The Impact of Municipal Governance on Cities' Audit Performance and Audit Report Timeliness and the Subsequent Economic Consequences

by

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ABSTRACT OF THE DISSERTATION

**The Impact of Municipal Governance on Cities' Audit Performance and Audit
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This dissertation is comprised of two studies: the effect of municipal governance
on cities' audit performance and audit report timeliness; and economic consequences of
audit performance and report timeliness.

In the first study, municipal governance institutions, specifically governance
structure, City Council election policies, use of an audit committee, use of an internal
audit function, and Finance Department leadership, are evaluated to determine which
factors influence audit performance and report timeliness. Six regression models are
presented – five to estimate audit performance and one to estimate audit report timeliness.
Results indicate that various governance institutions impact both the quality and
timeliness of municipal reporting. All of the institutions evaluated, except internal audit,
are significant in at least one model of audit performance presented here, with use of a
city manager (i.e., government structure) being significant in all six models.

In the second study, two relationships are evaluated: impact of both audit
performance and report timeliness on municipal debt costs; and effect of audit
performance on a city's future Federal revenue. Conflicting results are found in regards
to the first relationship, and evidence is found to support the second. Poor audit

performance is found to have a significant, negative impact on a city's future Federal

funding, which in turn reduces the funds available to provide programs and services to

constituents. Ultimately, the level and quality of services provided by a local government

are impacted by the amount of Federal funding received; therefore, audit performance

may impact the public programs, goods and services a city offers its citizens.

Thank you to my friends and family for all of the support over the last five years, for not thinking I was crazy when I decided to trade in my public accounting career for the life of a Ph.D. student, for traveling to visit us during this journey and for making these years more enjoyable than they otherwise would have been. I'm so thankful for you all.

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1. Introduction and Background

1.1   INTRODUCTION

Governance is a well-researched topic in the private sector and more recently has

been examined sparsely in a governmental setting. While municipal governance has been

explored in recent research, few studies have examined the greater impact of governance

on a city economically. In this study, first, the effect of governance on municipal audit

performance and report timeliness is analyzed. Second, the economic impact of

municipal audit performance and report timeliness is evaluated.

The governance policies a city implements indicate the municipality's

expectations and priorities and can act to inspire trust in the government and public

officials. By applying "good governance" practices, a city may motivate a trickle-down

effect, facilitating a positive impact throughout the city. Results from this study show

that municipal governance is found to have a significant positive impact on both audit

performance and audit report timeliness. These results provide incentive for cities to

establish and perpetuate good governance practices.

A municipality's audit report is publicly available and therefore may be used by

stakeholders, including municipal bond market participants and the Federal government,

to make decisions based on information disclosed in the report. Audit exceptions identify

areas of noncompliance or internal control weaknesses. Disclosure of internal control

weaknesses in the private sector has been shown to increase the cost of debt (Elbannan

2009; Dhaliwal et al. 2011; Kim et al. 2011b; Costello and Wittenberg-Moerman 2011).

Furthermore, disclosure of audit exceptions reduces information credibility of the

financial statements, escalating information asymmetry between municipal officials and

the market, which has been shown to increase default risk and, in turn, cost of debt (Easley and O'Hara 2004; Lambert et al. 2007; Ecker et al. 2006).

Municipal audits provide information about a city's financial reporting quality, internal control system and compliance with laws and Federal requirements. The Federal government may use the disclosure of audit exceptions as reason to reduce funding to a municipality. Reduced Federal funding and higher borrowing costs leave a municipality with less money to provide services to constituents and likely negatively impact the quality and level of services a city is able to offer.

In this study, economic implications of audit performance and audit report timeliness are examined, and results show that poor audit performance in a municipal setting negatively impacts funding a city receives from the Federal government. The impact of poor audit performance on the cost of debt is also evaluated but conflicting results are found. Based on the overall findings of this study, good governance practices within a city may influence a city's Federal revenue and therefore impact the level of services that can be provided for citizens. This finding is further motivation for municipalities to analyze the governance practices in place and make necessary changes to improve these structures.

1.2 BACKGROUND

1.2.1 MUNICIPAL AUDITING

On an annual basis, municipal governments are required to obtain two types of independent audits and publicly disclose the results of each: a financial statement audit (FSA) and a single audit (SA). The main consideration of the FSA is a city's financial reporting, i.e., the account balances, revenues and expenses reported in the financial statements. Because the FSA speaks to the quality of financial reporting, this audit

involves auditor testing of monetary balances reported in the financial statements (i.e., cash balance, accounts receivable balance, etc.) as well as the internal controls over those balances (i.e., bank reconciliations, accounts receivable aging schedule, etc.). The FSA report opines whether the financial statements are prepared in accordance with general accepted accounting principles (GAAP) and balances are presented fairly (i.e., free of material misstatement). In order to assess this, auditors test completeness and accuracy of account balances, existence of reported accounts, rights to reported assets, valuation of assets and debt, and proper presentation of other items included in the financial statements, among other elements.

In addition to a financial statement audit, a municipality must also obtain a single audit annually. Each year, the Federal government provides over $400 billion in grants to non-Federal entities, including state, local and tribal governments, colleges, universities and other non-profit organizations (OMB 2011). As a method of holding entities accountable for proper use of these funds, a single audit (or A-133 audit) is required by the Federal government for all non-Federal entities that spend more than $500,000 of Federal funds. Prior to the Single Audit Act of 1984, no cohesive, organized method for auditing these programs existed. With implementation of the Single Audit Act, the Federal government mandated a single audit for entities meeting the $500,000 threshold, specific audit requirements and public disclosure of the single audit report.

The objective of the single audit differs greatly from that of the financial statement audit – the focus is on compliance, rather than financial reporting, and the purpose of this audit is to ensure a city uses Federal funds in accordance with Federal guidelines. The single audit is performed at the Federal program level and is comprised

of financial and operational elements. The auditor assesses whether Federal compliance requirements regarding use of Federal funds are met and whether appropriate internal controls are in place to ensure compliance. In order to opine, the auditor performs both compliance tests to ensure compliance requirements are met (such as income verification eligibility tests for entitlement benefit recipients) and internal control tests to determine whether appropriate controls are in place to ensure compliance (such as approval signatures on check payments prior to payment of entitlement benefits).

1.2.2   PRINCIPAL-AGENT THEORY

The relationship between constituents of a municipality and the officials that represent them is structured in the form of a principal-agent relationship. Public officials act as agents over citizens' resources and may have divergent interests from those they represent. These officials make decisions on citizens' behalf with regard to availability of public goods and services and management of public funds. Incentive plans are structured to align the interests of the principal and agent, and monitoring and oversight help to ensure that agents act in the interest of the principal. A common monitoring mechanism is the external audit performed by an independent auditor, which involves an extensive evaluation of financial reports, internal controls and processes in place within the entity. The audit report provides an objective assessment of whether public agents effectively manage public resources and acts a tool for citizens to evaluate performance of public officials.

Within this principal-agent relationship, information asymmetry exists because public officials are privy to private information that voters do not have, which gives the officials an information advantage. The audit report, which gives an overall opinion as to the presentation of the financial statements, the internal control system design and

operating effectiveness, and compliance with laws and regulations, gives voters information that otherwise would not be available to them, therefore reducing the information asymmetry problem.

In a municipal setting, transaction costs in this principal-agent relationship (i.e., costs of relocating to a different city) are high compared to those of the capital market (Zimmerman 1977). Voters cannot easily dispose of their investments in the municipality, i.e., their real estate investments, and are less able to protect themselves from opportunistic behavior by public officials acting as their agents. Due to these high transaction costs, monitoring and oversight are of the utmost importance (Baber et al. 2013).

2. **The Impact of Municipal Governance on Cities' Audit Performance and Report Timeliness**

2.1 INTRODUCTION

Municipal governance is a critical element to instill public confidence in the government, as well as restore this confidence when damaged. Municipal policies that emphasize accountability, transparency and oversight are expected to enhance citizens' trust in the government and its officials. This study seeks to answer whether these policies impact a city's audit performance, measured by internal control weakness disclosures, and audit report timeliness. The governance institutions of a city set the "tone at the top" and present the attitude and expectations of the entity. By implementing a tone that underscores the importance of accountability, transparency and high quality oversight, a city may instill a system that trickles down, creating a pervasive positive impact. Policies that promote good governance may help to improve fiscal responsibility, financial reporting quality and compliance with laws, regulations, contracts and grant agreements.

Negative financial reporting outcomes have been shown to have significant economic impact in the public, nonprofit and private sectors. Repercussions include increased bond costs for municipalities that restate financial statements (Baber et. al 2013), reduced financial support for nonprofit entities that disclose internal control weaknesses (Petrovits et. al 2011), increased equity costs for publicly traded corporations that disclose internal control weaknesses (Ogneva et al. 2007; Ashbaugh-Skaife et al. 2009; Hammersley et al. 2008) and those that restate earnings (Palmrose et al. 2004; Kinney and McDaniel 1989; Wu 2002; Hribar and Jenkins 2004), and increased debt

costs for those publicly held companies with internal control weaknesses (Elbannan 2009; Crabtree et al. 2009; Dhaliwal et al. 2011; Kim et al. 2011b; Costello and Wittenberg-Moerman 2011). Because of the significance of these financial repercussions, understanding determinants of internal control weakness disclosures in a municipal setting is important.

According to the Governmental Accounting Standards Board (GASB), the motivation for governmental financial reporting is accountability to stakeholders, including taxpayers, regulatory bodies and government bondholders. Audited financial statements act as a measure of fiscal and operational accountability. Fiscal accountability is the responsibility of the government to justify that actions in the short-term comply with public policy decisions regarding raising and spending public funds, while operational accountability is defined as "the government's responsibility to report the extent to which they have met their operating objectives efficiently and effectively" and whether they can continue to meet these objectives in the future (GASB 1987).

GASB Statement 34 (GASB 34) requires cities to issue the following in an annual financial report: management's discussion and analysis, basic financial statements including government-wide financial statements and fund financial statements, notes to the financial statements and additional required supplementary information (GASB 1999). While GASB 34 applies to local governments of all sizes as of 2004, some states implement a limitation for very small cities as compliance with GASB 34 may be challenging or near impossible for these small municipalities.[1] Large cities (greater than 100,000 in population) typically issue this annual report as a comprehensive annual

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[1] The state of Minnesota is an example of a state that does not require GASB 34 implementation for small towns. Minnesota cities and towns with fewer than 2500 residents are not required to comply with GASB 34 (MOSA 2004) .

financial report (CAFR), which is comprised of the GASB required elements and a financial statement audit report. The financial statement audit report is publicly available and describes any problematic audit findings ("reportable conditions") specific to that audit.

Beyond the results contained within the audit report, timeliness of audit report issuance also affects city stakeholders. When information is not timely, it loses relevance and therefore usefulness. The Governmental Accounting Standards Board (GASB) notes that approximately 90% of users of governmental financial reports consider timeliness to be an important quality of financial reporting (GASB 1987) and established timeliness as one of the key characteristics of governmental financial reports in Concept Statement No. 1. In 1998, the National Federation of Municipal Analysts (NFMA) recommended the SEC encourage timelier reporting by municipalities and expressed concern that governmental reporting practices result in financial information being unavailable until it is irrelevant and therefore not useful, causing uncertainty in the municipal securities market (NFMA 1998). For these reasons, understanding the impact of municipal governance on audit report timeliness may have pervasive effects.

While governance has been heavily studied in the private sector, the role of governance in a municipal setting is a relatively new research area. In this study, "good governance" institutions, defined by an emphasis on accountability, transparency and oversight, are examined.   Some of the institutions examined here have shown significance in the private sector (for example, implementation of an audit committee and election policies that encourage better oversight), and this study seeks to extend these findings to a municipal setting. Conversely, some governance institutions introduced

here have not been examined in prior research. This study seeks to broaden existing municipal governance theory as the first to examine the relationship between audit performance and municipal governance and also through the introduction of new municipal governance institutions. Significant results are found that establish a relationship between municipal governance and both audit performance and audit report timeliness. These results have a potentially far-reaching impact for local governments in policy-making decisions.

2.2 THEORETICAL FRAMEWORK

The aim of this study is to determine whether policies with greater emphasis on accountability, transparency and oversight have a beneficial impact on municipal audit performance and audit report timeliness. The elements of accountability, transparency and oversight are integral components of a local government as they enhance citizens' trust in the government and its officials.

Accountability is characterized as scrutiny by independent outsiders, performance identification and risk of negative consequences when performance is unsatisfactory. Accountability refers to the obligation of an entity to account for its activities, accept responsibility for its actions and disclose the results of these activities and actions (Day and Klein 1987), which includes the responsibility for taxpayers' resources in the context of a city. When functioning properly, accountability mechanisms align objectives of citizens with those of public officials, ensuring that public resources are effectively and efficiently managed. Greater emphasis on accountability ensures that public officials are held responsible for their actions and allows the public to monitor and discipline these workers (Maskin and Tirole 2004).

Transparency implies open and full disclosure of information, and increased transparency leads to improved oversight because it reduces information asymmetry and improves accountability (Hermalin and Weisbach 2007). Measures that emphasize accountability tend to also highlight transparency - information disclosure, or improved transparency, is required in order for an entity to be held accountable for its actions. Lack of transparency also creates opportunity for corruption and reduced efficiency (UN 2007). Public oversight discourages corruption, builds confidence and trust in a city government and encourages accountability and transparency. Oversight within a local government involves monitoring the fiscal and operational accountability of the city, including compliance and financial reporting (UN 2007).

Policies that promote accountability, transparency and oversight instill confidence and trust in the government and comprise an ideal municipal governance structure. These policies may also improve fiscal responsibility, financial reporting quality and compliance with laws, regulations, contracts and grant agreements, which are the elements measured by municipal audits. Because the goals of these policies align with measures evaluated in the audit report, cities that emphasize these policies are expected to have better audit results and timelier reporting.

2.3 LITERATURE REVIEW
Governance embodies institutional conventions a municipality adopts to impact the quality and level of oversight and accountability of municipal officials. The ability to create good governing institutions has been consistently shown to have widespread political and economic consequences, including improved economic growth, government performance and citizens' welfare (Mauro 1995; Easterly and Levine 1997; Kaufmann, Kraay and Zoido-Lobaton 1999). Conversely, corruption and political malfunction have

been shown to result from poor governance (Ferraz and Finan 2011; O'Neill and Nalbandian 2009). The institutions examined in this study are the use of an audit committee, use of an internal audit function, City Council election policies, Finance Department leadership and governance structure.

2.3.1   AUDIT COMMITTEE

In response to several financial reporting scandals, the Sarbanes-Oxley Act (SOX) was passed in 2002 to regulate publicly traded companies, with the aim being to improve accountability, transparency and oversight. While SOX only applies to publicly held companies, analyses suggest benefits of applying SOX-related practices to other entities (Ostrower 2007). One such provision that may benefit governmental entities is the requirement to have an audit committee in place.

The audit committee is a voluntary mechanism in U.S. municipalities and has not been studied in the public sector. The intent of this study is to extend findings regarding audit committee effectiveness from the corporate sector to a municipal setting. Audit committees in the corporate sector are found to be effective in improving financial reporting quality (Abernathy et al. 2011; Baxter and Cotter 2009; Pucheta-Martinez et al. 2007; Vafeas 2005) and are associated with higher audit quality (Goodwin-Stewart and Kent 2006).

After implementation of SOX, the Government Accountability Office (GAO) recommended that public sector entities use an audit committee. In 2003, the GAO required each governmental entity to designate an audit committee or similar body to fulfill the financial oversight role (GAO 1999). Even so, some municipalities do not use an audit committee but instead designate City Council as a whole to act as the audit oversight body.

2.3.2 INTERNAL AUDIT

Internal audit is dedicated to improving operational accountability, fiscal operations and internal control systems, while working to achieve effectiveness, efficiency and accountability by providing an independent assessment of a city's policies and practices. Internal audit also acts as a fiscal monitoring operation and recommends improvements to policies and procedures in order to enhance the internal control structure of a city. Overall, the internal audit function "provides assurance that internal controls in place are adequate to mitigate the risks, governance processes are effective and efficient, and organizational goals and objectives are met (IIA 2006)."

The aim of this study is to extend findings regarding internal audit from the corporate sector to a municipal setting, as little research over internal audit in the public sector exists. In the private sector, Goodwin-Stewart and Kent (2006) find that use of internal audit varies directly with audit quality and explain that internal audit is used as an additional monitoring mechanism to improve overall governance. Singh and Newby (2010) replicate these findings and find an even stronger positive relationship between internal audit and audit quality.

2.3.3 ELECTION POLICIES

Many studies in both the commercial and nonprofit sector evaluate the Board of Directors and election policies, while election policies of City Council are under-researched with regards to accounting implications. City Council is the comparable body in a municipality to a Board of Directors in a nonprofit entity or publicly traded corporation. Both are intended to act as an independent oversight body and as the stakeholders' representative, whether stakeholders are citizens, in the case of a

municipality, donors, in the case of a nonprofit organization, or investors, in the case of a publicly traded company.

City Council acts as an oversight body for a city as a whole, and as with most oversight bodies, potential for management entrenchment exists. Managerial entrenchment in the context of public governance occurs when Council members gain so much power they are able to use the government to further their own interests rather than the interests of citizens they represent. Entrenchment introduces inefficiency, lays grounds for corruption and hinders the government's ability to serve the needs of citizens (Bebchuk and Cohen 2005).

The potential for entrenchment may be influenced by the type of elections a city uses for Council members. With unitary elections, all members stand for election each term; with staggering elections, elections are held in different terms for different groupings of members (for example, by odd-numbered districts). Staggering elections prevent citizens from replacing a majority of Council without at least two elections passing, so greater potential for entrenchment exists. Prior research related to corporate Boards of Directors shows that weaker shareholder rights, determined by an index of factors including staggering elections, are associated with lower firm performance (Gompers et al. 2003; Bebchuk and Cohen 2005). Also in the corporate sector, Baber et al. (2009) find that measures of manager entrenchment, including staggering elections, are indicative of internal control problems.

A second element of election policies examined here is enforcement of term limits, which require officials to rotate out of office after a set number of consecutive terms. Alt et al. (2011) find that governors eligible for re-election perform better

(measured by higher economic growth and lower taxes, spending, and borrowing costs for the city) when compared to those who are ineligible for re-election. This result is titled the "accountability effect" due to the fact that elections create incentive for public officials to perform better. The accountability effect is posited to cause a subsequent decline in performance, which private sector research has consistently shown to be associated with term limits (Barro 1973; Ferejohn 1986; Banks and Sundaram 1998; Besley and Smart 2007; Besley and Case 2003; Besley and Case 1995; Alt et al. 2011).

2.3.4 FINANCE DEPARTMENT LEADERSHIP

The overseeing member of a city's Finance department is the primary individual responsible for a city's financial statements presented in the CAFR. Once this official approves and certifies the CAFR, an auditor provides an audit report, detailing any problematic audit findings. This report acts as a measure of the Finance leader's job performance as the CAFR is a primary responsibility of the Finance department.

The Finance leader is either a political leader elected by the people (i.e., a comptroller) or a civil servant hired or appointed by the organization (i.e., a director of finance or certified financial officer). Political leaders are reappointed through public election, while civil service leaders do not undergo the election process. The "politician vs. professional" debate has been analyzed from different perspectives and for various government positions (Federal judges, School Board officials, Public Utility Commissioners, etc.) with conflicting results.

Elections act as an accountability mechanism with a related accountability effect, meaning that officials perform better when subject to elections to hold them accountable (Alt et. al 2011; Adsera et. al 2003). A great deal of literature examines the effect of elections on Congress members' behavior and finds evidence supporting the

accountability effect in that setting (McArthur and Marks 1988; Vanbeek 1991; Lott and Bronars 1993).

2.3.5   GOVERNANCE STRUCTURE

The majority of cities operate under either a mayor-council or council-manager structure. Under a mayor-council system, the executive branch is governed by an elected mayor who holds the majority of executive authority, and the legislative branch is comprised of City Council, over which the mayor has veto power. The mayor may appoint a chief administrative officer (CAO) to assist, but the CAO reports to the mayor. Conversely, a council-manager government resembles that of a private business in which voters act as stakeholders, City Council plays the role of Board of Directors and the city manager acts as a hired chief executive officer and reports to Council. All governmental authority lies in the hands of Council but Council assigns responsibilities to the manager. The mayor in a council-manager government is elected by voters or appointed by Council and has less authority, acting as more of a ceremonial figure (Hayes and Chang 1990).

Analyses of governance structure have compared the two systems and their focus on public interest, as well as accountability and transparency (Svara 2002; Svara and Nelson 2008; O'Neill and Nalbandian 2009). The council-manager system is found to emphasize accountability and transparency (Svara and Nelson 2008), create stronger separation of duties (O'Neill and Nalbandian 2009) and allow for independent judgment and greater citizen representation (Svara 2002). Experts feel that the council-manager system, which was designed to fight corruption by improving transparency, responsiveness and accountability, is superior because it allows a partnership between the administrative and political functions that cannot be achieved through the mayor-council structure (O'Neill and Nalbandian 2009).

2.4 HYPOTHESIS DEVELOPMENT

2.4.1   AUDIT COMMITTEE

Although the GAO recommends implementation of an audit committee, municipalities often designate City Council to act as the audit oversight body rather than instituting an additional oversight committee. Cities that emphasize the importance of this level of oversight by establishing a designated audit committee are expected to have better audit performance. This hypothesis is presented in the alternative form:

Hypothesis 1: Audit performance is positively impacted by the existence of an audit committee.

In regards to report timeliness, there are competing expectations for the audit committee. On one hand, the audit committee emphasizes the importance of reporting and acts as a monitoring mechanism, therefore encouraging timely reporting. However, because the audit committee emphasizes higher quality reporting and implements an additional level of oversight, the financial statements and related audit report may take longer to prepare and complete. For this reason, the null hypothesis is introduced here:

Hypothesis 2: Audit report delay is independent of the existence of an audit committee.

2.4.2   INTERNAL AUDIT

Internal audit aims to improve fiscal operations and reduce internal control weaknesses. Because internal audit promotes effectiveness, efficiency and accountability, while also providing additional monitoring, the following hypothesis is introduced:

Hypothesis 3: Audit performance is positively impacted by the existence of an internal audit function.

In regards to report timeliness, competing expectations exist related to internal audit. From one perspective, internal audit acts as an additional level of oversight and monitoring, which may encourage timelier reporting. Conversely, internal audit introduces an additional layer of review; therefore, the financial statements and related audit report may take more time to complete. For this reason, this hypothesis is stated in the null:

Hypothesis 4: Audit report delay is independent of the existence of an internal audit function.

2.4.3   ELECTION POLICIES

Staggering elections limit voters' ability to force change, as the entire Council cannot be replaced at the same time, therefore reducing governance quality. However, staggering elections also ensure continuity of knowledge and experience within Council as a veteran member is always present, which may encourage more efficient operations.

Because this element has not been previously researched in a municipal setting and conflicting explanations exist, these hypotheses are stated in the null:

Hypothesis 5: Audit performance is independent of the use of staggering elections.

Hypothesis 6: Audit report delay is independent of the use of staggering elections.

Term limits require Council members to rotate out of office on a regular basis and can create "lame duck" circumstances where elected officials lack incentive to perform well, also known as the "accountability effect." Furthermore, regular rotation from office may disrupt continuity of knowledge and experience of City Council. However, term limits mandate turnover, which reduces the potential for entrenchment, therefore improving governance quality. Because of conflicting conjectures, these hypotheses are stated in the null:

Hypothesis 7: Audit performance is independent of the use of term limits.

Hypothesis 8: Audit report delay is independent of the use of term limits.

2.4.4 FINANCE DEPARTMENT LEADERSHIP

The Finance leader is responsible for review, approval and certification of the financial statements, which are evaluated in an audit, and problematic audit findings reflect upon the Finance leader as the statements are this individual's responsibility. Because of the lack of prior research in this area in a local government setting, these hypotheses are stated in the null:

Hypothesis 9: Audit performance is independent of the use of elections for Finance leadership.

Hypothesis 10: Audit report delay is independent of the use of elections for Finance leadership.

2.4.5   GOVERNANCE STRUCTURE

Regarding oversight, municipalities rely upon either a council-manager system or a mayor-council system. The council-manager system, which utilizes an added position of city manager, inherently has a stronger separation of power. The system was developed for the purpose of fighting corruption through greater transparency and accountability. Therefore, the following hypotheses are introduced:

Hypothesis 11: Audit performance is positively impacted by the use of a city manager.

Hypothesis 12: Audit report delay is positively impacted by the use of a city manager.

2.5 RESEARCH METHODOLOGY

2.5.1   SAMPLE SELECTION AND DATA

The largest cities with complete data available from the U.S. Census Bureau 2005 City Survey are selected, with populations ranging from 115,000 to eight million, for a total sample size of 135 cities. Data for these cities are collected from the reporting periods of 2008 through 2011 (four years), totaling 540 observations. Any entity that spends more than $500,000 of Federal funds is required to obtain a single audit, and all of these cities meet this requirement. The Office of Management and Budget (OMB)

requires any entity receiving a single audit to submit a Data Collection Form (DCF), an electronic document certified by the auditor with detailed results of both the financial statement audit and single audit. The DCF is maintained electronically in the OMB's Federal Audit Clearinghouse (FAC) Single Audit Database.[2] Data are obtained from the FAC, individual cities' websites and CAFRs, and the U.S. Census Bureau (dataset from the 2005 city survey), all of which are publicly available.

2.5.2   MODEL DEVELOPMENT AND VARIABLES

In order to test the hypotheses introduced here, both the financial statement audit and single audit reports are examined, and multiple measures are used to approximate audit performance. In both audit reports, "reportable conditions" are identified, which are audit issues significant enough to require disclosure in the audit report. Reportable conditions are comprised of material weaknesses, significant deficiencies and material noncompliance. A material weakness (MW) at the financial statement level is defined as "a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis (OMB 2011)." In order for an item to be labeled a material weakness, typically the issue appears to be pervasive. A significant deficiency (SD) is defined as "a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance (OMB 2011)." Material noncompliance (MNC) is reported at the financial statement level and is defined as noncompliance with applicable laws or grant requirements (OMB 2011).

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[2] HTTPS://HARVESTER.CENSUS.GOV/FAC/DISSEM/ACCESSOPTIONS.HTML

At the single audit level, reportable conditions include significant deficiencies and material weaknesses. These definitions vary slightly from those in a financial statement audit because single audit reportable conditions relate to compliance with Federal program requirements, rather than financial reporting. A significant deficiency is a control deficiency that adversely affects the entity's ability to administer a Federal program, such that there is a reasonable possibility that noncompliance with a program requirement will occur. A material weakness is a significant deficiency that results in a reasonable possibility that material noncompliance with a program requirement will occur (OMB 2011).

Both the financial statement audit and single audit are examined here to assess the impact of governance on municipal audit performance, and each of the reportable conditions is examined. Models (1) through (3) examine financial statement audit performance, while Models (4) and (5) analyze single audit performance. Model (6) examines the impact of governance on audit report delay.

(1) $FSAMW = B_1(AUDCOMM) + B_2(ELECT) + B_3(LIMIT) + B_4(INTAUD) + B_5(STAGGER) + B_6(MGR) + B_7(BIG4) + B_8(STATE) + B_9(EXPER) + B_{10}(LOWRISK) + B_{11}(SIZE) + B_{12}(DENSITY) + B_{13}(RACE) + B_{14}(EDUC) + B_{15}(2009) + B_{16}(2010) + B_{17}(2011) + \varepsilon.$

(2) $FSARC = B_1(AUDCOMM) + B_2(ELECT) + B_3(LIMIT) + B_4(INTAUD) + B_5(STAGGER) + B_6(MGR) + B_7(BIG4) + B_8(STATE) + B_9(EXPER) + B_{10}(LOWRISK) + B_{11}(SIZE) + B_{12}(DENSITY) + B_{13}(RACE) + B_{14}(EDUC) + B_{15}(2009) + B_{16}(2010) + B_{17}(2011) + \varepsilon.$

(3) $FSASC = B_1(AUDCOMM) + B_2(ELECT) + B_3(LIMIT) + B_4(INTAUD) + B_5(STAGGER) + B_6(MGR) + B_7(BIG4) + B_8(STATE) + B_9(EXPER) + B_{10}(LOWRISK) + B_{11}(SIZE) + B_{12}(DENSITY) + B_{13}(RACE) + B_{14}(EDUC) + B_{15}(2009) + B_{16}(2010) + B_{17}(2011) + \varepsilon.$

(4) $A133RC = B_1(AUDCOMM) + B_2(ELECT) + B_3(LIMIT) + B_4(INTAUD) + B_5(STAGGER) +$

$B_6(MGR) + B_7(BIG4) + B_8(STATE) + B_9(EXPER) + B_{10}(LOWRISK) + B_{11}(SIZE) +$

$B_{12}(DENSITY) + B_{13}(RACE) + B_{14}(EDUC) + B_{15}(2009) + B_{16}(2010) + B_{17}(2011) + \varepsilon.$

(5) $A133SC = B_1(AUDCOMM) + B_2(ELECT) + B_3(LIMIT) + B_4(INTAUD) + B_5(STAGGER) +$

$B_6(MGR) + B_7(BIG\ 4) + B_8(STATE) + B_9(EXPER) + B_{10}(LOWRISK) + B_{11}(SIZE) +$

$B_{12}(DENSITY) + B_{13}(RACE) + B_{14}(EDUC) + B_{15}(2009) + B_{16}(2010) + B_{17}(2011) + \varepsilon.$

(6) $ARD = B_1(AUDCOMM) + B_2(ELECT) + B_3(LIMIT) + B_4(INTAUD) + B_5(STAGGER) + B_6(MGR)$

$+ B_7(BIG4) + B_8(STATE) + B_9(EXPER) + B_{10}(LOWRISK) + B_{11}(SIZE) + B_{12}(DENSITY) +$

$B_{13}(RACE) + B_{14}(EDUC) + B_{15}(2009) + B_{16}(2010) + B_{17}(2011) + \varepsilon.$

See the tables below for more information about these models and variables: Table 2.1 for variable descriptions; Table 2.2 for descriptive statistics; Table 2.3 for additional descriptive statistics for categorical variables organized by city population size; Table 2.4 for a listing of states represented in the sample; and Table 2.5 for Pearson's correlation coefficients and variance inflation factors for the variables.

Table 2.1 Variable Descriptions for Municipal Governance Models

VARIABLE	DEFINITION
Dependent Variables	
FSAMW	Financial statement audit material weakness (0, 1): 1 if a material weakness is reported in the financial statement audit
FSARC	Financial statement audit reportable condition (0, 1): 1 if a reportable condition (significant deficiency, material weakness or material noncompliance) is reported in the financial statement audit
FSASC	Financial statement audit reportable condition scale (0, 1, 2, 3): 1 if material noncompliance is reported, 2 if a significant deficiency is reported and 3 if a material weakness is reported in the financial statement audit
A133RC	Single audit reportable condition (0, 1): 1 if a reportable condition (significant deficiency or material weakness) is reported in the single audit
A133SC	Single audit reportable condition scale (0, 1, 2): 1 if a significant deficiency is reported, 2 if a material weakness is reported in the single audit
ARD	Audit report delay: difference between each observation's number of days to report and the sample's mean number of days to report
Independent Variables	
AUDCOMM	Audit committee (0, 1): 1 if city has an audit committee
INTAUD	Internal audit (0, 1): 1 if city has an internal audit function
STAGGER	Staggering elections (0, 1): 1 if City Council elections are staggered
LIMITS	Term limits (0, 1): 1 if City Council has limits on number of consecutive terms served
ELECT	Finance Department oversight (0, 1): 1 if head of Finance department is elected
MGR	City Manager (0, 1): 1 if a city manager is used (versus a mayor-council structure)
Control Variables	
BIG 4	Big Four auditor (0, 1): 1 if audit firm is a Big Four auditor
STATE	State auditor (0, 1): 1 if auditor is a state auditor (versus a private CPA)
EXPER	Auditor experience: number of audits in sample performed by the auditor
LOWRISK	Audit risk (0, 1): 1 if city is considered a low-risk entity as determined by the auditor according to OMB guidelines
EDUC	Education level: percentage of citizens that identify as having less than a high school diploma
RACE	Racial composition: percentage of citizens that identify as White/Caucasian
SIZE	Population: natural log of city's population

DENSITY	Population density: number of people per square mile of city
2009	2009 fiscal year (0, 1): 1 if audit report is for a fiscal year ending in 2009
2010	2010 fiscal year (0, 1): 1 if audit report is for a fiscal year ending in 2010
2011	2011 fiscal year (0, 1): 1 if audit report is for a fiscal year ending in 2011

Table 2.2 Descriptive Statistics for Municipal Governance Models

Variable	N	Minimum	Maximum	Mean	Std.Deviation
FSAMW	488	0	1	.25	.435
FSARC	488	0	1	.53	.499
FSASC	488	0	3	1.31	1.286
A133RC	488	0	1	.45	.498
A133SC	488	0	2	.48	.558
ARD	488	-91.33	91.67	-11.42	29.89
AUDCOMM	488	0	1	.43	.495
INTAUD	488	0	1	.76	.425
STAGGER	488	0	1	.68	.467
LIMITS	488	0	1	.46	.499
ELECT	488	0	1	.05	.221
MGR	488	0	1	.55	.498
BIG 4	488	0	1	.13	.336
STATE	488	0	1	.06	.237
EXPER	488	1	42	19.69	14.04
LOWRISK	488	0	1	.54	.499
EDUC	488	3.76	49.93	17.92	7.99
RACE	488	11.10	92.79	61.07	15.80
SIZE	488	10.14	15.16	12.57	.66
DENSITY	488	162.06	12,541.19	4,018.19	2,487.96
2009	488	0	1	.24	.430
2010	488	0	1	.26	.439
2011	488	0	1	.25	.431

Table 2.3 Additional Descriptive Statistics for Categorical Variables in Municipal Governance Models

SIZE	N	AUDCOMM	INTAUD	STAGGER	LIMITS	ELECT	MGR	BIG4	STATE	LOWRISK
> 1,000,000	8	5	8	2	7	3	3	2	1	1
		(63%)	(100%)	(25%)	(88%)	(38%)	(38%)	(25%)	(13%)	(13%)
750,000 – 999,999	4	2	4	2	2	0	1	3	0	1
		(50%)	(100%)	(50%)	(50%)	(0%)	(25%)	(75%)	(0%)	(25%)
500,000 – 749,000	16	7	16	9	6	2	7	7	1	9
		(44%)	(100%)	(56%)	(38%)	(13%)	(44%)	(44%)	(6%)	(56%)
250,000 – 499,000	34	15	27	20	17	4	16	7	3	17
		(44%)	(79%)	(59%)	(50%)	(12%)	(47%)	(21%)	(9%)	(50%)
115,000 – 250,000	73	29	49	57	30	1	45	5	4	50
		(40%)	(67%)	(78%)	(41%)	(1%)	(62%)	(7%)	(5%)	(68%)
Totals	135	58	104	90	62	10	72	24	9	78
		(43%)	(77%)	(67%)	(46%)	(7%)	(53%)	(18%)	(7%)	(58%)

Note: This table presents descriptive statistics for the categorical variables used in this study. The 135 cities used in the pooled panel data are presented here, organized by population size. For cities in which one of these categorical variables changed during the time period studied (2008 – 2011), data from 2008 are used.

Table 2.4 Listing of Cities and States Represented in Municipal Governance Sample

City	State	Population
Anchorage	AK	275,043
Huntsville	AL	166,313
Mobile	AL	191,544
Montgomery	AL	200,127
Birmingham	AL	231,483
Little Rock	AR	184,564
Tempe	AZ	161,143
Gilbert	AZ	173,989
Chandler	AZ	234,939
Glendale	AZ	239,435
Mesa	AZ	442,780
Tucson	AZ	515,526
Phoenix	AZ	1,461,575
Escondido	CA	134,085
Torrance	CA	142,384
Pasadena	CA	143,731
Santa Rosa	CA	153,158
Fontana	CA	163,860
Garden Grove	CA	166,075
Oceanside	CA	166,108
Rancho Cucamonga	CA	169,353
Moreno Valley	CA	178,367
Oxnard	CA	183,628
Irvine	CA	186,852
Huntington Beach	CA	194,457
San Bernardino	CA	198,550
Glendale	CA	200,065
Modesto	CA	207,011
Chula Vista	CA	210,497
Fremont	CA	221,386
Stockton	CA	286,926
Riverside	CA	290,086
Bakersfield	CA	295,536
Anaheim	CA	331,804
Santa Ana	CA	340,368
Oakland	CA	395,274
Sacramento	CA	456,441
Fresno	CA	461,116
Long Beach	CA	474,014
San Jose	CA	912,332
San Diego	CA	1,255,540
Los Angeles	CA	3,844,829
Fort Collins	CO	128,026
Lakewood	CO	140,671
Aurora	CO	297,235
Colorado Springs	CO	369,815
Denver	CO	557,917
Bridgeport	CT	139,008
Tallahassee	FL	158,500
Fort Lauderdale	FL	167,380
Orlando	FL	213,223
Hialeah	FL	220,485

St. Petersburg	FL	249,079
Tampa	FL	325,989
Miami	FL	386,417
Jacksonville	FL	782,623
Atlanta	GA	470,688
Honolulu	HI	377,379
Des Moines	IA	194,163
Boise	ID	193,161
Fort Wayne	IN	223,341
Indianapolis	IN	784,118
Shreveport	LA	198,874
Baton Rouge	LA	222,064
Worcester	MA	175,898
Boston	MA	559,034
Baltimore	MD	635,815
Lansing	MI	115,518
Grand Rapids	MI	193,780
Detroit	MI	886,671
St. Paul	MN	275,150
Minneapolis	MN	372,811
St. Louis	MO	344,362
Kansas City	MO	444,965
Jackson	MS	177,977
Fayetteville	NC	129,928
Winston-Salem	NC	193,755
Durham	NC	204,845
Greensboro	NC	231,962
Raleigh	NC	341,530
Charlotte	NC	610,949
Lincoln	NE	239,213
Omaha	NE	414,521
Albuquerque	NM	494,236
North Las Vegas	NV	176,635
Reno	NV	203,550
Henderson	NV	232,146
Las Vegas	NV	545,147
Syracuse	NY	141,683
Yonkers	NY	196,425
Rochester	NY	211,091
Buffalo	NY	279,745
New York City	NY	8,143,197
Akron	OH	210,795
Toledo	OH	301,285
Cincinnati	OH	308,728
Cleveland	OH	452,208
Columbus	OH	730,657
Tulsa	OK	382,457
Oklahoma City	OK	531,324
Portland	OR	533,427
Pittsburgh	PA	316,718
Philadelphia	PA	1,463,281
Providence	RI	176,862
Columbia	SC	117,088
Chattanooga	TN	154,762
Knoxville	TN	180,130
Nashville	TN	549,110

Memphis	TN	672,277
Pasadena	TX	143,852
Grand Prairie	TX	144,337
Brownsville	TX	167,493
Irving	TX	193,649
Laredo	TX	208,754
Lubbock	TX	209,737
Garland	TX	216,346
Plano	TX	250,096
Corpus Christi	TX	283,474
Arlington	TX	362,805
El Paso	TX	598,590
Fort Worth	TX	624,067
Austin	TX	690,252
Dallas	TX	1,213,825
San Antonio	TX	1,256,509
Houston	TX	2,016,582
Newport News	VA	179,899
Richmond	VA	193,777
Chesapeake	VA	218,968
Norfolk	VA	231,954
Virginia Beach	VA	438,415
Tacoma	WA	195,898
Spokane	WA	196,818
Seattle	WA	573,911
Madison	WI	221,551
Milwaukee	WI	578,887

Total   135

Note: This table shows the states represented by the 135 cities used in the pooled panel data.

Table 2.5 Pearson's Correlation Coefficients & Variance Inflation Factors for Municipal Governance Models

	AUDCOMM	INTAUD	STAGGER	LIMITS	ELECT	MGR	BIG4	STATE	EXPER	LOWRISK	EDUC	RACE	DENSITY	SIZE	VIF
AUDCOMM	1.00	0.069	-0.129	0.179	-0.163	-0.03	0.113	-0.024	0.015	-0.15	-0.025	-0.033	-0.188	0.132	1.179
INTAUD	0.069	1.00	-0.142	-0.109	0.129	-0.142	0.142	0.119	0.072	-0.213	0.027	-0.133	-0.029	0.37	1.253
STAGGER	-0.129	-0.142	1.00	0.199	-0.08	0.221	-0.273	-0.199	-0.204	0.239	-0.082	0.273	-0.03	-0.261	1.363
LIMITS	0.179	-0.109	0.199	1.00	-0.102	0.236	0.038	-0.075	-0.103	-0.014	0.007	0.164	-0.006	0.101	1.276
ELECT	-0.163	0.129	-0.08	-0.102	1.00	-0.183	0.16	-0.058	-0.049	0.028	0.046	-0.046	0.093	0.229	1.202
MGR	-0.03	-0.142	0.221	0.236	-0.183	1.00	-0.07	-0.226	0.069	0.166	0.069	0.18	-0.081	-0.18	1.351
BIG4	0.113	0.142	-0.273	0.038	0.16	-0.07	1.00	-0.097	0.334	-0.11	0.072	-0.184	0.117	0.273	1.410
STATE	-0.024	0.119	-0.199	-0.075	-0.058	-0.226	-0.097	1.00	0.31	-0.08	-0.063	-0.006	0.18	0.112	1.409
EXPER	0.015	0.072	-0.204	-0.103	-0.049	0.069	0.334	0.31	1.00	-0.058	-0.014	-0.156	0.154	0.272	1.548
LOWRISK	-0.15	-0.213	0.239	-0.014	0.028	0.166	-0.11	-0.08	-0.058	1.00	-0.134	0.171	-0.031	-0.272	1.205
EDUC	-0.025	0.027	-0.082	0.007	0.046	0.069	0.072	-0.063	-0.014	-0.134	1.00	-0.21	0.411	0.124	1.341
RACE	-0.033	-0.133	0.273	0.164	-0.046	0.18	-0.184	-0.006	-0.156	0.171	-0.21	1.00	-0.189	-0.105	1.234
DENSITY	-0.188	-0.029	-0.03	-0.006	0.093	-0.081	0.117	0.18	0.154	-0.031	0.411	-0.189	1.00	0.09	1.413
SIZE	0.132	0.37	-0.261	0.101	0.229	-0.18	0.273	0.112	0.272	-0.272	0.124	-0.105	0.09	1.00	1.560

Note: Correlation coefficients are presented for all independent variables except for the dummy variables representing the audit year (*2009*, *2010* and *2011*).

2.5.2.1 AUDIT PERFORMANCE

Models 1 through 3 examine the financial statement audit report. Material weaknesses are the most severe reportable condition that can appear in an audit report and are typically indicative of a pervasive issue within an entity. Material weaknesses are considered the primary indicator of poor audit performance. Audit performance in Model 1is measured using material weaknesses in the financial statement audit (*FSAMW*). This indicator variable is coded a 1 if a material weakness is disclosed in the financial statement audit report.

In order to further analyze the relationship between audit performance and governance, alternate measures are introduced to measure audit performance. The first such measure is an aggregate measure for all financial statement audit reportable

conditions (*FSARC*) used in Model 2, which includes material noncompliance, significant

deficiencies and material weaknesses. As previously discussed, a material weakness is

the most severe reportable condition and can indicate a pervasive problem. A significant

deficiency or material noncompliance is less severe but still indicates a problem required

to be reported both to the oversight body and the public. *FSARC* captures all deficiencies

reported in the financial statement audit report. This variable is coded a 1 if any

reportable condition (significant deficiency, material weakness or material

noncompliance) is disclosed in the financial statement audit report.

In Model 3, an alternate variable to approximate audit performance at the

financial statement level is introduced. The dependent variable in Model 3 is a scalar

variable (*FSASC*) incorporating material noncompliance, significant deficiencies and

material weaknesses, now on a scale of severity. The least significant of these conditions

is material noncompliance, which is coded as 1. A significant deficiency is coded as 2,

and a material weakness is coded as 3. If a city has multiple deficiencies, the most severe

in its audit report is used for coding.[3] This variable is scalar and is assigned a value of 0,

1, 2 or 3.

Models 4 and 5 examine the single audit report. Reportable conditions in the

single audit report consist of significant deficiencies and material weaknesses related to

internal control and/or compliance findings. Material weaknesses are the most severe

reportable finding but are rarely found in single audit reports. Out of 540 total

observations in the raw data, only 34 (approximately six percent) reported material

weaknesses in the single audit report, compared to 150 material weaknesses reported in

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[3] If a report has two deficiencies, for example a material weakness and material noncompliance, it is coded as a 3 for the most severe deficiency in its report (a material weakness).

the financial statement audit report (approximately twenty eight percent). After removing outliers, few observations with material weaknesses in the A-133 report remain. Therefore, because of lack of variation in A-133 material weaknesses alone, all reportable conditions in the single audit (*A133RC*) are used to measure single audit performance in Model 4. This variable is coded as 1 if a reportable condition (significant deficiency or material weakness) is disclosed in the single audit report.

The dependent variable in Model 5 is a scalar variable (*A133SC*), incorporating significant deficiencies and material weaknesses in the single audit report on a scale of severity.[4] A significant deficiency is coded as 1, and a material weakness is coded as 2. If a city has multiple deficiencies, the most severe in its audit report is used for coding. This variable is scalar and the value assigned is 0, 1 or 2.

The governance variables introduced here, all of which are indicator variables, represent use of an audit committee, internal audit function, election of Finance leadership, use of staggering elections, term limits and a city manager. *AUDCOMM* is coded as 1 if there is a designated audit committee, *INTAUD* is coded as 1 if there is an internal audit function, and *MGR* is coded as 1 if a council-manager system is used. All of these variables are hypothesized to positively impact audit performance, i.e., have a negative association with reportable conditions. Therefore the expected sign on these variables is negative. *STAGGER* is coded as 1 if staggering elections are used for Council, *LIMITS* is coded as 1 if term limits are imposed on Council, and *ELECT* is coded as 1 if the Finance leader is elected. *STAGGER*, *LIMITS* and *ELECT* are hypothesized in the null, so no direction is predicted for these variables.

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[4] Material noncompliance is reported at the financial statement level, not in the single audit report. Single audit reportable conditions are comprised of significant deficiencies and material weaknesses.

Prior research shows that auditor and municipality characteristics impact audit results, so control variables are introduced to control for these differential effects.[5] The indicator variable *STATE* is coded as 1 if auditor is a state auditor, and the *BIG4* indicator variable is coded as 1 if auditor is a Big 4 audit firm. The *EXPER* variable measures auditor's experience, determined by the number of observations in the sample utilizing this auditor.[6] *LOWRISK* is an indicator variable coded as 1 if the municipality is classified as a low-risk audit (classification is made by auditor in accordance with OMB guidelines) and is expected to have a negative association with disclosure of a reportable condition.[7] Indicator variables for reporting year are also included (variables *2009, 2010* and *2011*). Lastly, socio-economic variables are included to control for differential effects: *SIZE* measures city's population (as the natural logarithm); *DENSITY* measures population density and controls for differences in urban, suburban and rural cities; *EDUC* measures education level; and *RACE* measures racial composition of the city.[8]

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[5] Jakubowski (2008) finds that state auditors discover more audit findings than private CPA firms. Deangelo (1981), Dopuch and Simunic (1980) and Lawrence et al. (2011) find that audit firm size affects audit quality.

[6] The auditor experience variable is measured within the sample as the number of audit reports in the sample issued by the auditor. The total number of observations is 540, and values for this variable range from 1 to 42.

[7] The *LOWRISK* control variable captures audit risk, which takes into consideration prior year audit findings. The requirements for an auditor to classify an audit as low-risk are as follows: entity had single audits performed on an annual basis in prior years; audit opinions on the financial statement audit and the single audit are unqualified; no material weaknesses are identified in prior year audits; and none of the Federal programs previously audited had audit findings in the last two years (OMB 2011).

[8] Preliminary models consisted of control variables representing crime (both violent and property crime were analyzed) and poverty (examined as median household income, per capita income or percentage of population below the national poverty level) of each city. However, high correlations exist between crime and the variables representing population, population density, race and education, and high correlations exist between poverty and race and education. Overall, race and education are more predictive in this model than crime or poverty, so crime and poverty were removed to reduce multicollinearity effects. Subsequent to collinear variable removal, all variance inflation factors are less than 2.0, indicating that the independent variables are not significantly correlated. The correlation coefficients for the independent variables in models 1 through 6 are presented in Table 2.3.

2.5.2.2 AUDIT REPORT DELAY

Model 6 is used to examine the relationship between governance and audit report

delay. Audit report delay (*ARD*) measures audit report timeliness and is calculated using

the number of days from the city's fiscal year end to the city's audit report date. Each

city's distance from the sample mean is used as the *ARD* measure.[9] For each city:

ARD = (audit report date – fiscal year end date) – average # of audit report delay days for sample

The governance variables for Model 6 are the same as those used in the audit

performance models (Models 1 through 5) and are all indicator variables: use of an audit

committee, internal audit function, election of Finance leadership, use of staggering

elections, term limits and a city manager. *AUDCOMM* is coded as 1 if there is a

designated audit committee, *INTAUD* is coded as 1 if there is an internal audit function,

ELECT is coded as a 1 if Finance leader is elected, *STAGGER* is coded as 1 if staggering

elections are used for Council, *LIMITS* is coded as 1 if term limits are imposed on

Council, and *MGR* is coded as 1 if a council-manager system is used. *AUDCOMM*,

INTAUD, *STAGGER*, *LIMITS* and *ELECT* are hypothesized in the null, so no direction is

predicted. *MGR* is hypothesized to have a positive impact on audit report delay, i.e.,

reduce the length of audit report time. Therefore, this variable is expected to have a

negative association with audit report delay. Control variables are the same as those in

Models 1 through 5.

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[9] The sample's average number of days from year end to the report date is calculated to be 182 days. *ARD* is measured for each observation as follows: number of days from year end to the report date (observation) – average number of days from year end to the report date (sample).

2.6 STATISTICAL RESULTS

2.6.1 AUDIT PERFORMANCE

Subsequent to data collection and outlier removal, the sample for audit

performance testing contains 488 complete observations comprised of 4 years of data

from 135 cities.10 Models 1, 2 and 4 utilize categorical dependent variables, and Models

3 and 5 use ordinal dependent variables. Therefore, logistic regression is used to further

analyze these models as the OLS assumptions are violated when a categorical or ordinal

outcome variable is used.

In Model 1, binary logistic regression is used to analyze the relationship between

municipal governance and cities' audit performance, measured by material weaknesses

reported in the financial statement audit report (FSAMW). The base model including

only the control variables has an overall success rate of 78.5% in predicting whether an

observation has a material weakness. When the governance variables are added to this

model, this success rate improves to 83.2%, which indicates that governance adds

predictive ability to the model. Furthermore, the model likelihood ratio between these

two models is 80.46, which is statistically significant ($p < .001$, df = 6), further

demonstrating that governance increases predictive ability. When analyzed further, five

of the six governance variables are found to be statistically significant in predicting audit

performance in this model: audit committee (-0.904, $p < .01$, one-tailed), staggering

elections (-1.398, $p < .001$, two-tailed), term limits (-0.811, $p < .05$, two-tailed), Finance

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[10] Utilizing Cook's distance testing for outliers, Cook's values greater than 4/n are analyzed and/or removed. The initial sample size was 540, resulting in a maximum Cook's value allowable is 0.007407. The final sample size resulting from two rounds of analyzing and removing observations deemed to have a high Cook's value is 488 observations.

leadership (-4.522, p< .001, two-tailed), and a city manager (-1.321, p < .001, one-

tailed).[11] See detailed results in Table 2.6 below.

Table 2.6 Analysis of Governance and FSA Material Weaknesses

		Dependent Variable: Financial Statement Audit Material Weakness (FSAMW)	
Independent Variable	Expected Sign	n = 488; R^2 = 24.7% [a] Model χ^2 = 138.62 ***	n = 488; R^2 = 36.2% [a] Model χ^2 = 219.38 ***
AUDCOMM	-		-0.904 (7.266) **
INTAUD	-		-0.474 (1.400)
STAGGER	+/-		-1.398 (18.922) ***
LIMITS	+/-		-0.811 (6.095) *
ELECT	+/-		-4.522 (19.473) ***
MGR	-		-1.321 (17.060) ***
BIG4	+/-	0.765 (4.077) *	0.947 (3.577) ^
STATE	+/-	1.022 (3.292) ^	-0.469 (0.486)
EXPER	+/-	-0.031 (8.153) **	-0.037 (8.618) **
LOWRISK	-	-2.450 (67.875) ***	-2.769 (61.199) ***
EDUC	+/-	-0.008 (0.166)	0.002 (0.007)
RACE	+/-	-0.025 (9.240) **	-0.010 (0.899)
SIZE	+/-	0.324 (2.715) ^	0.847 (10.403) ***
DENSITY	+/-	0.000 (0.365)	0.000 (1.053)
2009	+/-	0.289 (0.627)	0.508 (1.488)
2010	+/-	0.496	0.725

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[11] The coefficients reported here are unstandardized. All tests are performed as two-tailed tests, except where the sign of the coefficient is consistent with the expected sign, then a one-tailed test is used.

		(1.897)	(3.193) ^
2011	+/-	-0.044	0.048
		(0.014)	(0.013)
Intercept	+/-	-2.246	-6.956
		(0.777)	(4.667) *

Note: Wald χ^2 values are presented in parentheses, and all coefficients are unstandardized.
a Cox and Snell R squared, ^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

In Model 2, an aggregate measure for all financial statement audit reportable

conditions (FSARC) is used to measure audit performance, and a binary logistic

regression model is developed. The base model is used to test significance of the control

variables before governance variables are introduced shows an overall success rate in

predicting a reportable condition of 69.3%. When governance factors are included in this

model, the success rate increases to 71.5%, and the likelihood ratio between the two

models of 18.379 is statistically significant ($p < .01$, df = 6). The governance variables

found to influence financial statement audit reportable conditions are term limits (-0.571,

$p < .05$, two-tailed) and a city manager (-0.426, $p < .05$, one-tailed). See detailed results

in Table 2.7 below.

Table 2.7 Analysis of Governance and FSA Reportable Conditions

Independent Variable	Expected Sign	$n = 488$; $R^2 = 20.9\%$[a] Model $\chi^2 = 114.391$ ***	$n = 488$; $R^2 = 23.8\%$[a] Model $\chi^2 = 132.77$ ***
Dependent Variable: Financial Statement Audit Reportable Conditions (FSARC)			
AUDCOMM	-		0.107
			(0.218)
INTAUD	-		-0.063
			(0.054)
STAGGER	+/-		-0.192
			(0.555)
LIMITS	+/-		-0.571
			(5.685) *
ELECT	+/-		0.779
			(1.746)
MGR	-		-0.426
			(3.267) *
BIG4	+/-	0.923	0.904
		(6.436) *	(5.453) *
STATE	+/-	0.738	0.370
		(2.097)	(0.437)
EXPER	+/-	-0.022	-0.019
		(6.802) **	(4.213) *
LOWRISK	-	-1.388	-1.399
		(42.003) ***	(38.590) ***
EDUC	+/-	-0.007	-0.003
		(0.257)	(0.051)
RACE	+/-	-0.027	-0.021
		(13.845) ***	(8.157) **
SIZE	+/-	0.424	0.404
		(5.062) *	(3.610) ^
DENSITY	+/-	0.000	0.000
		(5.045) *	(4.627) *
2009	+/-	-0.050	-0.021
		(0.029)	(0.005)
2010	+/-	0.215	0.243
		(0.533)	(0.650)
2011	+/-	-0.384	-0.329
		(1.684)	(1.186)
Intercept	+/-	-2.727	-2.348
		(1.275)	(0.789)

Note: Wald χ^2 values are presented in parentheses, and all coefficients are unstandardized.

a Cox and Snell R squared, ^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

In order to analyze Model 3 with an ordinal dependent variable of financial

statement audit reportable conditions (FSASC), ordinal logistic regression is used. A

base model including only the control variables has a pseudo R-squared value of 26.9%,

compared to the model once governance variables are introduced, which has a pseudo R-

squared value of 32.1%, an increase of 5.2%.[12] Furthermore, the likelihood ratio between

these two models of 36.21 is statistically significant (p < .001, df = 6), indicating a

significant increase in predictive ability when governance variables are included in the

model. The specific governance institutions that are found to be statistically significant

predictors are: staggering elections (0.515, p < .05, two-tailed), term limits (0.718, p <

.001, two-tailed), city manager (0.582, p < .01, one-tailed) and elected Finance official

(0.902, p < .05, two-tailed). See detailed results in Table 2.8 below.

Table 2.8 Analysis of Governance and FSA Reportable Conditions (Scaled)

Dependent Variable: Financial Statement Audit Reportable Conditions – Scaled (FSASC)			
Independent Variable	Expected Sign[b]	n = 488; R^2 = 26.9% [a] Model χ^2 = 152.76 ***	n = 488; R^2 = 32.1%[a] Model χ^2 = 188.97 ***
AUDCOMM = 0	+		0.102 (0.251)
INTAUD = 0	+		0.143 (0.341)
STAGGER = 0	+/-		0.515 (5.352) *
LIMITS = 0	+/-		0.718 (11.359) ***
ELECT = 0	+/-		0.902 (3.820) *
MGR = 0	+		0.582 (7.636) **
BIG4 = 0	+/-	-0.811 (7.414) **	-0.775 (5.826) *
STATE = 0	+/-	-0.616	0.068

[12] Cox and Snell pseudo R-squared values are presented here.

		(2.045)	(0.021)
EXPER	+/-	-0.024	-0.025
		(10.119) ***	(9.298) **
LOWRISK = 0	+	1.714	1.661
		(75.734) ***	(65.559) ***
EDUC	+/-	-0.008	-0.007
		(0.352)	(0.260)
RACE	+/-	-0.025	-0.017
		(15.847) ***	(6.573) **
SIZE	+/-	0.303	0.446
		(3.704) ^	(6.115) *
DENSITY	+/-	0.000	0.000
		(2.300)	(3.082) ^
2009 = 0	+/-	-0.017	-0.061
		(0.004)	(0.052)
2010 = 0	+/-	-0.299	-0.341
		(1.316)	(1.651)
2011 = 0	+/-	0.281	0.236
		(1.115)	(0.753)

Note: Wald χ^2 values are presented in parentheses, and all coefficients are unstandardized.
a Cox and Snell R squared; *b* Because ordinal regression is used, the expected sign for categorical variables represents the expected sign when the dummy variable value is equal to zero; ^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

Models 4 and 5 analyze the relationship between governance and single audit performance. Model 4 uses a categorical dependent variable of single audit reportable conditions (A133RC), so binary logistic regression is used to examine this model. A base model including only control variables is developed, which has an overall success rate in predicting single audit reportable conditions of 76.0%. When governance variables are introduced, the overall success rate increases to 77.3%, an increase of 1.3%. The likelihood ratio between the two models is 8.215, which is not statistically significant (p

= .22, df = 6), and the only governance factor found significant here is use of a city

manager (-0.729, p < .01, one-tailed). See detailed results in Table 2.9 below.

Table 2.9 Analysis of Governance and SA Reportable Conditions

Independent Variable	Expected Sign	*Dependent Variable: Single Audit Reportable Conditions (A133RC)*	
		n = 488; R^2 = 33.1% [a] Model χ^2 = 196.26 ***	n = 488; R^2 = 34.2%[a] Model χ^2 = 204.48 ***
AUDCOMM	-		-0.023
			(0.008)
INTAUD	-		0.070
			(0.052)
STAGGER	+/-		0.218
			(0.615)
LIMITS	+/-		0.043
			(0.026)
ELECT	+/-		-0.063
			(0.010)
MGR	-		-0.729
			(7.389) **
BIG4	+/-	2.072	2.061
		(23.229) ***	(21.372) ***
STATE	+/-	0.523	0.140
		(0.957)	(0.059)
EXPER	+/-	-0.010	-0.001
		(1.014)	(0.008)
LOWRISK	-	-2.149	-2.144
		(83.204) ***	(76.599) ***
EDUC	+/-	-0.013	-0.003
		(0.606)	(0.038)
RACE	+/-	-0.002	0.002
		(0.041)	(0.051)
SIZE	+/-	0.871	0.811
		(17.652) ***	(12.529) ***
DENSITY	+/-	0.000	0.000
		(0.246)	(0.006)
2009	+/-	-0.138	-0.107
		(0.166)	(0.098)
2010	+/-	0.368	0.395
		(1.254)	(1.417)
2011	+/-	0.189	0.221

		(0.326)	(0.431)
Intercept	+/-	-9.996	-9.521
		(14.176) ***	(11.298) ***

Note: Wald χ^2 values are presented in parentheses, and all coefficients are unstandardized.
a Cox and Snell R squared, ^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

Model 5 utilizes an ordinal dependent variable of single audit reportable conditions measured on a scale of severity from 0 to 2, so ordinal logistic regression is employed to test this model. The base model with only control variables has a pseudo R-squared value of 34.9%, compared to the model once governance variables are introduced, which has a pseudo R-squared value of 35.9%, a decrease of 1.0%. The likelihood ratio between these two models of 7.953 is not statistically significant, and the only governance factor found significant in this model is use of a city manager (0.673, p < .01). See detailed results in Table 2.10 below.

Table 2.10 Analysis of Governance and SA Reportable Conditions (Scaled)

Dependent Variable: Single Audit Reportable Conditions – Scaled (A133SC)			
Independent Variable	Expected Sign[b]	n = 488; R^2 = 34.9% [a] Model χ^2 = 209.23***	n = 488; R^2 = 35.9%[a] Model χ^2 = 217.18 ***
AUDCOMM = 0	+		-0.091
			(0.148)
INTAUD = 0	+		-0.238
			(0.649)
STAGGER = 0	+/-		-0.148
			(0.311)
LIMITS = 0	+/-		-0.096
			(0.152)
ELECT = 0	+/-		0.150
			(0.078)
MGR = 0	+		0.673
			(7.025) **

BIG4 = 0	+/-	-1.826	-1.759
		(25.458) ***	(21.741) ***
STATE = 0	+/-	-0.287	0.076
		(0.324)	(0.020)
EXPER	+/-	-0.006	0.002
		(0.422)	(0.037)
LOWRISK = 0	+	2.255	2.213
		(92.956) ***	(85.086) ***
EDUC	+/-	-0.017	-0.008
		(1.040)	(0.194)
RACE	+/-	-0.001	0.003
		(0.027)	(0.145)
SIZE	+-	0.809	0.703
		(18.928) ***	(11.271) ***
DENSITY	+/-	0.000	0.000
		(0.117)	(0.022)
2009 = 0	+/-	0.743	0.730
		(5.483) *	(5.226) *
2010 = 0	+/-	0.246	0.230
		(0.650)	(0.560)
2011 = 0	+/-	0.447	0.434
		(2.073)	(1.906)

Note: Wald χ^2 values are presented in parentheses, and all coefficients are unstandardized.

a Cox and Snell R squared; *b* Because ordinal regression is used, the expected sign for categorical variables represents the expected sign when the dummy variable value is equal to zero; ^ = significant at 0.10, * = significant at 0.05, ** significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

2.6.2   AUDIT REPORT DELAY

Subsequent to data collection and outlier removal, the audit report delay sample

contains 485 complete observations comprised of 4 years of data from 135 cities.[13] In

Model 6, municipal governance is hypothesized to positively impact audit report

timeliness, or, in other words, reduce audit report delay. A base model is employed with

all control variables, which accounts for an adjusted R-squared value of 17.9%. When

governance variables are introduced, the adjusted R-squared value changes to 24.0%, an

increase of 6.1% over the base model. This result indicates that governance adds

significance to the audit report delay model. Four of the six governance variables are

found to be statistically significant in this model: internal audit (-.123, $p < .01$, two-

tailed), staggering elections (.143, $p < .05$, two-tailed), Finance leadership (-.138, $p < .01$,

two-tailed) and a city manager (-0.195, $p < .001$, one-tailed). See detailed results in

Table 2.11 below.

Table 2.11 Analysis of Governance and Audit Report Delay

Variable	Expected Sign	$n = 485$; $R^2 = 17.9\%$	$n = 485$; $R^2 = 24.0\%$
Dependent Variable: Audit Report Delay (ARD)			
AUDCOMM	+/-		-.019
			(-.442)
INTAUD	+/-		-.123
			(-2.812)**
STAGGER	+/-		.143
			(3.118) **
LIMITS	+/-		-.020
			(-.661)
ELECT	+/-		-.138
			(-3.150)**

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[13] Utilizing Cook's distance testing for outliers, Cook's values greater than 4/n are analyzed and/or removed. The initial sample size was 530, resulting in a maximum Cook's value allowable is 0.007547. The final sample size resulting from two rounds of analyzing and removing observations deemed to have a high Cook's value is 485 observations.

MGR	-		-.212
			(-4.467)***
BIG4	+/-	.153	.182
		(3.280) **	(3.827) ***
STATE	+/-	.359	.339
		(7.753) ***	(7.075) ***
EXPER	+/-	-.254	-.229
		(-5.276) ***	(-4.564)***
LOWRISK	-	-.076	-.061
		(-1.738)^	(.160)
EDUC	+/-	-.020	.017
		(-.437)	(.370)
RACE	+/-	-.061	-.073
		(-1.407)	(-1.696) ^
SIZE	+/-	.054	.123
		(1.201)	(2.506) *
DENSITY	+/-	.187	.158
		(3.963) ***	(3.348) ***
2009	+/-	-.041	-.045
		(-.813)	(-.915)
2010	+/-	-.007	-.007
		(-.143)	(-.150)
2011	+/-	.040	.037
		(.781)	(.755)
Intercept		$t = -1.297$	$t = -2.390$ *

^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

2.7 ANALYSIS OF RESULTS

2.7.1   AUDIT PERFORMANCE

Five of six hypotheses related to audit performance are supported statistically in one or more models: Hypotheses 1, 5, 7, 9 and 11. Hypothesis 1 states that audit performance is positively impacted by using an audit committee. Results from Model 1 (dependent variable of FSA material weakness) support this hypothesis, indicating that cities with an audit committee are less likely to report material weaknesses in the financial statement audit report. However, statistical support is not found for this hypothesis in other models.

Hypotheses 5 and 7 relate to election policies and are both stated in the null. Hypothesis 5 posits that audit performance is independent of the use of staggering elections, and statistical support is found for the alternative in Models 1 and 3. Both models' results indicate that audit performance is positively impacted by staggered elections. Cities that use staggered election terms to elect City Council members are less likely to report material weaknesses in the financial statement audit report (Model 1) and less likely to report more severe reportable conditions when all reportable conditions (material noncompliance, significant deficiencies and material weaknesses) are considered (Model 3).

Regarding term limits, hypothesis 7 stated in the null posits that audit performance is independent of the use of term limits, and statistical support is found for the alternative in Models 1, 2 and 3. Cities that limit the consecutive terms Council members serve in office are less likely to report material weaknesses (Model 1), less likely to report any reportable condition (Model 2) and less likely to report more severe

reportable conditions when all reportable conditions are considered (Model 3) in the financial statement audit report.

Hypothesis 9 stated in the null posits that audit performance is independent of using elections for the Finance leader, the responsible party for financial reporting. The alternative hypothesis is statistically supported in Models 1 and 3, suggesting that cities that use elections (rather than appointment or other means of hiring) to select and maintain the Finance leader are less likely to disclose a material weakness in the financial statement audit report (Model 1) and less likely to report more severe findings when all reportable conditions are considered (Model 3).

Hypothesis 11 states that audit performance is positively impacted by using a city manager (rather than a mayor-council structure), and this hypothesis is supported in all five models at varying levels of significance. Cities that are structured under the council-manager form are less likely to report material weaknesses in the financial statement audit report (Model 1), less likely to report any reportable condition in either the financial statement audit or single audit report (Models 2 and 4) and less likely to report more severe reportable conditions when all reportable conditions are evaluated in either the financial statement or single audit report (Models 3 and 5).

The only hypothesis for which no statistically significant support is found related to audit performance is hypothesis 3, which states that audit performance is positively impacted by having an internal audit function. A reason for this may be that the role of the internal audit function in a governmental entity varies greatly from that in a public corporation. While the primarily role of internal audit is well-defined in a public company as oversight of financial reporting and internal control, this role in a municipal

setting varies. For example, the internal audit function in a city may be represented by a city auditor, whose responsibilities can include budgeting, cash management, debt administration, utility billing, accounting, tax assessments, risk management, and pension administration, among others. In these cases, internal audit is less instrumental in financial reporting oversight. Conversely, in some cities, a separate internal audit department operates with the primary responsibility of monitoring financial reporting and programmatic audit elements, clearly having a more involved role in audit performance. Because it is near impossible to determine what each city's internal audit role is, all of these types of internal audit functions are included in the internal audit variable used here, which may be influencing the lack of significant results.

In order to test the hypotheses in this study, both the financial statement audit and single audit are examined and multiple measures are used to show that significant results persist regardless of the measure used for audit performance. All five models are shown to have some statistical significance related to governance. Model 1, using FSA material weaknesses to measure audit performance, shows the most significant results, with five of six governance variables (all but internal audit function) showing a significant relationship with audit performance. The other financial statement audit models (Models 2 and 3) support the overall result that governance affects audit performance with lower significance. Because the dependent variable of Model 2 is an aggregate measure and significant deficiencies are not uncommon at the financial statement level, there is less variation in this variable and therefore this lower overall significance of the model is expected.

Overall, when comparing the models, the single audit models are found to be minimally significant in predicting audit performance. Many factors may be driving this result. One explanation is the decentralization of the processes and elements examined in the A-133 audit. This audit report covers all Federal revenues received by a city, which are typically spread over multiple programs (often hundreds). The programs are administered by separate departments of the city, yet one audit report covers all Federal programs audited in a given year. A singular audit report is attesting to many programs, departments, employees, etc., so finding a less significant relationship here is expected.

2.7.2 AUDIT REPORT DELAY

Four of six hypotheses related to audit report delay are supported statistically in one or more models presented here: Hypotheses 4, 6, 10 and 12. Hypotheses 4, 6 and 10 are stated in the null and significant evidence is found to support the alternative. The alternative to hypothesis 4 is that an internal audit function impacts audit report delay, and the alternative to hypothesis 6 posits that audit report delay is associated with using staggering elections. The alternative to hypothesis 10 is that audit report delay is related to using elections to select the Finance official, which is supported here. Hypothesis 12 posits that audit report delay is inversely related to using a city manager, both of which are supported statistically by the evidence.

These results suggest that governance factors play a role in report timeliness in a municipal setting. Cities that utilize an internal audit function report in a timelier manner than those that do not use internal audit. Cities that use elections to select and maintain their Finance leader issue more timely reports than those that hire or appoint this official by some other means. Cities that use a council-manager structure, which relies on a city

manager as an added separation of power, issue timelier reports than those operating under a mayor-council system. These results are in line with the results found related to the audit performance models.

However, one variable acts in the opposite direction than it does in the audit performance models – staggering elections. Related to audit performance, the use of staggering elections is shown to have a positive impact on audit performance. In the audit report timeliness model, though, the use of staggering elections is shown to negatively impact audit report delay – cities using staggering elections have longer report delay. This opposite finding is conflicting and will require further examination.

2.8 CONCLUSION

While the impact of governance is heavily researched in the private sector, few studies examine governance in a governmental setting. This study is the first to evaluate a relationship between municipal governance and audit performance, and statistically significant evidence is found to support this relationship, when using various measures for audit performance and data collected from 135 cities over a 4-year time period. Furthermore, a relationship between municipal governance and reporting timeliness is also found here. This study broadens existing theory and uncovers results of interest to various stakeholders.

Cities with audit committees are shown to perform better on audits. While audit committees are not currently required for governmental entities, this finding supports the GAO's conjectures that an audit committee is valuable in a municipal setting (GAO). Furthermore, this finding offers incentive to local governments to establish a formal audit committee to communicate with auditors and oversee the audit process and results.

Conversely, the use of an internal audit function is found to have no association with audit performance but a correlation between internal audit and timely reporting is found.

City Council's election policies, both the use of staggering elections and term limits, are found to be statistically significant in predicting audit performance. Cities that use staggering elections are likely to perform better on audits, which is an interesting result as it conflicts with results from research performed in the private sector suggesting that staggering elections reduce oversight effectiveness. However, motives and incentives of City Council members differ from those of corporate Boards of Directors, which could cause this difference. Conversely, staggering elections are shown to have the opposite impact on report timeliness – cities using staggered elections have longer audit report delay. This finding requires further research. Additionally, term limits are found to be significant when predicting audit performance as cities that utilize term limits tend to perform better on audits than those that do not enforce term limits. This finding extends the "accountability effect" results found in prior research to the municipal setting.

An interesting relationship found here is the association between an elected Finance leader and audit performance – cities with elected Finance department heads are likely to perform better on financial statement audit and provide timelier reports. This variable has been unexplored prior to this study and appears to have some predictive ability. This finding also adds support to the "politician vs. professional" debate, indicating that an elected official performs better than a hired or appointed one in this setting. This is likely due to the accountability effect that elections create – elected

officials are held accountable for their actions through elections and therefore perform better.

The most significant relationship, which persists in each model studied here, is the relationship between using a city manager and better audit performance and timely reporting. This variable is found to be statistically significant in both the financial statement audit report and single audit report, both in predicting audit performance (no matter how the audit performance variable is measured) and report timeliness. This persistent result indicates that a city manager has a pervasive positive impact on a city's financial reporting quality and timeliness. As many cities have passed charter amendments over the last decade to change their governance structure, this finding offers convincing evidence that a council-manager system improves a city's governance structure.

This study offers a new perspective on municipal governance and shows significant effects of governance institutions on audit performance and report timeliness. These findings may be useful to regulatory bodies overseeing governmental entities. Furthermore, results from this study are valuable to local governments in policy-making decisions. Future research will examine the election variables further to understand why staggering elections appear to have an opposite impact in municipalities than in corporations.

3. Economic Consequences of Cities' Audit Performance and Report Timeliness

3.1 INTRODUCTION

Cities are required to publicly disclose both their financial statements and results from the audits they undergo annually. Because audit performance is public information, economic repercussions for poor performance exist. This study analyzes these repercussions, focusing on two consequences of municipal reporting. First, the impact of audit performance and report timeliness on the cost of debt is examined. Second, future funding received from the Federal government in response to poor audit performance and untimely reporting is analyzed.

Debt is one of the primary methods of raising long-term capital by U.S. municipalities. As of 2008, state and local governments had approximately $2.6 trillion in outstanding bonds (Granof and Khumawala 2011). Bond yields and ratings are primarily determined by the creditworthiness of a municipality, i.e., the probability of repayment (or likelihood of default) by the entity. Based on the significant balance of municipal debt outstanding, a small change in debt yield can have major economic implications for a municipality and the municipal bond market as a whole.

Numerous studies examine corporate debt and financial risk factors that impact debt yield and ratings (e.g., Fisher 1959; Cohen 1962; Horrigan 1966; West 1970; Kaplan and Urwitz 1979; and Weinstein 1981). Because financial reporting quality and information credibility affect both agency costs and the market's ability to assess default risk, these factors impact cost of debt (Bhojraj and Sengupta 2003). Evidence from the corporate sector suggests that lower financial reporting quality, proxied by accounting

restatements, adversely impacts debt financing costs (Abbott et al. 2004; Palmrose et al.

2004; Agrawal and Chadha 2005; Srinivasan 2005) and disclosure of internal control

weaknesses increases cost of debt (Elbannan 2009; Dhaliwal et al. 2011; Kim et al.

2011b; Costello and Wittenberg-Moerman 2011). While the impact of financial reporting

quality and disclosure on the capital market has been studied thoroughly, the importance

of financial reporting and disclosure in the governmental sector is under-researched.

Baber et al. (2013) are the first to evaluate consequences of financial reporting quality in

a municipal government setting and find that accounting restatements negatively impact

municipal debt costs. Little other research evaluates municipal bond market

consequences of reporting quality and disclosure.

Information relevance decreases when information is not timely; therefore, more

timely reports are more useful. In 1985, the GASB reported that approximately 90% of

users of governmental financial reports consider timeliness to be an important quality

(GASB 1987). Subsequently, the GASB released Concept Statement No. 1, establishing

timeliness as a key characteristic of governmental financial reporting. In 1998, the

National Federation of Municipal Analysts (NFMA) recommended that the SEC

encourage timelier reporting by municipalities and expressed concern that governmental

reporting practices result in information not being available until it is irrelevant and not

useful, resulting in uncertainty in the municipal securities market (NFMA 1998).

With respect to Federal funding consequences, this study is the first to posit a

relationship between audit performance and Federal funding of cities. The Federal

government provides over $400 billion in awards annually to thousands of recipients

(OMB 2011), spanning in purpose from low-income housing, loans for higher education,

entitlement programs like food stamps, Medicare, etc., after-school programs in elementary and secondary schools and public safety funding, among many others. Receipt of these funds is intended to be conditional – per the Office of Management and Budget (OMB), recipients must comply with applicable laws and requirements. Based on the purpose of the single audit, the expectation is that the Federal government uses results of municipal audits to adjust future funding as necessary when cities are found to exhibit noncompliance with Federal requirements.

Results of this study show that a city's audit performance has a significant impact on future Federal funding. This result serves as motivation for cities that perform poorly on municipal audits to take steps necessary to reevaluate compliance processes and internal controls in place, as process and policy improvements may positively impact future Federal funding. Ultimately, the level and quality of services provided by a local government are impacted by the amount of Federal funding received. Therefore, this finding suggests that audit performance impacts the public programs, goods and services a city offers its citizens. Results regarding the effect of audit performance and audit report timeliness on municipal debt costs offer conflicting evidence and call for further investigation.

3.2   LITERATURE REVIEW

Capital market research in the area of cost of equity has revealed consequences related to disclosure of negative information, such as internal control weaknesses, financial reporting failures or earnings manipulation (Ogneva et al. 2007; Ashbaugh-Skaife et al. 2009; Hammersley et al. 2008; Palmrose et al. 2004; Kinney and McDaniel 1989; Wu 2002; Hribar and Jenkins 2004; Dechow et al.1996; Foster 1979; Beneish 1997). Research in the area of cost of debt has revealed similar findings – that

companies' credit ratings are affected by these disclosures and reporting failures

(Elbannan 2009; Crabtree et al. 2009; Dhaliwal et al. 2011; Kim et al. 2011b; Costello

and Wittenberg-Moerman 2011). This study seeks to determine whether the municipal

bond market reacts to disclosure of internal control weaknesses in cities' audit reports.

The work performed in both the equity and debt markets regarding market reaction to

disclosure of negative information will be relied upon to perform this study. The

following areas are presented here: (a) the capital market reaction to disclosure of

negative information, including internal control weaknesses, financial reporting failures

and earnings manipulation activity; (b) the municipal bond market reaction to internal

control weakness disclosures; and (c) economic consequences of municipal financial

reporting at the local government level.

3.2.1 CAPITAL MARKET REACTION TO DISCLOSURE OF NEGATIVE INFORMATION

In the corporate sector, studies have examined the impact of disclosure of

negative information on the equity market for privately held companies. Here, three

main areas of this research are examined: disclosure of internal control weaknesses,

financial reporting failures and earnings manipulation activity.

3.2.1.1 INTERNAL CONTROL WEAKNESSES

Prior corporate sector research evaluates effects of internal control weakness

disclosures on the equity market and cost of capital (Ogneva et al. 2007; Ashbaugh-

Skaife et al. 2009; Hammersley et al. 2008). Ogneva et al. (2007) compares firms that

disclose internal control weaknesses to those that do not and find no significant

difference in cost of equity. In contrast, Ashbaugh-Skaife et al. (2009) find that firms

disclosing internal control weaknesses present significantly higher risk and cost of equity

capital than firms without internal control weaknesses. Hammersley et al. (2008)

evaluate whether severity of an internal control weakness (control deficiency vs. significant deficiency vs. material weakness) induces a market reaction and hypothesize that since these disclosures provide new, useful information to the market, a negative stock price reaction is expected. Results support this hypothesis and show that the market reaction varies with severity of a weakness.

3.2.1.2   FINANCIAL REPORTING FAILURES

Beyond disclosure of internal control weaknesses, market reaction to other negative information, namely earnings restatements, has been studied for publicly held companies (Palmrose et al. 2004; Kinney and McDaniel 1989; Wu 2002; Hribar and Jenkins 2004). An earnings restatement is considered a financial reporting failure as it is acknowledgement of an error in previously issued statements (Palmrose et al. 2004) and is indicative of an internal control failure (Kinney and McDaniel 1989). Wu (2002) reports that earnings response coefficients decline after earnings restatement announcements, Palmrose et al. (2004) report a significant negative market reaction to restatement announcements over a two-day time period, and Hribar and Jenkins (2004) find cost of capital increases after earnings restatement announcements.

3.2.1.3   EARNINGS MANIPULATION ACTIVITY

In the corporate sector, earnings manipulation and the subsequent market reaction have been researched extensively (Dechow et al.1996; Foster 1979; Beneish 1997). Various motives drive earnings management practices, including personal bonuses, sales goals, striving for a better financial picture of the firm, etc. In the public sector, these motivations are void as municipalities are not publicly owned by stockholders; furthermore, executive compensation and bonuses, meeting sales goals, and stock price inflation are not concerns in the public sector.

While corporate motivations to manipulate earnings do not exist in the public sector, incentive for municipalities to use shortcuts which may hinder internal control effectiveness or compliance with Federal requirements does exist. A city may have limited resources, be misinformed, have inadequately trained staff, or employees may simply choose to take an easier route, any of which can hamper audit performance. Lack of oversight, lack of time and focus by management, and inadequate staffing are all reasons that a city may perform poorly in a municipal audit.

When audit reports are publicly disclosed and note a material weakness, city stakeholders' response may be similar to that of the corporate sector when earnings management practices are publicly reported. As both public and private officers strive for better audit reports (although incentives differ), market consequences of earnings manipulation are examined here to motivate this study. Disclosure of earnings manipulation by a publicly traded company may have comparable effects to disclosure of a material weakness by a municipality.

In the private sector, earnings manipulation disclosures cause stockholders to lose trust in companies, often resulting in stock sales as investors switch to companies that appear more reputable (Dechow et al.1996). After being criticized in the financial media for earnings management, firms suffer a significant drop in stock price (Foster 1979). Firms subject to SEC penalties for general accepted accounting principles (GAAP) violations are found to have weaker internal governance structures, and after manipulation disclosure, they encounter significant increases in cost of capital and negative abnormal returns for the two-year period following the violation (Dechow et al. 1996; Beneish 1997).

3.2.2 INTERNAL CONTROL WEAKNESS DISCLOSURES AND COST OF DEBT

Research in the corporate sector shows consistent evidence supporting a relationship between internal control weakness disclosures and cost of debt (Elbannan 2009; Crabtree et al. 2009; Dhaliwal et al. 2011; Kim et al. 2011b; Costello and Wittenberg-Moerman 2011). Crabtree et al. (2009) find that disclosure of a material weakness is associated with a credit rating downgrade, and Elbannan (2009) finds that firms that disclose internal control weaknesses have relatively lower credit ratings, lower profitability, lower operating cash flows, net losses, higher income variability and higher leverage. However, Dhaliwal et al. (2011) reperform Elbannan's test using credit rating and find no significant relationship between SOX 404 internal control weakness disclosures and credit rating changes. In response to this result, credit bureaus state that ratings reflect internal control weaknesses before these weaknesses are disclosed in the SOX 404 report (Standard & Poor's 2004; Moody's Investors Service, Inc. 2005).

Dhaliwal et al. (2011) examine the relationship between SOX 404 internal control weakness disclosures and change in cost of debt using credit spread. The authors speculate that weak internal control reduces precision in financial reporting, therefore lessening information credibility, and implies that managers are able to misappropriate cash flows. Both of these factors increase default risk, which results in investors requiring higher returns for financing. Results show that firms that disclose a material weakness experience a marginal increase in their credit spread on publicly traded debt.

Kim et al. (2011b) find that loan spreads are higher for firms that disclose internal control weaknesses, and firms with more severe weaknesses pay a significantly higher interest rate than those without weaknesses. Costello and Wittenberg-Moerman (2011) analyze the impact of financial reporting quality on debt contracting and find that

material weakness disclosures are associated with higher interest rates. Furthermore, lenders are found to view a company's financial reporting as flawed even after the weakness is corrected, suggesting that internal weakness disclosures have a long-term reputational effect on firms.

Bharath et al. (2006) review the impact of accounting quality on both the private and public debt markets and find that accounting quality affects both markets. In the private market, both price (interest) and non-price terms (maturity and collateral) are significantly stricter for poorer quality borrowers. Alternatively, in the public debt market, only price is affected by lower accounting quality. Because the price term of public debt carries all of the impact of poor accounting quality (maturity and collateral are null in the public market), the impact of accounting quality on the price of public debt is 2.5 times that of private debt.

3.2.3 ECONOMIC CONSEQUENCES OF MUNICIPAL FINANCIAL REPORTING

Few research studies exist in the area of the municipal debt market in a governmental setting. Baber et al. (2013) investigate financial consequences of municipal accounting restatements and find that municipal debt costs are significantly higher following financial restatement disclosures; however, governance, specifically audit oversight and voter participation, mitigates this effect. Baber and Gore (2008) study the relationship between GAAP disclosure regulation and municipal debt issues in order to determine if reporting regulation influences municipal debt financing. The expectation is that GAAP has greater value in the public debt market where there is more competition than in privately negotiated agreements, so states with GAAP regulation will rely more on public debt than on private financing. Evidence is found to support this

hypothesis and show that debt costs are significantly lower in GAAP-regulated states, which implies that financial reporting regulation reduces debt contracting costs.

3.3   HYPOTHESIS DEVELOPMENT

Two distinct audits are performed annually for municipalities: a financial statement audit (FSA) and a single audit (SA). The main consideration of the FSA is financial reporting, so this report opines whether the financial statements are prepared in accordance with GAAP and balances are presented fairly (i.e., free of material misstatement). In addition to a financial statement audit, in order for entities to be held accountable for funds received from the Federal government, a single audit (or A-133 audit) is required by the government for all non-Federal entities that spend more than $500,000 of Federal funds. The objective of the single audit differs greatly from that of the financial statement audit – the focus is on compliance with Federal guidelines, rather than financial reporting.

Because these audit reports serve different purposes, audit performance disclosed in them is expected to have different outcomes. Municipal financial statements are reported in the comprehensive annual financial report (CAFR) and accompanied by the financial statement audit report. This financial reporting package is publicly available after the audit report date. The CAFR is used by stakeholders, including voters, lenders and bond investors to evaluate a city's financial position and performance. Alternatively, the single audit report is a separately issued report from the financial statements, and while it may be included in the CAFR, it is not required to be. The single audit report

must be submitted online to the Federal government and results of this report are

maintained in a publicly available database after submission.[14]

Since the CAFR is publicly available after the audit report date and is used by

stakeholders to assess financial position and performance, the financial statement audit

report, which is included in the CAFR and speaks to financial reporting quality, is

expected to impact the municipal bond market. Conversely, since the single audit is

performed for the purpose of reporting to the Federal government whether a city

complies with Federal guidelines, single audit performance is expected to impact Federal

funding. For these reasons, the two relationships studied here are: (1) the effect of

financial statement audit performance on municipal debt costs and (2) the effect of *single*

audit performance on Federal funding.

In order to measure financial statement audit performance, material weaknesses

are used. A material weakness (MW) at the financial statement level is defined as "a

deficiency, or a combination of deficiencies, in internal control, such that there is a

reasonable possibility that a material misstatement of the entity's financial statements

will not be prevented, or detected and corrected on a timely basis (OMB 2011)." In order

for an item to be classified as a material weakness, typically the issue appears to be

pervasive within an entity.

In order to measure single audit performance, the preference is to analyze material

weaknesses; however, material weaknesses are rare in a single audit report, and little

variation exists in this variable for the 485 observations evaluated here. For this reason,

"reportable conditions," a broader category of problematic audit findings, are used to

evaluate single audit performance in this study. Reportable conditions in a single audit

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[14] HTTPS://HARVESTER.CENSUS.GOV/FACWEB/DEFAULT.ASPX

include both significant deficiencies and material weaknesses. A significant deficiency is

a control deficiency that adversely affects the entity's ability to administer a Federal

program, such that there is a reasonable possibility that noncompliance with a program

requirement will occur. A single audit material weakness is a significant deficiency that

results in a reasonable possibility that material noncompliance with a program

requirement will occur (OMB 2011).

3.3.1 MUNICIPAL BOND MARKET

The following characterization supports the forthcoming empirical investigation.

First, in the private market of publicly traded securities, studies document an empirical

association between disclosure and capital market reaction – notably, disclosure of

internal control weaknesses, financial reporting failures and earnings manipulation

(Ogneva et al. 2007; Ashbaugh-Skaife et al. 2009; Hammersley et al. 2008; Palmrose et

al. 2004; Hribar and Jenkins 2004; Dechow et al.1996). Second, in the private market,

disclosure of internal control weaknesses impacts cost of debt, both in the bond market

and through other forms of debt contracting (Elbannan 2009; Crabtree et al. 2009;

Dhaliwal et al. 2011; Kim et al. 2011b; Costello and Wittenberg-Moerman 2011).

Finally, in the municipal debt market, the cost of municipal debt is impacted by

disclosure of negative information, namely accounting restatements (Baber et al. 2013).

Based on these findings, this study seeks to answer the research question: does the

municipal bond market react to disclosure of a material weakness in the financial

statement audit report?

The audit report acts as a mechanism for communicating information to the

market and for the market to monitor cities. Entities that disclose audit exceptions

experience increased uncertainty surrounding their financial reports and in turn an adverse market reaction (Easley and O'Hara 2004; Lambert et al. 2007; Ecker et al. 2006). Furthermore, uncertainty increases information asymmetry inherently present in the agency relationship between the market (principal) and municipal administration (agent). Relative to the market, a municipality and its officers have more information about creditworthiness, even more so when financial reporting is less reliable, as is the case when a material weakness is disclosed. This increase in information asymmetry is expected to increase the cost of debt (Verrecchia 2001; Easley et al. 2002; Easley and O'Hara 2004; Lambert et al. 2007; Wittenberg-Moerman 2008).

As Hammersley et al. (2008) find with publicly traded securities, if disclosure conveys new and useful information to the market, then a negative market reaction occurs. Here, this theory is applied to the municipal debt market. A municipal audit report is comprised of disclosures which present new and beneficial information, so disclosure of a material weakness is expected to adversely impact the cost of debt. Furthermore, lack of timeliness in reporting reduces information relevance and exacerbates the information asymmetry problem; therefore, delay in reporting is expected to adversely impact debt costs. Bonds with better credit ratings typically exhibit lower bond yields, and the issuer therefore experiences lower debt costs. Disclosure of a material weakness and audit report delay are expected to adversely impact bond costs through an increase in bond yield. The following hypotheses are introduced:

Hypothesis 1: A change in municipal bond yield is adversely affected by (i.e., varies directly with) disclosure of a material weakness in the financial statement audit report.

Hypothesis 2: A change in municipal bond yield is adversely affected by (i.e., varies directly with) audit report delay.

3.3.2   FEDERAL GOVERNMENT FUNDING

Prior to the Single Audit Act, no uniform standard for auditing Federal awards existed, and the process was cumbersome and disorganized, so the Office of Management and Budget (OMB) established this Act in 1984. The purpose of the single audit is to provide assurance to the Federal government regarding management and use of Federal funds by non-Federal entities. Since the objective of this audit is to act as a monitoring mechanism for the Federal government to ensure appropriate use of funds, the expectation is that the government will respond to disclosure of a reportable condition with a reduction in future funding. Therefore, the following hypothesis is presented:[15]

Hypothesis 3: A change in Federal funding varies inversely with disclosure of a reportable condition in the single audit report.

3.4   RESEARCH METHODOLOGY

3.4.1   SAMPLE SELECTION AND DATA

3.4.1.1   MUNICIPAL BOND MARKET

The largest cities with complete data available from the U.S. Census Bureau 2005 City Survey, with populations ranging from 115,000 to eight million, are used to select

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[15] Audit report delay is not evaluated for the single audit because there is not a defined single audit report date as there is with the financial statement audit report. The financial statement audit report date coincides with the financial statement release date because this audit report is included with these audited financial statements. The single audit report may be included in this financial reporting package or disclosed separately, either prior to or after the financial statements release.

bonds for testing, all with CUSIPs trading in 2008. For the year of 2008, data from the

Municipal Securities Rulemaking Board (MSRB) are obtained, listing all municipal

trades by day. For each city in the sample, all bond trades made in the week prior to the

city's audit report date and in the week subsequent to the report date are analyzed. Of

these trades, CUSIPs that have trades in both of these weeks are identified and selected

for the municipal bond market sample, which results in a total of 734 CUSIPs. For each

CUSIP, bond data are collected from the bond's official statement (obtained from

Moody's Investor Services), and issuer data are obtained from the city's Comprehensive

Annual Financial Report (CAFR). Data related to other control variables are obtained

from the MSRB, the CAFR and U.S. Census data (2005 City Survey), all of which are

publicly available.

3.4.1.2   FEDERAL GOVERNMENT FUNDING

The same sample of 135 cities selected from the U.S. Census Bureau with

populations ranging from 115,000 to eight million is used to test Federal funding. The

Office of Management and Budget (OMB) maintains each city's Data Collection Form

(DCF), an electronic document certified by the auditor with detailed results of the single

audit, in the Federal Audit Clearinghouse Single Audit Database (FAC). Data related to

Federal funding for each city are collected for the reporting periods of 2008 through 2011

(four years), totaling 540 observations, from the DCF.[16] Data related to audit

performance and control variables are obtained from the DCF, the CAFR and U.S.

Census data (2005 Survey), all of which are publicly available.

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[16] HTTPS://HARVESTER.CENSUS.GOV/FAC/DISSEM/ACCESSOPTIONS.HTML

3.4.2   MODEL DEVELOPMENT AND VARIABLES

3.4.2.1   MUNICIPAL BOND MARKET

The model used to examine the municipal bond market reaction to disclosure of a

material weakness and audit report delay is as follows:

(1) $\Delta YLD_t = B_1(FSAMW_{t-1}) + B_2(ARD_{t-1}) + B_3(YTM) + B_4(COUPON) + B_5(\Delta BBI) + B_6(RATING)$

$+ B_7(ISSUE) + B_8(REV) + B_9(REFUND) + B_{10}(INS) + B_{11}(\Delta ASSETS_{t-1}) + B_{12}(DEFICIT_{t-1}) +$

$B_{13}(INCOME) + \varepsilon.$

See tables below for more information about these variables: Table 3.1 for

variable descriptions; Table 3.2 for descriptive statistics; and Table 3.3 for Pearson's

correlation coefficients and variance inflation factors.

Table 3.1 Variable Definitions for Municipal Bond Market Model

VARIABLE	DEFINITION
Dependent Variables	
ΔYLD_t	Change in bond yield: basis point change in average bond yield between week prior to issuer's audit report date and week subsequent to audit report date
POST	Post-report yield: the average yield for a CUSIP's trades in the week after the issuer's audit report date
Independent Variables	
$FSAMW_{t-1}$	Financial statement audit material weakness (0, 1): 1 if a material weakness is reported in issuer's financial statement audit
ARD_{t-1}	Audit report delay: difference between issuer's number of days to report the financial statements (after fiscal year end) and the sample's mean number of days to report
Control Variables	
COUPON	Coupon rate on bond
YTM	Years to maturity: years from trade date to bond's maturity date
ΔBBI	Change in Bond Buyer's Index: basis point change in BBI on revenue bonds from week prior to report release to week after report release
BBI	Bond Buyer's Index on revenue bonds in the week after report release
ISSUE	Issue amount: natural logarithm of CUSIP's face value at issuance

RATING	Moody's credit rating: Aaa = 1 and numerical rating increases by 1 as bond rating declines
REFUND	Refunding bond (0, 1): 1 if CUSIP is a refunding bond
REV	Revenue bond (0, 1): 1 if CUSIP is a revenue bond
INS	Insured bond (0, 1): 1 if CUSIP is insured
$DEFICIT_{t-1}$	Issuer's deficit (0, 1): 1 if city's total net assets are negative in the audited financial statements
$\Delta ASSETS_{t-1}$	Issuer's change in net assets: measured as percentage change in net assets from prior year to report year
INCOME	Issuer's income level: measured as percentage of city residents whose income is below national poverty level

Table 3.2 Descriptive Statistics for Municipal Bond Market Model

Variable	N	Minimum	Maximum	Mean	Std.Deviation
ΔYLD_t	567	-100.62	100.06	-13.5097	37.8913
POST	567	0.000	8.995	4.0524	1.7103
$FSAMW_{t-1}$	567	0	1	.26	.438
ARD_{t-1}	567	-74.82	316.35	-25.7266	41.3278
COUPON	567	0.00	8.50	4.4671	1.5565
YTM	567	.0184	31.9372	11.8136	7.5813
ΔBBI	567	-42.00	28.00	-.9559	10.9699
BBI	567	4.69	6.39	5.9482	.2248
ISSUE	567	11.95	19.31	16.1714	1.3567
RATING	567	1	10	4.22	1.784
REFUND	567	0	1	.31	.464
REV	567	0	1	.58	.494
INS	567	0	1	.63	.483
$DEFICIT_{t-1}$	567	0	1	.2205	.41492
$\Delta ASSETS_{t-1}$	567	-.2756	.6725	.03249	.08352
INCOME	567	4.0775	42.6331	17.7487	4.8703

Table 3.3 Pearson's Correlation Coefficients and Variance Inflation Factors for Municipal Bond Market Model

	FSAMW	ARD	COUPON	YTM	ΔBBI	ISSUE	REFUND	RATING	REV	INS	ΔASSETS	DEFICIT	INCOME	VIF
FSAMW	1.00	-0.145	-0.029	-0.075	-0.112	-0.126	0.051	0.079	-0.053	-0.206	0.184	0.178	-0.218	1.344
ARD	-0.145	1.00	-0.021	-0.009	0.062	-0.062	0.084	-0.283	0.138	0.075	-0.097	0.308	-0.034	1.636
COUPON	-0.029	-0.021	1.00	0.001	0.061	-0.047	0.00	-0.027	-0.03	0.031	0.07	-0.089	0.111	1.042
YTM	-0.075	-0.009	0.001	1.00	-0.082	0.082	0.017	-0.036	0.036	0.038	-0.005	-0.044	0.041	1.025
BBI	-0.112	0.062	0.061	-0.082	1.00	-0.137	0.055	0.161	0.148	0.083	0.057	-0.275	-0.272	1.244
ISSUE	-0.126	-0.062	-0.047	0.082	-0.137	1.00	-0.069	0.092	-0.203	0.005	0.056	-0.436	0.079	1.142
REFUND	0.051	0.084	0.00	0.017	0.055	-0.069	1.00	0.007	-0.06	-0.098	0.08	0.216	-0.101	1.174
RATING	0.079	-0.283	-0.027	-0.036	0.161	0.092	0.007	1.00	-0.243	-0.4	0.16	-0.03	-0.181	1.768
REV	-0.053	0.138	-0.03	0.036	0.148	-0.203	-0.06	-0.243	1.00	-0.023	-0.161	0.531	0.131	1.809
INS	-0.206	0.075	0.031	0.038	0.083	0.005	-0.098	-0.40	-0.023	1.00	-0.049	0.029	0.10	1.400
ΔASSETS	0.184	-0.097	0.07	-0.005	0.057	0.056	0.08	0.161	-0.161	-0.049	1.00	-0.222	0.239	1.246
DEFICIT	0.178	0.308	-0.089	-0.044	-0.275	-0.436	0.216	-0.03	0.531	0.029	-0.222	1.00	-0.225	2.588 *
INCOME	-0.218	-0.034	0.111	0.041	-0.272	0.079	-0.101	-0.181	0.131	0.10	0.239	-0.225	1.00	1.469

* Because DEFICIT is a control variable, the coefficients on the variables of interest are not believed to be impacted nor is the control variable performance believed to be impaired.

Each CUSIP's change in yield (ΔYLD_t) is measured as the basis point change in yield from the week prior to the audit report date ("pre-report" yield) to the week after the audit report date ("post-report" yield). For each CUSIP, the average yield of trades in the pre-report week (at time t-1) is compared to the average yield of trades in the post-report week (at time t) to calculate the basis point change in yield as follows:

$$\Delta YLD_t = (average\ yield_t - average\ yield_{t-1})\ x\ 100$$

Two independent variables of interest are included in this model: material weakness disclosed in the financial statement audit report ($FSAMW_{t-1}$) and audit report delay (ARD_{t-1}). $FSAMW_{t-1}$ is a categorical variable coded as 1 if a material weakness is disclosed. ARD_{t-1} represents audit report timeliness and is calculated using the number of days from the issuer's fiscal year end to the issuer's audit report date. Each observation's distance from the sample mean is used as the ARD_{t-1} measure. For each bond issuer:

$$ARD_{t-1} = (audit\ report\ date - fiscal\ year\ end\ date) - average\ \#\ of\ audit\ report\ delay\ days\ for\ sample$$

Bonds with better credit ratings typically incur lower bond yields and therefore lower debt costs for the issuer. The expectation based on hypothesis 1 of this study is that disclosure of a material weakness increases debt costs by increasing bond yield. Therefore, the expected sign on the relationship between $FSAMW_{t-1}$ and ΔYLD_t is positive. Similarly, the expectation based on hypothesis 2 of this study is that audit report delay increases debt costs through increased bond yield, so the expected sign on the relationship between ARD_{t-1} and ΔYLD_t is positive.

Control variables for coupon rate (*COUPON*), years to maturity (*YTM*), Bond Buyer's index (*BBI*), size of bond issue (*ISSUE*), credit rating of the issuing entity (*RATING*), and whether the CUSIP is a refunding (*REFUND*), revenue (*REV*), and/or

insured (*INS*) bond are included to account for differential effects related to the market.

Variables are also included to control for the issuer's financial position (*DEFICIT*),

financial performance (*ΔASSETS*) and socio-economic factors (*INCOME*).[1]

3.4.2.2   FEDERAL GOVERNMENT FUNDING

The model used to examine Federal funding repercussions in response to

disclosure of a single audit reportable condition is as follows:

(2) $\Delta FND_t = B_1(A133RC_{t-1}) + B_2(SIZE) + B_3(INCOME) + B_4(DENSITY) + B_5(\Delta ASSETS_{t-1}) +$

$B_6(DEFICIT_{t-1}) + B_7(2009) + B_8(2010) + B_9(2011) + \varepsilon.$

See tables below for more information about these variables: Table 3.4 for

variable descriptions; Table 3.5 for descriptive statistics; and Table 3.6 for Pearson's

correlation coefficients and variance inflation factors.

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[1] Preliminary models included a control variable representing size of the municipality, measured as the natural logarithm of the city's population; however, this variable is correlated with *FSAMW$_{t-1}$* (a variable of interest), issue amount and deficit. Issue amount should capture differential effects due to city size, so population was removed to reduce multicollinearity effects. Additionally, preliminary models included population density; however high correlation exists between this variable and multiple other independent variables, so density was removed. Subsequent to variable removal, all variance inflation factors (VIFs) are less than 2.0, indicating that the independent variables are not significantly correlated, except for *DEFICIT*, which has a VIF of 2.779. Because *DEFICIT* is a control variable, coefficients on the variables of interest are not impacted and control variable performance is not impaired. Correlation coefficients and VIFs for the independent variables in Model 1 are included in Table 3.3.

Table 3.4 Variable Definitions for Federal Funding Model

VARIABLE	DEFINITION
Dependent Variables	
ΔFND_t	Change in federal funding: percentage change in city's Federal revenues from the fiscal year of the audit to the subsequent year
Independent Variables	
A-133RC$_{t-1}$	Single audit reportable condition (0, 1): 1 if a reportable condition (significant deficiency or material weakness) is reported in the single audit
Control Variables	
SIZE	Population: natural log of city's population
DENSITY	Population density: number of people per square mile of city
DEFICIT$_{t-1}$	Municipal deficit (0, 1): 1 if city's total net assets are negative in the audited financial statements
ΔASSETS$_{t-1}$	Change in net assets: measured as percentage change in net assets from prior year to report year
INCOME	Income level: measured as percentage of city residents whose income is below national poverty level
2009	2009 fiscal year (0, 1): 1 if audit report is for a fiscal year ending in 2009
2010	2010 fiscal year (0, 1): 1 if audit report is for a fiscal year ending in 2010
2011	2011 fiscal year (0, 1): 1 if audit report is for a fiscal year ending in 2011

Table 3.5 Descriptive Statistics for Federal Funding Model

Variable	N	Minimum	Maximum	Mean	Std.Deviation
ΔFND_t	485	-.6870	1.0970	.07653	.29138
A133RC$_{t-1}$	485	0	1	.47	.499
DEFICIT$_{t-1}$	485	0	1	.2205	.41492
ΔASSETS$_{t-1}$	485	-.2756	.6725	.03249	.08352
INCOME	485	4.0775	42.6331	17.7487	4.8703
SIZE	485	10.14	15.16	12.57	.66
DENSITY	485	162.0560	26847.7696	4289.3287	3226.1903
2009	485	0	1	.24	.430
2010	485	0	1	.26	.439
2011	485	0	1	.25	.431

Table 3.6 Pearson's Correlation Coefficients and Variance Inflation Factors for Federal Funding Model

	A133RC	DENSITY	SIZE	INCOME	ΔASSETS	DEFICIT	Variance Inflation Factor
A133 RC	1	-0.019	-0.223	-0.123	0.049	-0.018	1.149
DENSITY	-0.019	1	-0.195	-0.008	0.006	-0.399	1.302
SIZE	-0.223	-0.195	1	-0.088	-0.018	-0.127	1.211
INCOME	-0.123	-0.008	-0.088	1	0.226	-0.058	1.143
ΔASSETS	0.049	0.006	-0.018	0.226	1	0.016	1.103
DEFICIT	-0.018	-0.399	-0.127	-0.058	0.016	1	1.271

Note: Correlation coefficients are presented for all independent variables except for the dummy variables representing the fiscal year audited (*2009*, *2010* and *2011*).

The dependent variable (ΔFND_t) represents change in Federal funding from the fiscal year under audit to the subsequent year:

$$\Delta FND_t = (FED\ REV_t - FED\ REV_{t-1}) / FED\ REV_{t-1}.$$

The independent variable of interest in this model is disclosure of a reportable condition in the single audit report ($A133RC_{t-1}$), which is a categorical variable coded as 1 if a reportable condition is disclosed.[2] The expectation based on hypothesis 3 is that a change in Federal funding will vary inversely with disclosure of a reportable condition, therefore the expected sign on this variable is negative. Control variables included here are *SIZE*, measured as the natural logarithm of the city's population, *INCOME*, measured as percentage of city's residents below the national poverty level and *DENSITY* (i.e.,

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[2] This model was also analyzed with audit report delay (ARD_{t-1}) included as an independent variable, which reduces the overall predictive ability of the model and ARD_{t-1} holds no significance. This result is likely because there is not a defined single audit report date as there is with the financial statement audit report. The single audit report may be released with the financial statements or separately, either prior to or after the date the financial statements are reported.

population density), measured as the number of people per square mile of the city.

Additionally, fiscal year is included (*2009, 2010* or *2011*).[3]

3.5   RESULTS AND ANALYSIS

3.5.1 MUNICIPAL BOND MARKET

Subsequent to data collection and outlier removal, the municipal bond market

sample is comprised of 567 complete observations of CUSIPs trading both in the week

prior to and in the week subsequent to the issuer's audit report date.[4] In Model 1, a

change in municipal bond yield is hypothesized to be impacted by cities' financial

statement audit performance and audit report timeliness.

A base model is employed for Model 1 with all control variables and accounts for

an adjusted R-squared value of 11.2%. When audit report delay (ARD_{t-1}) is introduced

alone into this model, the adjusted R-squared value changes to 11.3%, an increase of

0.10% over the base model, and audit report delay is not statistically significant in

predicting change in bond yield. When audit performance ($FSAMW_{t-1}$) is introduced

individually into this model, the adjusted R-squared value remains at 11.2%, and

$FSAMW_{t-1}$ is not statistically significant. When both ARD_{t-1} and $FSAMW_{t-1}$ are included,

the adjusted R-squared value is 11.3% (an increase of 0.10% over the base model), and

neither ARD_{t-1} nor $FSAMW_{t-1}$ are statistically significant. Neither of the hypotheses

presented related to municipal bond market effects are supported statistically.

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[3] All variance inflation factors (VIFs) are less than 2.0, indicating that the independent variables are not significantly correlated.

[4] Cook's distance testing is employed for outlier examination, in which Cook's values greater than 4/n are analyzed and/or removed. The initial sample size was 635, resulting in a maximum Cook's value allowable is 0.006299. The final sample size resulting from two rounds of analysis and removal of observations deemed to have a high Cook's value is 567 observations.

Table 3.7 Analysis of Audit Performance, Report Timeliness and Change in Municipal Bond Yield

		Dependent Variable: Change in Municipal Bond Yield (ΔYLD_t)			
			Audit Report Delay[a]	*Material Weakness*[a]	*Both MW & ARD*
Dependent Variable	Expected Sign	n = 567 R^2 = 11.2%	n = 567 R^2 = 11.3%	n = 567 R^2 = 11.2%	n = 567 R^2 = 11.3%
$FSAMW_{t-1}$	+			-0.042 (-0.925)	-0.038 (-0.836)
ARD_{t-1}	+		-0.060 (-1.188)		-0.057 (-1.119)
COUPON	+/-	-0.021 (-0.531)	-0.019 (-0.464)	-0.022 (-0.544)	-0.019 (-0.479)
YTM	+/-	0.064 (1.601)	0.066 (1.647) ^	0.066 (1.646) ^	0.068 (1.685) ^
ΔBBI	+/-	0.217 (4.973) ***	0.214 (4.898) ***	0.211 (4.778) ***	0.209 (4.723) ***
RATING	+	0.081 (1.627)^	0.101 (1.925) *	0.082 (1.653) *	0.101 (1.927) *
ISSUE	+/-	0.156 (3.707) ***	0.156 (3.707) ***	0.160 (3.769) ***	0.159 (3.762) ***
INS	+/-	-0.043 (-.933)	-0.043 (-.933)	-0.036 (-0.764)	-0.036 (-0.778)
REV	+/-	0.083 (1.584)	0.073 (1.372)	0.082 (1.563)	0.073 (1.363)
REFUND	+/-	0.007 (0.172)	0.003 (0.061)	0.006 (.140)	0.002 (0.038)
$DEFICIT_{t-1}$	+	0.144 (2.542) **	0.114 (1.836) *	0.130 (2.198) *	0.102 (1.608) ^
$\Delta ASSETS_{t-1}$	-	-0.058 (-1.319) ^	-0.057 (-1.291) ^	-0.062 (-1.410) ^	-0.061 (-1.374) ^
INCOME	+/-	-0.204 (-4.421)***	-0.192 (-4.079)***	-0.195 (-4.140) ***	-0.185 (-3.853) ***
INTERCEPT		t = 0.085	t = 0.504	t = 0.031	t = 0.433

a: All coefficients are reported as standardized, and t-statistics are reported in parentheses.

^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

3.5.1.1   FURTHER TESTING - MUNICIPAL BOND MARKET

Because the results of the estimation of Model 1 conflict with prior research

findings in the corporate sector that disclosure of internal control weaknesses increases

the cost of debt (Elbannan 2009; Dhaliwal et al. 2011; Kim et al. 2011b; Costello and

Wittenberg-Moerman 2011), further testing is employed to analyze the relationship

between audit performance, report timeliness and the municipal bond market. First, a

paired t-test is performed to analyze whether bond yields in the week subsequent to the

audit report release ("post-report yields") are significantly different from bond yields in

the week prior to the audit report release ("pre-report yields"), without considering the

results of the audit. Results from the paired t-test show a statistically significant

difference (t = 8.489, p < .000) in pre-report yields (mean 4.187410, standard deviation

1.7023448) and post-report yields (mean 4.052408, standard deviation 1.7103320).

These results suggest that the act of publicly disclosing the CAFR, which includes the

financial statements and audit report, has a significant impact on municipal bond yield,

without considering the information contained in the audit report. See Table 3.8 below

for detailed results.

Table 3.8 Paired T-test Results for Municipal Bond Market Yield

Variable Set	Correlation	Mean	N	Std. Deviation	Std. Error
Pre-Report Bond Yields		4.187410	567	1.7023448	.0714918
Post-Report Bond Yields		4.052408	567	1.7103320	.0718272
Paired samples test	.975 ***	.1350021	567	.3786953	.0159037

t = 8.489 ***

^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

A revised model is introduced to further analyze this relationship, where average post-report yield is used as the dependent variable (*POST*). For each CUSIP in the sample, *POST* is calculated as the average yield of all trades of the CUSIP made in the week subsequent to the audit report date (at time *t*). All other variables remain the same as in Model 1:

(3) $POST = B_1(FSAMW_{t-1}) + B_2(ARD_{t-1}) + B_3(YTM) + B_4(COUPON) + B_5(BBI) + B_6(RATING) +$

$\qquad B_7(ISSUE) + B_8(REV) + B_9(REFUND) + B_{10}(INS) + B_{11}(\Delta ASSETS_{t-1}) + B_{12}(DEFICIT_{t-1}) +$

$\qquad B_{13}(INCOME) + \varepsilon.$

This model addresses two new hypotheses:

Hypothesis 4: Post-report municipal bond yield varies directly with disclosure of a material weakness in the financial statement audit report.

Hypothesis 5: Post-report municipal bond yield varies directly with audit report delay.

The expectation here is that disclosure of a material weakness and extended audit report delay increases debt costs through increased bond yield. Therefore, the expected sign on both $FSAMW_{t-1}$ and ARD_{t-1} is positive.

A base model is employed for Model 3 with all control variables and accounts for an adjusted R-squared value of 9.5%, compared to the ΔYLD_t base model's adjusted R-squared value of 5.3%. When audit report delay (ARD_{t-1}) is introduced alone into this model, the adjusted R-squared value changes to 10.9%, an increase of 1.4% over the base model, and audit report delay is statistically significant in predicting post-report bond

yield (.002, p < .001, one-tailed). When audit performance ($FSAMW_{t-1}$) is introduced individually into this model, the adjusted R-squared value changes to 9.4%, a decrease of 0.1% from the base model, and $FSAMW_{t-1}$ is not statistically significant. When both ARD_{t-1} and $FSAMW_{t-1}$ are included, the adjusted R-squared value is 10.7% (an increase of 1.3% over the base model but lower than that of the model with ARD_{t-1} alone). In the combined model, ARD_{t-1} is statistically significant (.163, p < .001, one-tailed) but $FSAMW_{t-1}$ is not. See Table 3.9 below for detailed results.

Results from model 3 support hypothesis 5 but not hypothesis 4. The disclosure of a material weakness is not shown to be statistically significant in predicting bond yields in a governmental setting. However, municipal audit report delay is found to correlate with increased municipal bond yields. Bonds from issuers with longer audit report delay appear to experience higher bond yields subsequent to the audit report date, and therefore an increased cost of debt.

Table 3.9 Analysis of Audit Performance, Report Timeliness and Post-Report Municipal Bond Yield

		Dependent Variable: Post-Report Municipal Bond Yield (POST)			
			Audit Report Delay[a]	Material Weakness[a]	Both MW & Audit Report Delay[a]
Dependent Variable	Expected Sign	n = 567 R^2 = 9.5%	n = 567 R^2 = 10.9%	n = 567 R^2 = 9.4%	n = 567 R^2 = 10.7%
$FSAMW_{t-1}$	+			.004 (.080)	-.017 (-.365)
ARD_{t-1}	+		.161 (3.047) ***		.163 (3.065) ***
COUPON	+/-	-.007 (-.163)	-.010 (-.243)	-.007 (-.165)	-.009 (-.232)
YTM	+/-	-.014 (.338)	-.016 (-.401)	-.014 (-.343)	-.015 (-.372)
BBI	+/-	.137	.204	.137	.206

		(3.276) ***	(4.336) ***	(3.254) ***	(4.339) ***
RATING	+	.284	.241	.285	.239
		(5.682) ***	(4.662) ***	(5.676) ***	(4.615) ***
ISSUE	+/-	-.036	-.047	-.036	-.045
		(-.795)	(-1.046)	(-.797)	(-.991)
INS	+/-	-.025	-.019	-.026	-.015
		(-.537)	(-.398)	(-.542)	(-.313)
REV	+/-	.102	.125	.102	.126
		(1.857) ^	(2.256) *	(1.851) ^	(2.271) *
REFUND	+/-	-.140	-.128	-.140	-.129
		(-3.239) ***	(-2.967) **	(-3.224) **	(-2.980) **
$DEFICIT_{t-1}$	+	.051	.120	.053	.115
		(.835)	(1.836) ^	(.830)	(1.740) ^
$\Delta ASSETS_{t-1}$	-	-.051	-.061	-.050	-.064
		(-1.137)	(-1.363)	(-1.105)	(-1.406)
INCOME	+/-	-.013	-.022	-.014	-.019
		(-.291)	(-.499)	(-.301)	(-407)
INTERCEPT		$t = -1.071$	$t = -2.045$ *	$t = -1.049$	$t = -2.076$ *

a: All coefficients are reported as standardized, and t-statistics are reported in parentheses.

^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used)

3.5.2 FEDERAL GOVERNMENT FUNDING

Subsequent to data collection and outlier removal, the Federal funding sample contains 485 complete observations, which are comprised of four years of data (2008, 2009, 2010 and 2011) from 135 cities.[5] In this model, Federal funding is hypothesized to be impacted by a city's single audit performance. A base model is employed with all control variables, which account for an adjusted R-squared value of 17.2%. When *A133RC$_{t-1}$* is introduced into this model, the adjusted R-squared value increases to 17.7%, an increase of 0.5% over the base model, and *A133RC$_{t-1}$* has a significant, inverse

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[5] Cook's distance testing is used for outlier testing, and observations with Cook's values greater than 4/n are analyzed for removal. The initial sample size was 532, resulting in a maximum Cook's value allowable is 0.007519. The final sample size resulting from two rounds of analyzing and removing observations deemed to have a high Cook's value is 485 observations.

relationship with a future change in Federal funding (-.085, p < .05, one-tailed).[6] See

detailed results below in Table 3.10.

Table 3.10 Analysis of Audit Performance and Federal Funding

		Dependent Variable: Change in Federal Funding (ΔFND_t)	
			Single Audit Reportable Condition[a]
Dependent Variable	Expected Sign	n = 485 R^2 = 17.2%	n = 485 R^2 = 17.7%
A133RC	-		-.085 (-1.921) *
SIZE	+/-	-.041 (-.925)	-.020 (-.431)
DENSITY	+/-	-.002 (-.044)	.000 (.007)
DEFICIT	+/-	.007 (.156)	.005 (.117)
ΔASSETS	+/-	.038 (.879)	.031 (.713)
INCOME	+/-	.070 (1.612) ^	.085 (1.921) ^
2009	+/-	.332 (6.540) ***	.326 (6.446) ***
2010	+/-	-.097 (-1.902) ^	-.095 (-1.867) ^
2011	+/-	-.135 (-2.648) **	-.136 (-2.681) **
Intercept		t = .975	t = .526

a: All coefficients are reported as standardized, and t-statistics are reported in parentheses.

^ = significant at 0.10, * = significant at 0.05, ** = significant at 0.01, *** = significant at 0.001 (all two-tailed tests, except where sign of coefficient is consistent with expected sign, then one-tailed test is used

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[6] This model is also tested using financial statement audit performance (*FSAMW$_{t-1}$*) as an independent variable in place of single audit performance (*A133RC$_{t-1}$*). The model using *FSAMW$_{t-1}$* shows a decreased R^2 value of 17.1% and *FSAMW$_{t-1}$* is not statistically significant. This is expected because the single audit, not the financial statement audit, is the audit used by the Federal government to assess a city's compliance with Federal funding guidelines.

In order to further test Federal funding, this model is also tested using financial statement audit performance ($FSAMW_{t-1}$) as an independent variable in place of single audit performance ($A133RC_{t-1}$). This change causes the adjusted R^2 value to decrease to 17.1%, and $FSAMW_{t-1}$ is not statistically significant. This is expected because the single audit, not the financial statement audit, is used by the Federal government to assess a city's compliance with Federal funding guidelines. This finding further supports the hypothesis that single audit performance is utilized by the Federal government to make future funding decisions.

This study is the first of its kind to evaluate single audit performance, and results suggest that single audit performance is used for its stated purpose, i.e., to evaluate compliance with Federal requirements, and financial repercussions from poor performance do exist. Cities that are noncompliant with Federal guidelines appear to be more likely to experience a negative impact on future Federal funding. A reduction of Federal funding impacts the funds a city has to offer services to its residents and therefore directly affects the city's constituents.

3.6   CONCLUSION

In this study, an attempt is made to extend results from the private sector showing that internal control weakness disclosures impact debt costs. However, conflicting results are found when this testing is performed in the public sector, and further analysis of the municipal bond market's reaction to disclosure of a material weakness is necessary. Future research will examine additional measures to capture municipal debt costs in an effort to evaluate this potential relationship. This study is the first to analyze impact of audit report timeliness in a governmental setting, and results conflict for this association as well, so additional analysis is necessary.

Because debt is a significant method of raising long-term capital by U.S. municipalities, a change in creditworthiness reflected in a change in bond yield can generate major economic implications for a municipality and the bond market as a whole. Prior research in the corporate sector finds that lower financial reporting quality adversely impacts debt financing costs (Abbott et al. 2004; Palmrose et al. 2004; Agrawal and Chadha 2005; Srinivasan 2005) and disclosure of internal control weaknesses increases cost of debt (Elbannan 2009; Dhaliwal et al. 2011; Kim et al. 2011b; Costello and Wittenberg-Moerman 2011). Furthermore, disclosure of audit exceptions reduces information credibility of the financial statements, escalating information asymmetry between municipal officials and the market, which has been shown to increase cost of debt (Easley and O'Hara 2004; Lambert et al. 2007; Ecker et al. 2006). Furthermore, in a municipal setting, accounting restatements appear to negatively impact municipal debt costs (Baber et al. 2013).

Based on the results of prior research, the expectation here is that disclosing a material weakness in a municipal audit report will increase debt costs, measured by a subsequent increase in bond yield. Similarly, longer audit report delay is expected to be associated with higher municipal debt costs. However, preliminary results show no significant relationship in either of these cases. When further analysis is performed using a different measure for post-report bond yield in order to investigate this result, no significant relationship is found between a material weakness disclosure and bond yield. However, in this additional analysis, audit report delay is shown to have a significant relationship with post-report bond yield – longer delay appears to increase debt costs. Further examination of these relationships is necessary.

With respect to Federal funding consequences, this study is the first to posit a relationship between audit performance and Federal funding of cities. The Federal government provides over $400 billion in awards annually to thousands of recipients (OMB 2011) and monitors use of these funds via a single audit. The expectation is that the Federal government uses results of municipal audits to adjust future funding as necessary when cities are noncompliant with Federal requirements. Results found here show that a city's future Federal funding is significantly negatively impacted by the disclosure of a reportable condition in the single audit report.

This study is the first to evaluate effects of municipal audit performance and report timeliness on either the municipal bond market or Federal government funding. Significant results are found regarding the impact of single audit performance on Federal funding, which lends significance to the single audit. Often this programmatic audit is viewed as secondary to the financial statement audit; however, this result highlights the importance of single audit performance and should serve as motivation for entities to ensure compliance with Federal requirements. Future research will further analyze this finding and attempt to extend it to other types of governmental entities. Additionally, future research will examine the municipal bond market consequences in greater depth.

4. Conclusion

While corporate governance in the private sector has been heavily studied, municipal governance is an under-researched area. This study is the first of its kind to analyze a relationship between municipal governance and municipal audit performance or report timeliness, while also being the first to evaluate financial repercussions of these elements. Furthermore, significant results are found to support relationships introduced here.

First, municipal governance is found to have a statistically significant relationship with audit performance in each model presented here, each using a different measure to approximate audit performance. In all of the models, five in total, governance structure of a city, i.e., the use of a city manager, is a significant predictor of audit performance. Furthermore, using an audit committee, internal audit function, elections to select the Finance official, term limits and staggering elections for City Council members are all found to be significant in at least one model, and multiple governance factors are significant in more than one model. Furthermore, these governance elements are shown to significantly impact audit report timeliness as well. These results have substantial implications for municipalities and provide motivation to establish and perpetuate good governance practices.

In the second part of this study, two economic implications of audit performance and report timeliness are examined – municipal bond market reaction and future Federal funding. Conflicting results are found regarding the relationship between audit performance and municipal debt costs and also the relationship between audit report

delay and cost of debt. Therefore, further analysis in the area of the municipal bond market reaction to disclosure of a material weakness is necessary.

The second economic repercussion studied here, future Federal funding, is shown to be adversely affected by poor municipal audit performance. This study is the first of its kind to analyze the single audit and implications of this audit, and this finding serves as motivation for cities to evaluate the internal control system and compliance processes in place to improve audit performance. Improved audit performance appears to have a positive impact on future government funding, which affects the level and quality of goods and services offered by a city to its citizens. This Federal funding finding suggests that good governance practices within a city may impact Federal revenue on some level. This result is further motivation for cities to analyze governance practices in place and make necessary changes to improve these structures.

Overall, this study is unique as it is the first to establish these relationships and it broadens existing theory in the public sector. Results extend previously established findings in the corporate sector and have significant policymaking implications for municipalities and other governmental entities. Future research will be performed to understand the conflicting municipal bond market results discovered here.

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