Does the Presence of Internal Audit Affect the Outcome of a Municipality's Financial Audit?

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Several recent studies have examined whether the presence of internal audit in the public sector affects the outcomes of external audits. The issue is important because all government leaders face pressure to justify program and organizational unit value in measurable ways or risk budget reductions and elimination. The earlier studies offer mixed conclusions focusing on larger cities and state agencies. Our study examines the same issue but focuses on larger and smaller cities. Using data from a population of Florida cities we test using logistic regression whether external audit outcomes differ between those cities with and those without an internal audit function. Our results show that cities with an internal audit function are more likely to receive a clean audit report than those without one.

Keywords: auditing, internal audit, government

INTRODUCTION

Many professional organizations consider the need for internal audit an established fact. Professional groups such as the Government Finance Officers Association (GFOA), the Association of Government Accountants (AGA), the Association of Local Government Auditors (ALGA) and the Institute of Internal Auditors (IIA) express their support of internal audit through their best practices and white papers on governance in the public sector (AGA, 2013; ALGA, 2014; GFOA, 2006; IIA, 2012). Professionals view internal audit as a cornerstone to effective governance and accountability. However, there is not much academic research that supports the professional's enthusiasm for internal audit in the public sector. There are some circles of professionals and academics that question the certainty of its value (Maciag, 2017; Schottelkotte, 2016a). It is this tension that fueled our interest in examining internal audit in local government. Reductions of budgets and elimination of positions during trying economic times often affects internal audit (Fifield, 2019; Lopez-Puente, 2020). Pressure to reduce, eliminate, or replace the function often gains support among leadership and the electorate because they consider it a redundant or obsolete back-office function (Lopez-Puente, 2020; Schottelkotte, 2016b). We examine these competing views of internal audit by looking at the relationship between the presence of internal audit and the results of a city's external audit.

Our study contributes to the literature by showing that internal audit in a public organization does affect the outcome of the external audit. Using data from 162 Florida municipalities post Sarbanes-Oxley we test for the impact of the *existence* of an internal audit on the outcomes of municipal external financial statement audits. This study adds to a small number of papers that examine this question using public sector data. Recent studies by Peterson (2014), DeSimone (2018), and Nation, Kuntzman, and Buxton (2019) using data on larger cities and state agencies show mixed results to this question.

Our results show empirically that the presence of an internal audit does matter. This finding has significant policy and budget implications for municipalities considering whether to keep or drop their internal audit function or for those that might be considering the adoption of internal audit. The rest of this paper is organized as follows. First, we examine the related academic and professional literature on the nature and importance of internal audit in governance and financial reporting. Next, we discuss the data and methods used to complete this research. After presenting the results of our analysis, we conclude by discussing the results and their implications for future research and for the practice of governmental accounting.

BACKGROUND

Internal and external audit have a close relationship to each other because both play roles in a municipality's financial accounting and reporting process. External auditors issue opinions on the financial statements produced using a municipality's accounting and reporting system. Internal audit monitors this system. The professional auditing literature formally describes this relationship between external and internal auditors (Abbott, Parker, & Peters, 2012; Shon & Weiss, 2009). The literature notes external auditors may rely on the work of internal auditors if they perform certain procedures (Public Company Accounting Oversight Board [PCAOB], 2019). The procedures help the external auditor judge the competence of the internal auditor's work. If acceptable, external auditors may rely on work already performed by internal audit or may have internal audit assist with current audit work.

The acceptance of internal audit as an important governance mechanism in the United States was aided by the formation of the IIA in the early 1940s (Ramamoorti, 2003). The creation of the IIA was intended to professionalize this new field. Unlike private accounting firms engaged to perform external audit services, internal auditing is part of the organization. It provides management with objective and competent information to support decision making. Accounting firm audits existed long before internal audits and serve a different purpose (Lin et al., 2011). Generally, they are annual financial statement audits intended for use by external stakeholders.

Internal audit's value lies in their role in monitoring the firm's exposure to risk (Dickins, Hillison, & Platau, 2009; Holt & DeZoort, 2009). Internal audit staff advise management on known or suspected weaknesses of the firm's internal controls and operations and recommend strategies for management to consider in mitigating those risks. This role is related to but different from that played by external auditors, who focus on providing assurance to investors and creditors making capital allocation decisions (Arena & Azzone, 2009).

The corporate financial reporting scandals of the 1990s and the passage of the Sarbanes-Oxley Act in 2002 increased the attention on the role of internal audit in organizational governance (Gramling et al., 2004; Lin et al., 2011; Shon & Weiss, 2009). By this time, most private sector organizations active on public stock exchanges had an internal audit function as a listing requirement of those exchanges (Chambers, 2013; Gramling et al., 2004). The focus of research on private sector internal audit since SOX has focused on studying the effect of internal audit quality on an assortment of organizational and functional characteristics (Lin et al., 2011).

There is much less research on public sector internal audit in the United States. Much of the current literature focuses on international settings (DeSimone, 2018). However, several recent studies using data from U.S. state and local governments have examined whether internal audit affects external audit outcomes. Peterson (2014) examined 135 municipalities with populations over 100,000 to determine whether the presence of internal audit was associated with reportable conditions in annual audit reports and found no relationship existed in the sample. DeSimone (2018) followed with a similar study using data on 100 cities with populations over 100,000. That study found a greater likelihood that cities with internal audit would be associated with the presence of reportable conditions, but less likely to make restatements. A study of state government agencies in Illinois reported that the presence of internal audit was positively associated with compliance findings reported (Nation et al., 2019). Our study contributes to this line of research by examining cities with populations of 10,000 or more and expanding beyond reportable conditions to include any adverse findings or comments from the external auditors, including items noted in the management letters.

THEORETICAL DEVELOPMENT

We use a simple outcome-based measure to test internal audit's affect: the issuance of a clean audit report (positive outcome) by the external auditor. We define a clean audit report (or a positive outcome) as a report free of any adverse or critical findings or comments by the external auditor. Florida law requires most cities to obtain an annual audit of their annual report or comprehensive annual financial report (CAFR). Municipalities typically receive this report in three parts: (1) the independent auditor's report; (2) the independent auditor's report on internal control over financial reporting and on compliance and other matters, based on an audit of financial statements performed in accordance with government auditing standards; and (3) the independent auditor's management letter.

Issues that would result in an audit report not being considered clean (a negative outcome) include the presence of a qualified, adverse, or disclaimed opinion in the independent auditor's report. A CAFR not considered clean would include the identification of at least one material weakness or significant deficiency in the independent auditor's report, or a questioned cost or finding included in the report on internal control over financial reporting and compliance and other matters. Lastly, a report may be classified as unclean if the auditor's management letter contains comments indicating problems with internal control. Any one of these items would disqualify a report from being considered clean. Our primary hypothesis is as follows:

H_1*: *Cities operating with an internal audit function have a lower probability of receiving an "unclean" audit report than cities without an internal audit function.

We can expect that other factors besides the mere presence of an internal audit function will influence the quality of an organization's internal controls. For instance, they may also be affected by the entity's degree of experience in working with that function. We define auditor tenure as the length of time during which an organization has had experience with internal audit as a function; not the individual auditor's experience levels. We posit that experience in dealing with the internal audit function may influence the development of effective working relationships within the organization.

Research that includes audit tenure as a variable most often focuses on the external rather than the internal auditor because of questions concerning the quality of external audits over time and issues related to auditor rotation (Mgambe, Eragbhe, & Osazuwa, 2012). Findings in this regard have not been consistent. Deis and Giroux (1992) found, in a study of Texas public schools, that audit quality actually declined with increasing auditor tenure. Mgambe et al. (2012), who studied Nigerian companies, also found a negative relationship between auditor tenure and audit quality. However, an earlier study of publicly traded U.S. companies by Ghosh and Moon (2005) observed a positive relationship between auditor tenure and perceptions of earnings quality. This finding was recently reinforced by Bratten, Causholli, and Omer (2019), who found a positive relationship between auditor tenure and the perceived quality of financial reporting in a study involving U.S. banks.

Although the literature on auditor tenure as it applies to external auditors is important for its application in the present study, we sought evidence from existing literature on internal auditor tenure as well. Mohamed et al. (2012), in a study of factors affecting the audit fees of U.S. companies, found that internal audit competence, which they defined in terms of a company's length of time using an internal audit function, was positively associated with lower audit fees. In follow-up research, Zain, Zaman, and Mohamed (2015) also found that reduced audit fees were associated with the external auditor's reliance on the previous work completed by the internal auditors. Based on our review of this literature we propose that the longer a municipality has internal audit the less effective it might become. Therefore, we propose the following as our second hypothesis:

H$_2$**:** *Cities with longer experience of internal audits have a higher probability of receiving an "unclean" audit report than cities with less experience.*

Additionally, we include several control variables identified in the literature as potentially associated with deficiencies reported by external auditors in their examination of municipal government annual reports. These factors include a municipality's size and organization, its capital structure, and variables useful in assessing financial condition and performance.

A municipality's form of government is sometimes believed to be related to fiscal policy choices (Copley, 1991; Giroux & McLelland, 2003; McDonald, 2015). The relevant research literature, however, has not provided overwhelming evidence of this relationship (Carr & Karuppusamy, 2010). A recent study in economics, using a cross-sectional panel dataset, found that spending in mayor–council cities was less than that in council–manager cities (Coate & Knight, 2011). Therefore, since some research supports the observation that the form of government matters in policy decisions, this variable should be controlled as we seek to evaluate the outcomes of audits involving municipal internal control systems.

City growth and size may affect the demand for services and the resources available to provide them (Baber, 1983; Deis & Giroux, 1992; Friedberg & Lutrin, 2001). A municipality's internal controls are designed to operate on a transactional level and to protect its resources from inefficient and ineffective operations. However, systems of governance may erode, leading to breakdowns in internal controls, under the strain of higher demand from larger or more rapidly growing populations. Thus, we included control variables measuring population, per capita revenue, spending, and long-term debt to account for the possible influence of population growth or size on audit results (Lewis, 2003, 2007).

The relative size of the internal audit unit may also affect its degree of influence on the results of municipal external audits (Friedberg & Lutrin, 2001; Goodwin, 2004; Lewis, 2003, 2007). The primary resource used by internal audits is manpower. Other resources include technology and software applications necessary to carry out the duties assigned to the internal audit function; effective use of technology could allow fewer auditors to accomplish greater workloads. Therefore, we considered factors that account for the relative size of the internal audit budget to the total budget and the ratio of internal audit staff to total city employment.

Finally, a city's financial condition and performance may influence audit results (Lewis, 2003, 2007). Factors such as working capital needs, availability of unrestricted fund balances, long-term capital financing arrangements, and outside revenue sources from other levels of government may affect the operating results reported and subject to audit (Deis & Giroux, 1992; Lewis, 2003). Any conditions indicating financial stress or distress, rapid growth, or deteriorating conditions place additional strain on a municipality's system of internal controls and should be carefully monitored. Internal audits should report results to management so that appropriate actions can be taken to maintain an effective system of governance. These conditions are monitored using various financial ratios, which are described in the next section of the paper.

DATA AND METHODOLOGY

Our data for this study were taken from a sample of 162 cities in the state of Florida for fiscal years 2007 to 2011. We included all Florida municipalities with a population of at least 10,000 people as of 2011, as determined by the state's Office of Economic and Demographic Research. Utilizing Florida data provides a unique opportunity to investigate internal audit functions. Florida is one of about 27 states that support stringent accounting and reporting guidelines over local governments that includes following GAAP and obtaining an external financial statement audit from an independent Certified Public Accounting Firm (see Kim, McDonald, & Lee, 2018). It also boasts wide diversity in regard to its governmental/political, economic, and demographic climates (Arapis & Reitano, 2016; McDonald, 2015; McDonald & Gabrini, 2014). We concluded that since we were examining a single state, one that was as large and diverse as Florida would aid in the analysis and explanation of our study results. The diversity and size would aid in the distinguishing between any effect by internal audit as opposed to other influences over findings and problems identified in the annual financial statement audit.

TABLE 1
VARIABLE DEFINITIONS

Variable	*Measurement*
Audit Report Results	Dummy variable accounting for the presence of an unclean audit report
Internal Audit Function	Dummy variable accounting for the adoption of an internal audit function
Experience	Number of months since the adoption of an internal audit function
Full-Time Equivalent	Number of full-time equivalent staff involved in the internal audit function
Council Form	Dummy variable accounting for the presence of a council/manager or council/mayor form of government
Commission Form	Dummy variable accounting for the presence of a commission/manager or commission/mayor form of government
Population	Natural log of population
Current Ratio	Ratio of current assets to current liabilities
IGR Ratio	Ratio of intergovernmental revenue to total revenue
Long-Term Debt Ratio	Ratio of long-term debt to total assets
Debt Service Ratio	Ratio of debt service expenditures to total expenditures
Unrestricted Fund Balance Ratio	Ratio of unrestricted fund balance to total revenue
Revenue	Total revenue per capita
Expenditures	Total expenditures per capita

Our independent variable was the presence of an internal audit function, again represented as a dummy variable (1 if present, 0 if absent). Information on cities' internal audit function was obtained by reviewing the organizational charts of each city. If no chart was available and a determination could not be made, we contacted the city directly for clarification. Each city identified as conducting an internal audit was also asked to indicate its experience with the function. We accounted for experience in two ways. First, we captured the number of full-time personnel employed in internal audit positions; second, we calculated the duration of the city's experience, as measured by the number of months since the function was adopted. An overview of the variables used in this study and their definitions appears in Table 1. The simple statistics for those variables are provided in Table 2.

As discussed in the previous section, the inclusion of various control variables was necessary to ensure a reliable methodology. The controls included the city's form of government, its population growth, and its financial position. To capture the form of government, we categorized city forms as consisting of either a council or commission that hires a manager or a mayor with a council or commission. Information necessary to determination the form of government was retrieved from city websites. Population was measured as the log of total population. The data necessary for all calculations involving population were obtained from the Florida Office of Economic and Demographic Research.

Lastly, we captured the financial position of each city by means of a series of measurements that reflect the various dimensions of fiscal health. They included total revenue per capita and total expenditures per capita, reflecting the general behavior of the government, along with several ratios that indicate a city's financial condition: current ratio (measured as the ratio of current assets to current liabilities), intergovernmental revenue (IGR) dependence ratio (the ratio of IGR to total revenue), debt service ratio (the ratio of debt service expenditures to total expenditures), long-term debt rate (total long-term debt divided by total assets), and unrestricted fund balance ratio (measured as the proportion of revenue that is unrestricted as to its use by the city). The financial data necessary for these calculations were drawn from the respective cities' CAFRs.

In estimating our model, we employed a pooled, cross-sectional, time-series design that can explain variation in the presence of audit findings, both over time and across cities. Since our primary variable of interest—the presence or absence of audit findings—is a dichotomous variable, a panel logistic regression approach was utilized. This approach yielded a statistical estimate of the likelihood that each variable would be associated with the presence of audit findings.

TABLE 2
DESCRIPTIVE STATISTICS

Variable	*Mean*	*Std. Dev.*	*Min.*	Max.
Internal Audit Function	0.1876	0.3907	0	1
Experience	55.5852	134.9362	0	732
Full-Time Equivalent	0.6352	1.9961	0	18
Council Form	0.4629	0.4989	0	1
Commission Form	0.4197	0.4938	0	1
Population	10.4222	0.9509	9	14
Current Ratio	7.9498	7.0119	-120.9971	44.0219
IGR Ratio	0.1232	0.0642	0.0039	0.4951
Long-Term Debt Ratio	0.2735	0.1454	0.0005	0.7339
Debt Service Ratio	0.0726	0.2752	0	3.6569
Unrestricted Fund Balance Ratio	0.4126	1.0981	-24.3658	3.6142
Revenue	1973.6920	1187.5520	422.7500	8970.3100
Expenditures	1799.7830	1082.6690	172.3229	8653.9060

RESULTS

We present the results of our analysis in Table 3. Overall, the model of audit findings was statistically significant: the Wald χ^2 and the log likelihood indicated that the model fit the data well. The pseudo R^2 of 0.1184 also supports our argument, because it indicates that the model explains a reasonable amount of the variance in the dependent variable. Additionally, results commonly found in the audit and government finance literature are present in the analysis, with the signs of the variables being consistent with our hypotheses, as explained below.

Our primary hypothesis was that an internal audit function in city government helps to reduce the occurrence of negative audit findings. Our analysis finds support for this hypothesis. With a coefficient of –1.7628, the results show that the presence of an internal audit function has a statistically significant effect on audit outcomes. To aid in the interpretation of the results, odds ratios were also calculated. Based on this calculation, the likelihood that a city with an internal audit function would have findings was only 17.16% of the likelihood for cities with no internal audit function, holding all other variables constant. That is, cities with no internal audit function were more than five times as likely to have a negative outcome reported in their annual external audit.

Our second hypothesis concerned the extent of experience with internal audits. The experience of a city government with the audit function, reflected in the variable *experience*, was shown to be statistically significant, with a coefficient of 0.0047. Consistent with our hypothesis, the more experience a municipality had with internal audits, the more likely it was to have a negative outcome on its external audit. According to the results, for every month of experience with the internal audit function, the odds of having negative outcomes reported on the external audit were 100.47% greater, with other variables being controlled. Our other variable used to represent experience, staff capacity as operationalized by the variable *full-time equivalent* had no statistically significant effect on the likelihood of receiving an unclean audit report.

TABLE 3
LOGISTIC REGRESSION ANALYSIS RESULTS

Variable	*Coef.*	*Odds Ratio*	*Std. Error*	*P* > |z|
Internal Audit Function	-1.7628	0.1716	1.0535	0.047
Experience	0.0047	1.0047	0.0028	0.045
Full-Time Equivalent	0.2553	1.2909	0.2514	0.155
Council Form	-0.6167	0.5397	0.6844	0.184
Commission Form	-0.5822	0.5586	0.6855	0.198
Population	0.3752	1.4554	0.2569	0.072
Current Ratio	-0.0280	0.9723	0.0279	0.158
IGR Ratio	-2.5278	0.0798	2.5951	0.165
Long-Term Debt Ratio	5.6507	284.4881	1.4811	0.000
Debt Service Ratio	-5.5156	0.0040	3.0386	0.034
Unrestricted Fund Balance Ratio	-0.4285	0.6515	0.4625	0.177

Revenue	0.0011	1.0011	0.0005	0.018
Expenditures	-0.0011	0.9988	0.0006	0.027
Constant	-2.8086	---	2.7768	0.156
Log Likelihood = -395.6046				
Wald χ^2 = 41.05				
Pseudo R^2 = 0.1184				
Probability > χ^2 = 0.0001				
N = 810				

In addition to our variables of interest, several of the control variables provided interesting and relevant findings. Previous research has shown that the form of government adopted can have significant impact on a municipality's financial behavior (Coate & Knight, 2011; McDonald, 2015). Our results present conflicting evidence, as we found no statistically significant difference between cities with a council form of government and those with a commission form. Our expectation for this finding assumes that form of government may influence how cities use resources but not how they account for them. We did find significant influence based on the size of a city, with larger cities having a higher probability of a negative outcome.

Concerning the influence of fiscal health on the likelihood of unclean audit findings, the results were quite interesting. Contrary to our expectations, three ratios had no significant influence on the presence of negative findings: the current, IGR, and unrestricted fund balance ratios. Interestingly, we did find support for the idea that the amount of debt held by a city could increases the likelihood of an unclean audit report, as shown by the significant impact of both the long-term debt and debt service ratios. Specifically, an increase of 1% in the long-term debt ratio was associated with a 2.84% increase in the probability of having at least one negative item in the audit report. Also, cities had a lower probability of receiving an unclean audit report if they had a lower debt service ratio, meaning that fewer of the city's expenditures are required to cover the debt. Based on the results, a 1% increase in the debt service ratio was associated with an increase of 0.000040% in the probability of an unclean report. Although somewhat surprising, these findings were not totally unexpected. Diebold, Reitano, and McDonald (2018), in their study of local government debt, found that cities frequently adjust their accounting methods to give the appearance of lower long-term debt and reduce their short-term debt burden. If the cities in our study engaged in such behavior, the emergence of negative audit findings would not be surprising.

In retrospect, the variation in significance across the fiscal health variables may be a function of what the ratios reflect. Both the current and IGR ratios reflect resources available to the city, whereas the other ratios reflect how the resources are utilized. As resources are utilized, they are more likely to be accounted for incorrectly and lead to negative audit findings. This possible explanation is supported by the results related to revenue and expenditure variables, both of which were found to significantly increase the likelihood of negative audit findings.

DISCUSSION

Our study results provide evidence that supports our hypothesis that cities with internal audit are more likely to receive a positive outcome on their annual external financial audit. Since clean audit reports are the result of effective systems of internal control, the evidence suggests that internal audits are effective in their role as monitors of this system (IIA, 2012; Kaplan & Ruland, 1991; Montondon, 1995; Pizzini, Lin,

& Ziegenfuss, 2015). These results reinforce the importance of internal audits as a valuable accountability mechanism in municipal government (Arena & Azzone, 2009; Baker & Anderson, 2010; Brink, 1941; DeAngelo, 1981; deHaven-Smith, 1988; IIA, 2012; Oliver, 1991).

Our findings differ from other current research examining the impact of internal audit in the public sector, but there may be a reasonable explanation for the difference in results. Nation et al (2019) examined state agencies in a single state and found that agencies with internal audit also received more compliance findings. Compliance audits are different than financial statement audits. They focus on whether state agencies followed laws and regulations related to federal grant and flow-through programs making comparison to our results problematic.

The two studies like ours using municipal level data offer a better comparison. Peterson (2014), as part of a dissertation, examined whether the existence of internal audit affected the results of a municipality's external financial statement audit (which included the single audit report). Peterson tested 135 cities with populations of at least 115,000 over a four-year period (2008 to 2011) and found no significant relationship between the presence of internal audit and the outcomes of the external audit. DeSimone (2018) in a working paper did a similar study using data from 2004 through 2014 for cities with populations of at least 100,000 and found a positive association between the presence of internal audit and the occurrence of reportable conditions, but a negative association with restatements.

Our study differed from the Peterson and DeSimone in several important ways. First, we tested cities with populations of at least 10,000. Our descriptive statistics indicated that 75% of the cities with populations over 100,000 had an internal audit function, while only 11% of cities below that threshold did. Both other studies focused on cities more likely to have internal audit while ours examined a broader range of cities by size. We believe that may be partially responsible for our finding of negative association compared to the positive association noted by DeSimone (2018).

What does all this mean? All the researchers tried to find an answer to an important question that impacts an important policy decision for local governments. It is important to continue this line of research and refine our measurements of the variables and seek to find appropriate meaningful ways to stratify the cities by population and possibly other characteristics that might help us more fully explain the effect of internal audit in the public sector,

Although internal auditors do not normally claim to have the specific goal of improving the outcomes of independent external audits, this is not an unreasonable outcome given the modern definition of internal auditing advanced by the profession (Humphrey & Owen, 2000). The challenge in studying the effect of internal audit without reference to inputs (resources) or outputs (reports, presentations, findings) is that outcomes are difficult to define and measure (Bureau of Municipal Research, 1910; Pentland, 1993). Our identification of a measurable outcome of the internal audit function offers a legitimate way to demonstrate its usefulness within municipal government (Bowerman, 2002; Brink, 1941; Keohane, 2007).

Professional organizations such as the GFOA (2006) and IIA (2012) encourage local governments to adopt internal audits to combat fraud, waste, and abuse and to guard against ineffective or inefficient management of public resources (Montondon,1995; Office of Management and Budget, 2011). The GFOA supports this function as part of its financial certification process for local governments, while the latter does so as the field's professional association representing the interests of practitioners (Humphrey & Owen, 2000). The IIA has stated that "the erosion of public trust if public information and actions are not reliable undermines a government's legitimacy and ability to govern" (Montondon, 1995, 8).

An article from *Governing*, a magazine on government practice, noted a troubling trend for those promoting the adoption of internal audits by local government. Barrett and Greene (2009) reported that local governments are increasingly reducing or eliminating their internal audit offices as a result of budgetary pressures. The primary reason cited for this decision was the lack of a direct measurable relationship between the costs of the function and the benefits to taxpayers. The way to preserve the internal audit function, according to Barrett and Greene, was to make a better case for it through enhanced communication of its benefits to stakeholders. However, demonstrating its benefits is hard because internal auditing is a support function and is not involved in the direct provision of goods and services to constituents. The chief output of the audit process is information in the form of reports and presentations, making it difficult to identify the benefits derived from its activities. Measuring the costs associated with indirect support functions like internal auditing is relatively easy compared to measuring their empirical benefit (Ramamoorti, 2003).

LIMITATIONS

We believe our research findings are significant and relevant but subject to some limitations. First, we acknowledge a scope limitation. We focused our examination on a single state, Florida. This decision was based on our ability to collect data. One of the co-authors was previously employed in Florida's state government, easing data collection. This allowed us to test 100% of our population for each year of our study. While this limits the ability to generalize the results, it does not diminish their significance or their relevance. The use of a single state does control for variations that might exist within state law and affect study results. Florida has a large population with many diverse cities across its several regions that includes large, mid, and small size cities. There is also precedent for accommodating this specific limitation in previously published research (Nation et al., 2019).

Second, we acknowledge a currency limitation with our data. We collected the data in 2013 for the period 2007 through 2011. However, we do not believe this limitation diminishes the contribution of our study. The results of our statistical analysis are still significant and relevant for the purpose of showing the impact of internal audit on local government. There is no existing dataset, so we had to create a unique dataset for this project. Data collection involved six months of intense effort collecting 810 reports, compiling the data, and contacting 162 cities. We believe that the data and results are relevant this limitation.

CONCLUSION

Given the difficulties in measuring internal audits' contribution relative to their costs and the elusiveness of identifying direct tangible benefits, the results of this study offer a way to test and demonstrate their importance to cities. Prior literature has indicated that internal audits' chief value to the organization is tied to their role in monitoring operational and strategic risks and ensuring the reliability of financial reporting (Kaplan & Ruland, 1991). Internal audits are promoted as a monitoring and oversight mechanism to protect organizations against risk. The results of the present study suggest that they have a substantive effect on a municipal government's system of governance, as measured through independent audits performed by certified public accountants. This function is valuable in maintaining the health of the internal systems, values, and norms necessary to produce financial and operational information that an organization uses in assessing its operational and strategic performance.

Public-sector governance failures pose serious risks to all types of organizations, not just the governments themselves. Therefore, it is important to understand the nature of the mechanisms employed by organizations to protect their governance systems. Internal audits are among the mechanisms most frequently cited within the governance literature in this regard. Our research shows that they indeed have an empirically demonstrable effect on governance in Florida cities.

This paper makes a significant contribution by introducing the use of the annual CAFR audit as a way to demonstrate the effect of internal audits on municipal governance. It thus opens up a promising avenue of research. The present study was limited to five years of CAFR audit data and covered only cities in one U.S. state. Future studies should expand both the time series and should apply this measure to other geographic areas. This approach could be particularly relevant for municipalities with populations ranging from 50,000 to 250,000. Most cities with populations under 50,000 do not have an internal audit function, while cities with larger populations likely do have one.

Another possible modification of this study could focus on the dependent variable, which was a simple dichotomous output measure in the present case. Future research could develop a measure that considers in more nuanced fashion the various items that result in an audit being classified as other than clean. The main challenges facing such an approach would entail constructing the classification framework and determining how best to summarize the data so as to measure the revised dependent variable. In this way, future studies could obtain more detailed information on the effects of an internal audit function.

During the data collection process for the present study, some observations were made regarding items that were noted in a city's audit report for multiple years. These repeating items could offer an interesting data source for further investigation. Another factor of potential interest was the occurrence of changes in the external auditor. A variable for that factor was not included in the present study, but future research could examine the effect of changes in external auditors on municipal financial reporting.

ENDOTES

1. For a thorough discussion of fiscal health, its dimensions, and measurement systems, see Maher, Ebdon, and Bartle (2020) and McDonald (2017, 2018, 2019).
2. Careful consideration should be given to interpreting the fiscal health ratios on a properly scaled basis. For example, a one-unit increase in the long-term debt ratio would lead to an increase in the coefficient of 5.6507. This means that an increase of 1% in the ratio would be associated with an increase of 0.56 in the coefficient.

REFERENCES

Abbott, L.J., Parker, S., & Peters, G.F. (2012). Internal audit assistance and external audit timeliness. *Auditing: A Journal of Practice & Theory*, *31*(4), 3-20.

Arapis, T., & Reitano, V. (2016). A glimmer of optimism in government savings accumulation? An empirical examination of municipal unassigned fund balance in Florida. *Public Finance Review*, *46*(3), 389-420.

Arena, M., & Azzone, G. (2009). Identifying organizational drivers of internal audit effectiveness. *International Journal of Auditing*, *13*(1), 43-60.

Association of Government Accountants. (2013). *2013 Survey of state and local financial executives*. Retrieved from https://agacgfm.org/Research-Publications/Online-Library/Survey-Series/2013-Survey-of-State-and-Local-Financial-Executives.aspx

Association of Local Government Auditors. (2014). *Funding the audit function: Money well spent*. Retrieved from https://cdn.ymaws.com/algaonline.org/resource/resmgr/audit_excellence/support/funding_the_audit_function.pdf

Baber, W.R. (1983). Toward understanding the role of auditing in the public sector. *Journal of Accounting and Economics*, *5*, 213-227.

Baker, H.K., & Anderson, R. (Eds.). (2010). *Corporate governance: A synthesis of theory, research, and practice*. Hoboken, NJ: John Wiley & Sons.

Barrett, K., & Greene, R. (2012, May). The inspector's tale: Performance auditors are becoming endangered in more states and localities. *Governing*, *25*.

Bowerman, M. (2002). Isomorphism without legitimacy? The case of the business excellence model in local government. *Public Money & Management*, *22*(2), 47-52.

Bratten, B., Causholli, M., & Omer, T. (2019). Audit firm tenure, bank complexity, and financial reporting quality. *Contemporary Accounting Research*, *36*(1), 295-325.

Brink, V.Z. (1941). *Internal auditing: Its nature and function and methods of procedure*. New York, NY: Ronald.

Bureau of Municipal Research. (1910). *Municipal reform through revision of business methods, New York City*. New York, NY.

Carr, J.B., & Karuppusamy, S. (2010). Reassessing the link between city structure and fiscal policy. *American Review of Public Administration*, *40*(2), 209-228.

Chambers, R. (2013). *NASDAQ hesitates in its quest to mandate internal audit*. Internal Auditor. Retrived from https://iaonline.theiia.org/blogs/chambers/2013/Pages/NASDAQ-Hesitates-in-Its-Quest-to-Mandate-Internal-Audit.aspx

Coate, S., & Knight, B. (2011). Government form and public spending: Theory and evidence from U.S. municipalities. *American Economic Journal*, *3*(3), 82-112.
Copley, P.A. (1991). The association between municipal disclosure practices and audit quality. *Journal of Accounting and Public Policy*, *10*(4), 245-266.
DeAngelo, L.E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics*, *3*(3), 183-199.
deHaven-Smith, L. (1988). *Philosophical critiques of policy analysis: Lindblom, Habermas, and the Great Society*. Gainesville, FL: University of Florida Press.
Deis, D.R., & Giroux, G.A. (1992). Determinants of audit quality in the public sector. *Accounting Review*, *67*(3), 462-479.
DeSimone, S. (2018). *Internal Audit and Financial Reporting Quality in the Public Sector*. [Unpublished manuscript]. Department of Economics and Accounting, College of the Holy Cross.
Dickins, D., Hillison, W., & Platau, S. (2009). Do financial statement users care about differences in board members' source of financial expertise? Views of financial analysts. *Journal of Applied Business and Economics*, *9*(2), 21-36.
Diebold, J., Reitano, V., & McDonald, B. (2018). Sweat the small stuff: Strategic selection of pension policies used to defer required contributions. *Contemporary Economic Policy*, *36*(3), 505-525.
Fifield, J. (2019, May 15). Glendale just eliminated its internal city watchdog role. *The Republic*. Retrieved from https://azcentral.com/story/news/local/glendale/2019/05/14/glendale-city-council-consider-eliminating-city-auditor/3671402002/
Friedberg, A., & Lutrin, C. (2001). The internal audit in U.S. local government in the 1990s: A status report and challenges. *Journal of Public Budgeting, Accounting & Financial Management*, *13*(3), 325-344.
Ghosh, A., & Moon, D. (2005). Auditor tenure and perceptions of audit quality. *Accounting Review*, *80*(2), 585-612.
Giroux, G., & McLelland, A.J. (2003). Governance structures and accounting at large municipalities. *Journal of Accounting and Public Policy*, *22*(3), 203-230.
Goodwin, J. (2004). A comparison of internal audit in the private and public sectors. *Managerial Auditing Journal*, *19*(5), 640-650.
Government Finance Officers Association. (2006). *Best practices: Establishment of an internal audit function*. Retrieved from https://www.gfoa.org/internal-audit-function
Gramling, A.A., Maletta, M.J., Schneider, A., & Church, B.K. (2004). The role of the internal audit function in corporate governance: A synthesis of the extant internal auditing literature and directions for future research. *Journal of Accounting Literature*, *23*, 194-244.
Holt, T.P., & DeZoort, T. (2009). The effects of internal audit report disclosure on investor confidence and investment decisions. *International Journal of Auditing*, *13*(1), 61-77.
Humphrey, C., & Owen, D. (2000). Debating the "power" of audit. *International Journal of Auditing*, *4*(1), 29-50.
Institute of Internal Auditors. (2012). *The role of auditing in public sector governance*. Retrieved from https://na.theiia.org/standards-guidance/Public%20Documents/Public_Sector_Governance1_1_.pdf
Kaplan, S.E., & Ruland, R.G. (1991). Positive theory, rationality and accounting regulation. *Critical Perspectives on Accounting*, *2*(4), 361-374.
Keohane, R.O. (2007). *Governance and legitimacy: Keynote speech held at the openning conference of the Research Center (SFB) 700*. Berlin, Germany: DFG Research Center.
Kim, J., McDonald B.D., & Lee, J. (2018). The nexus of state and local capacity in vertical policy diffusion. *American Review of Public Administration*, *48*(2), 188-200.
Lewis, C.W. (2003). Updating state and local financial indicators. *Municipal Finance Journal*, *24*(1), 17-35.
Lewis, C.W. (2007). How to read a local budget and assess government performance. In A. Shah (Ed.), *Local budgeting* (pp. 179-211). Washington, DC: World Bank.

Lin, S., Pizzini, M., Vargus, M., & Bardhan, I.R. (2011). The role of the internal audit function in the disclosure of material weaknesses. *Accounting Review*, *86*(1), 287-323.

Lopez-Puente, N. (2020, February 6). Edinburg council feuds over hiring of internal auditor. *The Monitor*. Retrieved from https://themonitor.com/2020/02/06/edinburg-council-feuds-hiring-internal-auditor/

Maciag, M. (2017). In hard times, government watchdogs are often first to get the ax. *Governing Magazine*. Retrieved from https://www.governing.com/topics/mgmt/gov-missing-auditor-states-cut.html

Maher, C.S., Ebdon, C., & Bartle, J.R. (2020). Financial condition analysis: A key tool in the MPA curriculum toolbox. *Journal of Public Affairs Education*, *26(1), 4*-10.

McDonald, B.D. (2015). Does the charter form improve the fiscal health of counties? *Public Administration Review*, *75*(4), 609-618.

McDonald, B.D. (2017). *Measuring the fiscal health of municipalities* (Working Paper No. WP17BM1). Cambridge, MA: Lincoln Institute of Land Policy.

McDonald, B.D. (2018). Local governance the issue of fiscal health. *State and Local Government Review*, *50*(1), 46-55.

McDonald, B.D. (2019). The challenges and implications of fiscal health. *South Carolina Journal of International Law and Business*, *15*(2), 78-99.

McDonald, B.D., & Gabrini, C.J. (2014). Determinants of charter county decisions: An event history analysis of Florida counties. *Journal of Public Administration Research and Theory*, *24*(4), 721-739.

Mgambe, C.O., Eragbhe, E., & Osazuwa, N.P. (2012). Audit partner tenure and audit quality: An empirical analysis. *European Journal of Business and Management*, *4*(7), 154-162.

Mohamed, Z., Mat Zain, M., Subramaniam, N., & Wan Yusoff, W.F. (2012). Internal audit attributes and external audit's reliance on internal audit: Implications for audit fees. *International Journal of Auditing*, *16*(3), 268-285.

Montondon, L. (1995). Accountability in municipalities: The use of internal auditors and audit committees. *American Review of Public Administration*, *25*(1), 59-69.

Nation, F., Kuntzman, Q., & Buxton, M. (2019). The impact of dedicated internal audit functions on state governmental compliance audit findings. *International Journal of Business, Accounting, and Finance*, *13*(1), 70-85.

Office of Management and Budget. (2011). *Audits of states, local governments, and non-profit organizaions* (OMB Circular A-133). Retrieved from http://www.whitehouse.gov/omb/circulars_default

Oliver, C. (1991). Strategic responses to institutional processes. *Academy of Management Review*, *16*(1), 145-179.

Pentland, B.T. (1993). Getting comfortable with the numbers: Auditing and the micro-production of macro-order. *Accounting, Organizations and Society*, *18*(7-8), 605-620.

Peterson, A.N. (2014). *The impact of municipal governance on cities' audit performance and audit report timeliness and the subsequent economic consequences* [Unpublished doctoral dissertation]. Rutgers University.

Pizzini, M., Lin, S., & Ziegenfuss, D.E. (2015). The impact of internal audit function quality and contribution on audit delay. *Auditing: A Journal of Practice & Theory*, *34*(1), 25-58.

Prawitt, D.F., Smith, J.L., & Wood, D.A. (2009). Internal audit quality and earnings management. *Accounting Review*, *84*(4), 1255-1280.

Public Company Accounting Oversight Board. (2019). *AS 2605: Consideration of the internal audit function*. Retrieved from https://pcaobus.org/Standards/Auditing/Pages/AS2605.aspx

Ramamoorti, S. (2003). Internal auditing: History, evolution, and prospects. In A.D. Baily, A.A. Gramling, & S. Ramamoorti (Eds.), *Research opportunities in internal auditing* (pp. 1-23). Altamonte Springs, FL: Institute of Internal Auditors.

Sarens, G., & Abdolmohammadi, M.J. (2011). Monitoring effects of the internal audit function: Agency theory versus other explanatory variables. *International Journal of Auditing*, *15*(1), 1-20.

Schottelkotte, S. (2016a, February 1). *Bartow moves to cut auditor post*. The Ledger. Retrieved from https://theledger.com/news/20160201/bartow-moves-to-cut-auditor-post/

Schottelkotte, S. (2016b, April 5). *Both Bartow charter amendments approved*. The Ledger. Retrieved from https://theledger.com/news/20160405/both-bartow-charter-amendments-approved/1

Shon, J.J., & Weiss, R. (2009). SOX 4040 effective internal control systems and executive compensation. *Journal of Applied Business and Economics*, *10*(2), 79-90.

Zain, M.M., Zaman, M., & Mohamed, Z. (2015). The effect of internal audit function quality and internal audit contribution to external audit on audit fees. *International Journal of Auditing*, *19*(3), 134-147.