag is 209 days, which is significantly different from 174 days

when the district receives an unqualified report ($p < .001$). Significant differences in mean audit lag values are also found for the school districts (30 observation events) receiving an other than unqualified financial statement audit report (*Report_FS*), that had a mean audit lag of 204 days versus the districts with unqualified reports (3,101 observation events) that had mean audit lag of 174 days ($p < .05$). Similar results are found when the auditor cited a reportable condition for the district's major Federal programs (*Condition_MP*) ($p < .001$). Districts that reported a change in auditor had a mean audit lag of 164 days, which is significantly different than the 175 days for those districts that did not change auditors during the timeframe studied ($p < .05$). Long Island school districts reported a mean audit lag of 200 days compared to 169 days for all other districts in NYS ($p < 0.001$).

A further analysis reveals that only 30% of Long Island school districts complete their financial statements by the November 30 extension deadline compared to 50% for the remainder of school districts in NYS (results not tabulated).

Results for the univariate tests for the sample that excludes the Long Island school districts ($N=2,581$) reveal that audit lag is significantly higher when there is a material weakness reported (*Material_Weak*) ($p < .05$), when the district does not receive an unqualified report for major programs (*Report_MP*) ($p < .10$) and for financial statements (*Report_FS*) ($p < .05$), when there is a reported condition on major Federal programs (*Condition_MP*) ($p < .05$), and when the number of school district audits done by the auditor (*N_Audits*) ($p < .05$) is above the median of 179, 186, 204, 183, 173 days, respectively.

Results for the univariate tests for the Long Island only sample ($N=550$) show that audit lag is significantly higher ($p < .001$ unless otherwise noted) when the auditor assesses the district as high risk (*High_Risk*), when the district does not receive an unqualified report for major programs (*Report_MP*), when the auditor questioned costs (*Q_Costs*) ($p < .05$), when there is a reported condition on major Federal programs (*Condition_MP*), and when the number of school district audits done by the auditor (*N_Audits*) is above the median of 221, 278, 250, 245 and 216 days, respectively. For the Long Island districts, when there is an auditor change (*Auditor_Change*), the audit lag is significantly lower (158 days) than when there is no change in auditor (203 days) ($p < .001$).

Although the audit lag is longer for Long Island districts reporting a CPA on the audit committee and a budget committee, the mean values are not significantly different from the values for those Long Island districts that do not have a budget committee or a CPA on their audit committee. Conversely, if the school district had an outsider on their audit committee (audit committee is not a sub-committee of the board of education and sought financial expertise from the community), audit lag was 196 days compared to 201 days, but the difference in the mean values is not significant. Audit lag was found to be significantly shorter ($p < .10$) when the tenure of the board was longer and the number of audit committee members was higher.

Review of Pearson correlation coefficients and associated p-values for the

school district governance variables included in Model 2 reveal moderate levels of association among the school district governance variables, and many correlations are statistically significant (results not tabulated). For example, there are strong positive and significant correlations between tenure of the business superintendent and the tenure of the superintendent of education, which is consistent with management entrenchment. The existence of a CPA on the audit committee is also highly correlated with the existence of an outsider on the audit committee, which is consistent with better expertise and independence of the audit committee. Pearson correlation coefficients and associated p-values for the independent variables included in Model 1 reveal moderate levels of association between the independent variables, with many correlations being statistically significant (results not tabulated). For example, material weaknesses in district internal controls were positively and significantly correlated to auditors' assessing the district as high-risk. Also highly correlated was the association between reportable conditions on major programs and audit report modifications for major programs. Despite the significant correlation results, all variance inflation factors (VIFs) are less than 1.9, suggesting that the regression results are not influenced by the effects of multicollinearity.⁶

Table 2 Model 1 presents the regression analysis for the dependent variable audit lag and explanatory variables. For the total sample, the results show significant positive associations with audit lag and reportable internal control weaknesses (*Material_Weak*) ($p < .05$), districts not receiving an unqualified report (*Report_MP*) ($p < .05$), districts receiving a reportable condition with respect to the operation of a major Federal program (*Condition_MP*) ($p < .001$), and with the number of school district audits the auditor performs (*N_Audits*) ($p < .001$). Number of audits is used as a proxy for auditor specialization in school district audits, which relates to RQ3. Regression results suggest that there is a significant positive association between audit lag and auditor specialization.

Significant negative associations are found between audit lag and when a district reports a material noncompliance (*Noncompliance*) ($p < .05$) and when the district switches auditors (*Auditor_Change*) ($p < .10$). The former suggests that a district has less audit lag when it does not have a material noncompliance in the internal controls over financial reporting. The latter finding suggests that when a district switches auditors, their audit lag is shorter.

Regression results for the sample that excludes Long Island school districts shows similar results except for a significant positive association between audit lag and school district receiving a qualified financial statement audit report (*Report_FS*) ($p < .10$). Unlike the total sample results, auditor change is still negative but not significant and the *Report_MP* variable is still positive but not significant.

Table 2
Regression Analysis

	Model 1					Model 2				
	Total Sample		NYS excluding LI		LI Districts		(a)		(b)	
	Coefficient		Coefficient		Coefficient		Coefficient		Coefficient	
Intercept	120.940	***	159.039	***	44.368		-24.134		-2.349	
Material_Weak	12.322	**	15.375	**	20.332		10.351		7.707	
Noncompliance	-14.129	**	-11.142	*	-11.537		-35.635		-37.631	
High_Risk	2.194		-3.823		11.481	*	17.425	**	19.358	**
Report_MP	19.109	**	8.304		43.153	**	40.025	**	34.143	*
Report_FS	21.039		30.622	*	-24.791		-6.999		-18.534	
Q_Costs	7.018		10.489		5.522		37.384		18.231	
Condition_MP	22.971	***	15.100	**	15.999		16.430		17.636	
Log_Expend	2.390		-0.025		6.801	**	10.172	**	8.370	**
Auditor_Change	-8.681	*	-3.841		-24.845	**	-25.334		-25.454	
N_Audits	0.731	***	0.452	***	1.652	***	1.583	***	1.182	***
Market_Leader									27.101	***
BOE_Tenure							1.406		2.159	**
AC_No							-0.265		-0.811	
Super_Tenure							0.563		1.044	
AC_CPA							18.039	*	13.346	
Bud_Comm							1.600		8.607	
AC_Mixed							-10.799		-3.275	
Bus_Tenure							1.366		1.018	
N	3,131		2,581		550		403		400	
Adjusted R ²	0.038		0.014		0.175		0.160		0.190	
F-Value	13.40		4.56		12.60		5.500		6.190	
P-Value	<.0001		<.0001		<.0001		<.0001		<.0001	

*, **, *** Statistical significance at p < 0.10, 0.05, 0.001, respectively (2-tailed)

See Table 1 for variable definitions.

For the Long Island school district sample, significant positive associations with audit lag exist with when the auditor assesses the school district as high risk (*High_Risk*) ($p < .10$), when the district receives other than an unqualified report relative to major programs (*Report_MP*) ($p < .05$), school district expenditures (*Log_Expend*) ($p < .05$), and the number of school district audits performed by auditors (*N_Audits*) ($p < .001$). A significant negative association exists between audit lag and *Auditor_Change* ($p < .05$), which suggests that as school districts change their external auditors, audit lag decreases. Table 2 Model 2 presents the regression results for the Long Island school districts including the governance data from the survey results. Two models are presented. Model 2(a) differs from Model 2(b) in that the latter includes a control variable for the audit firm that serves approximately 40% of the Long Island school district market. Results for Model 2(a) indicate a significant positive association between audit lag and when there is a CPA on the audit committee (*AC_CPA*) ($p < .10$), which relates to RQ1. Significant positive associations were also observed between audit lag and when the auditor assesses the school district as high risk (*High_Risk*) ($p < .05$), when the district receives other than an unqualified report relative to major programs (*Report_MP*) ($p < .10$), school district expenditures (*Log_Expend*) ($p < .05$), and the number of school district audits performed by the auditor (*N_Audits*) ($p < .001$). Auditor specialization remains a positive and significant predictor of audit lag ($p < .001$) even with the inclusion of governance variables in the regression, consistent with earlier findings related to RQ2. The association between audit lag and *Auditor_Change* is still negative, but is not significant.

Model 2(b) shows similar results to Model 2(a), except, when the independent variable for the market leader is added to the model, *BOE_Tenure* is positive and significant ($p < .05$), suggesting that the longer the BOE tenure is, the longer the audit lag. Further, the variable *Market_Leader* is positive and significant ($p < .001$), which suggests that the one firm that audits a significant proportion of the Long Island school district market drives the increased audit lag found in that market, which relates to RQ4. Further, the presence of a CPA on the audit committee (*AC_CPA*) is no longer significant and, although *Auditor_Change* is still negative, the association is not significant in this model.

Based on the regression results we summarize the findings for our Research Questions as follows:

RQ1: There is a positive and significant association between audit lag and board governance (CPA on audit committee and BOE tenure).

RQ2: No evidence is observed of an association between manager characteristics and audit lag.

RQ3: Consistent results among all regressions suggest a positive and significant association between auditor specialization and audit lag.

RQ4: Auditor concentration drives the higher audit lag found in the Long Island market when compared with audit lag in non-Long Island school districts in New York State.

ADDITIONAL ANALYSES

A number of (untabulated) sensitivity tests were performed to ensure the consistency of our findings and model specification. First we test whether our dependent variable (*Audit_Lag*) is sensitive to alternative measurement. Specifically, rather than using the number of days from the fiscal year end to the reporting date, we use a dichotomous variable equal to 1 if the audited financial statements are filed late. School districts are required to file their audited financial statements with the state by October 15th each year. Therefore, filings after October 15th are considered late.

To test the sensitivity of our variable of interest (*N_Audit*), we transform the *N_Audit* variable by taking the natural log of the number of school district audits an auditor performs in a given year. These alternative specifications yield the same results as our original model variable.

The governance variables used in our study rely upon the school-district responses to a survey instrument. Accordingly, sample selection bias may be present due to the nature of the sample. To address this concern, we perform additional tests including the Heckman adjustment, which indicates that sample bias is not significantly different from zero. Durbin Watson statistics suggest no autocorrelation and we also test our main model using a fixed-effects model and the untabulated results are consistent with our main findings.

SUMMARY AND CONCLUSION

Our study examines the effects of auditor characteristics and school district governance on audit report lag. Inasmuch as audit report lag decreases the timeliness of financial reporting and hence the usefulness of the financial statements, we provide evidence on the association between accounting quality and school district/auditor characteristics. The results of our tests indicate that in the Long Island, NY market, measures of auditor continuity and board entrenchment (board of education tenure) are associated with longer audit lag.

We also find that auditor concentration (the number of school district audits performed by the auditor) drives the longer audit lag found in that market and that school districts in Long Island do not change auditors as frequently as do other districts in NYS.

To our knowledge, there exists little, if any, empirically-driven analysis of school district governance attributes and audit report lag; our study attempts to fill this gap in the literature. We also contribute to the literature by considering the effects of auditor concentration on audit report lag.

We acknowledge that although sample selection bias was not found, the results of this study may be limited to the self-reported governance information provided by the survey respondents. The governance analysis is also limited to the sample of school districts on Long Island, NY and may not be generalizable to other districts in NYS and throughout the country.

Results of this study may have implications for regulators, particularly as they relate to the appointment of independent auditors and the tenure of board of education members. Recent calls for audit firm rotation, partner rotation, and other

measures in the private sector to increase the financial reporting and audit quality may provide policy implications for the public sector. In addition, school districts themselves may be interested in the results when considering auditor reappointment and auditor selection. Consideration should be given to advancing the NYS tax-levy deadline of September 1⁷ to an earlier date to mitigate any potentially negative effects of audit lag. Finally, we provide a setting for future research, such as exploring various school district financial characteristics and how those characteristics are associated audit report lag and financial reporting quality.

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Endnotes

¹ Except for those in the five largest cities – Buffalo, New York City, Rochester, Syracuse, and Yonkers, which are funded from each respective city treasury.

² Except for those in New York City and Yonkers who are appointed.

³ There are 126 school districts on Long Island (according to NYS Office of the Comptroller), however three (New Suffolk, Sagaponack, and Wainscott) are not required to report to NYS and are therefore excluded.

⁴ A FOIL request was sent to school districts who did not respond to the initial request for information. Some districts still did not respond, some citing the information requested was not in an existing record as defined by NYS Committee on Open Government See <http://www.dos.state.ny.us/coog/foil2.html>.

⁵ Although 80% of school districts responded, not all survey data were usable.

⁶ Rule of thumb presented in Gujarati and Porter (2009) says if VIF of a variable exceeds 10, that variable is highly collinear.

⁷ See <http://www.p12.nysed.gov/mgtserv/budgeting/handbook/legalaspects.html>.

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