

Internal Audit and Financial Reporting Quality in the Public Sector

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SUMMARY

Using a unique set of hand-collected data, this study investigates the association of (1) the presence of an Internal Audit Function (IAF) and (2) the use of quality assurance programs for the IAF with financial reporting quality in public sector organizations. Specifically, I examine if the presence of IAFs and the use of quality assessments therein is associated with the presence of financial statement audit reportable conditions and restatements in municipalities in the U.S. Results indicate that both the presence of an IAF and use of external quality programs therein are positively associated with financial statement audit reportable conditions related to internal control (significant deficiencies). Findings also suggest that the presence of an IAF is negatively associated with restatements in U.S. municipalities with populations over 100,000 at significant levels. The use of quality assurance programs for the IAF has no effect on the occurrence of restatements. The study's findings provide insights on IAF influence over financial statement reporting quality in the public sector and suggest further research is necessary. Results should be of interest to standard setters, regulators, and public-sector leadership as they attempt to improve governmental financial reporting quality and transparency.

Key Words: Internal auditing, internal audit quality, external assessments, financial reporting quality, audit reportable conditions, restatements

Data availability: Please contact the author.

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INTRODUCTION

In this study, I examine the relationships of the existence and quality of an Internal Audit Function (IAF) with financial reporting quality in public sector organizations. Specifically, I investigate whether the presence and quality of the IAF indicated by external quality assessments and improvement program (QAIP) in public sector organizations is associated with financial restatements and/or financial weakness disclosures. Use of QAIP and the public sector provide a unique and unexplored proxy and setting for investigation (The IIA, 2012a).

The importance of the IAF's role in corporate governance and financial reporting quality is acknowledged by academics, stock exchanges, regulators, and external auditors. Cohen *et al.* (2004) highlight the importance of the IAF for high quality financial reporting in the post Sarbanes-Oxley (SOX) environment. The New York Stock Exchange requires that its listed companies maintain an IAF (NYSE, 2003) while NASDAQ filed a proposed rule in 2013 to require its listed companies to maintain an IAF (Securities and Exchange Commission 2013a).¹ These rules were generally well-received by external auditors. For example, Grant Thornton (2013, 1) states that "*We believe that the periodic evaluation and testing of controls by an internal audit function ... can enhance a company's system of internal control over time.*" As the

¹ Although NASDAQ later withdrew the proposed rule change, it did so to fully consider the 42 comment letters it received regarding the proposal (Securities and Exchange Commission 2013b). The comment letters can be found at <http://www.sec.gov/comments/sr-nasdaq-2013-032/nasdaq2013032.shtml>.

American Institute of Certified Public Accountants (AICPA 2014) indicates through regulation, especially post-SOX, standard setters encourage the use of the IAF to help improve financial reporting quality. The Committee of Sponsoring Organizations of the Treadway Commission (COSO) also makes a similar recommendation (AICPA 2014; COSO 2013).

While much attention is given to the financial reporting quality of publicly-traded companies, the public sector is an important part of the economy as well, as public sector spending accounts for approximately 25% of U.S. Gross Domestic Product (The World Bank, 2015). The occurrence of restatements within the public sector is not inconsequential in frequency or magnitude (Baber *et al.*, 2013a). In a sample of 207 municipalities from 2001-2004, Baber *et al.* (2013a) find at least one restatement in over half of the cases. The authors also find that those municipalities with at least one restatement face debt costs that are 35 basis points higher than non-restatement municipalities (the mean amount of the debt issue is \$23.75 million). Perhaps the most poignant example of a municipality restatement came in 2005 when the City of San Diego announced a \$641 million restatement (10% of its net assets) for fiscal year 2002 (Greenblatt, 2005). Additionally, while internal audit has grown within the public sector in recent years, very little research has examined IAFs in the public sector (van Gils, 2012). Also, most of this work is descriptive or qualitative in nature and is not specific to the U.S. context (cf., Carhill *et al.*, 1989; Coupland, 1993; Sterck *et al.*, 2005; Sterck and Bouckaert, 2006).

Reliance on IAFs within publicly-traded companies is a result of corporate scandals in the late 1990s to early 2000s (Abdolmohammadi *et al.*, 2006). SOX (2002), Section 404 requires management of organizations to attest to the scope and adequacy of internal controls and financial reporting procedures. IAFs are often tasked with the necessary compliance work to assess the adequacy of these controls (Abdolmohammadi *et al.*, 2006). While the same attestation is not required of public sector organizations, public sector audit activities (both internal and external) can help enhance the accountability and transparency of financial reporting through financial audits (The IIA, 2012d). The public sector utilizes internal auditors for design of internal controls and to provide additional monitoring that impacts financial reporting (Peterson, 2014).

External assessments help ensure that IAFs conform to The IIA's quality standards per its International Standards for the Professional Practice of Internal Auditing (The IIA, 2012a). These standards promote the effectiveness and efficiency of the IAF. Since January 1, 2002 The IIA's standards require external assessments of the IAF to be performed "*at least once every five years, by a qualified, independent assessor or assessment team from outside the organization*" and "*can be in the form of a full external assessment or a self-assessment verified by an independent assessor*" (The IIA, 2012e). Yet, the IIA's Common Body of Knowledge (CBOK, 2010) survey of IIA membership found that only 39.7% of Chief Audit Executives (CAEs) state that their organizations comply with Standard 1312 requiring external assessments (CBOK,

2010).² These evaluations are paid for by the assessed public sector organization and may be performed by external assessors, such as external auditors, the IIA, consultants, peers, or in the form of an internal assessment with external validation (The IIA, 2007)³. This finding suggests a need for research on the efficacy of external assessments as an indicator of IAF quality.

This study provides insight on IAF contributions to financial reporting quality in public sector organizations. A major role of internal audit within public service organizations is to provide an independent appraisal and review service to determine and report on the degree of control exercised over financial systems (Coupland, 1993). Regulators and standard setters may use the results of this study to promote the importance of IAFs for a largely unexamined group of organizations, municipalities. Finally, this study follows the guidance and call for research regarding audit quality indicators from the Center for Audit Quality (2014)⁴.

Cohen *et al.* (2004) argue that the IAF is one of four cornerstones of corporate governance, along with management, the board, and the external auditor. While studies examining the relationships between the latter three and financial reporting quality are extensive,

² Although CBOK (2010) finds that 28.4% of respondents state that their IAF is less than five years old, this still leaves almost a third of IAFs that choose not to have an external assessment every five years. Another reason that organizations may not comply with the standard is that the internal audit profession is unregulated (The IIA, 2007).

³ In a survey of U.S. organizations the IIA (2007) found that 67.6% received a full external review, 27.0% performed a self-assessment with an independent validation, and 5.4% had a peer review. The details of the review providers were not made available.

⁴ While the CAQ's Approach to Audit Quality Indicators focuses on external audit, the high level key elements stressed are firm leadership and tone at the top; auditor knowledge, experience, and workload; monitoring; and auditor reporting. This list closely parallels the IAF quality determinants stressed in SAS65/128 and prior research (e.g., Ege, 2015; Prawitt *et al.*, 2009; and Lin *et al.*, 2011). Thus, I argue that many of the same elements that indicate high external audit quality also indicate high internal audit quality.

the relationship between IAF quality and financial reporting quality has received limited attention in the literature. Notable exceptions are Prawitt *et al.* (2009), Lin *et al.* (2011), and Ege (2015). These studies use The IIA's Global Audit Information Network (GAIN) survey data to study the association between IAF characteristics and financial reporting quality for U.S. public firms. Also, much of the research regarding the IAF and corporate governance/financial reporting quality is qualitative in nature (Arena and Azzone, 2009; Mihret and Yismaw, 2007) or focuses on external audit's reliance on the IAF (Bame-Aldred *et al.*, 2013; Gramling and Myers, 2006; Mihret and Admassu, 2011; Prawitt *et al.*, 2011). To the author's knowledge only one study (Peterson, 2014) examines the IAF and financial reporting quality in the municipal setting, and finds no association between the presence of an IAF in municipalities and reported material weaknesses/significant deficiencies in internal controls.

My study extends Peterson (2014) by (1) identifying if IAFs are involved in financial audits; (2) using the presence of external quality assessments as a proxy for deliberate attempts to improve IAF quality; and (3) examining the effects of IAFs on restatements in the public sector.

In a sample of U.S. municipalities with populations over 100,000, findings indicate a significant positive relationship between the presence of an IAF and financial statement audit reportable conditions related to internal control (significant deficiencies). Results also indicate that the presence of an IAF is negatively associated with restatements. The use of quality assurance programs for the IAF also has a significant positive relationship with audit reportable

conditions, but no relationship with restatements. For control variables, municipalities that are deemed low risk have significantly fewer financial statement significant deficiencies in all models, while municipalities with audit committees have significantly more financial statement audit reportable conditions and restatements. Results for the remaining control variables are either mixed or insignificant.

In the next sections I provide the research background and hypotheses, followed by the research method, results, and conclusion and discussion.

BACKGROUND AND HYPOTHESES

Literature Review

Prior research finds that high-quality accounting systems reduce information asymmetry and promote capital markets efficiency (Beaver, 1981; Costello and Wittenberg-Moerman, 2011; Healy and Palepu, 2001). The literature also stresses the importance of financial reporting monitoring mechanisms for publicly traded firms (Baber *et al.*, 2013a; Dechow *et al.*, 1996). Internal control systems and oversight are viewed as important elements of financial reporting quality as they may predict, and even prevent, future accounting and financial reporting issues (Rich and Zhang, 2014). Much of the prior research regarding the IAF's role in corporate governance focuses on publicly-traded and/or for-profit organizations. Internal auditing is also important in the public sector as IAFs provide objective assessments of whether public resources are managed responsibly and effectively to achieve intended results (The IIA, 2012d).

The public sector can be described as a principal-agent relationship, where elected and appointed officials (the agents) must periodically report to the public (principals) their use and stewardship of resources, and the extent to which the public's goals are met (The IIA, 2012d). Principles of corporate governance in the public sector include accountability, transparency, integrity, and equity. Through internal control and monitoring to ensure appropriate use of resources and accurate reporting practices IAFs reduce the risks (e.g., moral hazard) inherent in a principal-agent relationship. This is critical as stakeholder trust of public sector information and action is eroded if it is not credible and reliable, thus undermining legitimacy and the ability to govern (The IIA, 2012d).

Research on “*New Public Management*” (NPM) stresses the importance of the IAF in the public sector (Sterck *et al.*, 2005; van Gils, 2012). NPM is a set of theoretical and practical ideas in the field of public management (Hood, 1989). Hood (1991: 3-4) defines it as “*a shorthand name for the set of broadly similar administrative doctrines which dominated the bureaucratic reform agenda in many of the OECD countries from the late seventies.*” Three of the seven doctrines of NPM include; transparency, measurable standards and benchmarks of performance; and a greater emphasis on the output controls (Hood, 1991). Some scholars see NPM as a hybrid between new and old practices, and not a complete shift away from the “old” public management mantra of input controls and procedures to output controls (Pollitt, 1995; Pollitt, 2002; Osborne and Gaebler, 1993).

This research contributes to the NPM stream of literature in that it views the relationship between IAFs and financial reporting outcomes is influenced by both input and output controls. Public sector IAFs promote credibility, equity, transparency and appropriate behavior of public sector officials (The IIA, 2012d). Two highly visible manifestations of this function are a public sector organization's financial statements and related audit findings, specifically restatements and single audit reportable conditions, which I use in the current study.

Each year, public sector organizations undergo two types of audits, a financial statement audit and a single audit. A financial statement audit considers the quality of the financial reporting of the entity and includes tests of account balances as well as internal controls over financial reporting. External auditors conduct financial statement audits in accordance with auditing standards generally accepted in the U.S and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the U.S (GAO, 2011). Under a financial statement audit, the auditor expresses an opinion as to whether the financial statements are prepared in accordance with generally accepted accounting principles (GAAP) and reasonable assurance that the financial statements are free from material misstatement.

A single audit is required under the Single Audit Act of 1984 (US Congress, 1984) and Single Audit Act Amendments of 1996 (US Congress, 1996)⁵. The purpose of the single audit

⁵ Single audits are required for any non-federal entity that receives \$300,000 or more in a year in federal awards, while financial statement audits are required when an entity receives \$500,000 or more. This includes states, local governments, non-profit organizations, and institutions of higher education (OMB, 2003).

(also called A-133 audit) is to ensure compliance with rules regarding the use of federal funds and whether appropriate internal controls are in place therein per the U.S. Office of Management and Budget (OMB, 2003b). As part of single audits, external auditors perform compliance and internal controls tests to ensure compliance requirements are met, and that internal controls are in place and designed properly to ensure compliance (Peterson, 2014). Reportable conditions are noted in both the financial statements (material weaknesses, significant deficiencies, and material noncompliance) and single audits (material weaknesses and significant deficiencies), denoting that the internal controls in place are less than optimal.

Post-SOX, IAFs are expected to assess internal controls, help organizations follow accounting standards, and report findings to boards and governing bodies. Effective public sector IAFs strengthen governance by materially increasing citizens' ability to hold their public sector entities accountable. While external auditors provide assurance directly to the stakeholders/shareholders regarding financial statements, the IAF provides assurance indirectly. Agency theory can explain the independent role and responsibilities assigned to the IAF, and there is a growing consensus that IAF truly helps solve the agency problem (Cohen *et al.*, 2004; Felix Jr. and Gramling, 2001; Sarens and Abdolmohammadi, 2011).

Existing literature suggests a positive relationship between the use of the IAF and financial reporting quality in publicly-traded companies (e.g., Prawitt *et al.*, 2009; Lin *et al.*, 2011; Ege, 2015). However, using a sample of U.S. municipalities, Peterson (2014) finds no relationship between the presence of an IAF in municipalities and audit reportable conditions.

The author attributes this result to the inability to define the role of IAF in each of the municipalities. A major difference between Peterson (2014) and my study is that I am able to define the role of IAF for the municipalities in my sample.

In the public sector, IAFs assess policies and procedures and provide ways to improve operational accountability, internal controls, and financial systems. IAFs also make recommendations to enhance efficiency and effectiveness of municipal operations. In summary, IAFs of municipalities:

“Review internal controls, processes, and systems to identify systemic weaknesses and propose improvements” and “Internal auditors assess the adequacy of corporate governance and the control environment; the effectiveness of processes to identify, assess, and manage risks; the assurance provided by control policies, procedures, and activities; and the completeness and accuracy of information and communication systems and practices (The IIA, 2012d).”

Accordingly, I expect that the presence of an IAF that is involved with the financial reporting process within public sector organizations leads to better internal controls, and thus a lower likelihood that audit reportable conditions exist under financial statement audits. This leads to my first hypothesis:

H1a: The presence of an IAF that is involved in the financial reporting process is negatively associated with the occurrence of financial statement audit reportable conditions in public sector organizations.

Restatements are said to be a result of weak internal controls and are used as a proxy for financial reporting quality in prior research that examines corporate governance and audit quality (e.g., Abbott *et al.*, 2004; Carcello *et al.*, 2011; Francis, 2004; Kinney Jr *et al.*, 2004; Larcker *et*

al., 2007). The Center for Audit Quality (2014) has recently released its approach to audit quality indicators, which proposes the use of restatements as an indicator of low audit quality⁶. Public sector and municipal financial reporting and information are used in public policy decisions regarding financing, taxation, and resource allocation that significantly impact the economy (Rich and Zhang, 2014), thus restatements are important to many stakeholders of these organizations.

Prior research suggests that the need for restatements can be identified by the organization itself, regulators, an independent auditor, or a combination therein. The company can find misstatements through internal audits and other internal control procedures (Palmrose *et al.*, 2004). Research stresses that restatements in the context of poor oversight can be viewed as evidence of control problems (Baber *et al.*, 2013a), and finds that the presence of weak internal controls is associated with a higher occurrence of restatements post-SOX (2002) (Krishnan and Visvanathan, 2007). While the presence of an IAF is likely to lead to better controls around the financial reporting process and prevent restatements, it is also possible that the presence of an IAF leads to a greater likelihood of finding errors requiring restatements.

Municipality IAFs that perform financial audits assess the reliability of specific inputs and outputs of the accounting process and resulting financial information, and also examine the presentation of financial statements given accepted accounting principles (The IIA, 2012d). I

⁶ While the focus of the Center for Audit Quality (2014) report is external audit, many of the same principles noted in the report apply to internal audit. Additionally, the IIA (2012d) notes that both internal and external auditors play an important role in the assurance of public sector financial information.

posit that municipalities with formal IAFs have fewer restatements due to errors than municipalities without IAFs. Thus:

H1b: The presence of an IAF that is involved in the financial reporting process is inversely associated with the occurrence of restatements in public sector organizations.

IAFs in the public sector encounter varying financial reporting and compliance rules, performance indicators, and activities across jurisdictions. Thus, IAFs across different public sector organizations may need to possess diverse skills, competencies, and specializations (Carhill and Kincaid, 1989; The IIA, 2012d). This suggests that external quality reviews (assessments) are particularly useful as they provide valuable insight to IAFs in the public sector, and help improve quality therein (Carhill and Kincaid, 1989). IAFs of municipalities may undergo two types of external quality reviews; (1) assessments of compliance with The IIA's standards and (2) assessments of compliance with Governmental Auditing Standards per the Association of Local Government Auditors (ALGA).

The IIA's standards state that "*the chief audit executive (CAE) must develop and maintain a Quality Assessment and Improvement Program*" (The IIA, 2012e). The IIA further states that external assessments are an integral part of these programs, are required every five years, and should:

- Cover all facets of the IAF's activity.
- Evaluate the IAF's conformance with the Definition of Internal Auditing, the Code of Ethics, and The IIA's International Standards for the Professional Practice of Internal Auditing.

- Assess the efficiency and effectiveness of the internal audit activity.
- Identify opportunities for improvement (The IIA, 2012b).

The IIA's Quality Assessment Manual (The IIA, 2012c) prescribes the elements of the IAF evaluated through external assessments and include compliance with IIA attribute, performance, and code of ethics standards. These elements include IAF independence and objectivity, proficiency and due professional care (attributes); managing the IAF, nature of IAF work, engagement planning, work performance, communication, progress monitoring, and risk management (performance); and a code of ethics (The IIA, 2012c). Results from an IIA (2007) survey indicate that CAEs have their IAFs undergo an external assessment to provide stakeholders evidence of the quality of the IAF and effectiveness of internal controls. This suggests that external assessments do indeed improve IAF quality.

The Government Accountability Office (GAO) issues Generally Accepted Auditing Standards (GAGS), which includes requirements and guidance for a variety of public sector organizations in the U.S. These standards must be followed by all professional auditors conducting financial audits of government and non-profit organizations receiving federal funds subject to the audit requirements of the U.S. Office of Management and Budget (OMB, 2003a). These audits are required every three years (GAO, 2011), and are very similar in purpose, scope and execution as the aforementioned IPPF reviews (The IIA, 2012f). Thus, the effect of the IPPF and GAGS reviews are considered equals for the current research.

Prawitt *et al.* (2009) directly examine the association between IAF quality and financial reporting quality. The authors find a positive relationship between IAF quality and financial reporting quality in publicly traded firms as measured by abnormal accruals and the likelihood of just beating or meeting analyst forecast (Prawitt *et al.*, 2009). Prawitt *et al.* (2012) extend this research and find that financial reporting risk is higher in firms that outsourced their IAFs to their Big N external auditors than those that outsourced their IAFs to other audit firms or kept the IAF in-house.⁷ These studies rely on survey data and use IAF quality indicators as prescribed by regulators. Lin *et al.* (2011) utilize similar survey data from The IIA to examine the relationship between IAF quality and SOX (2002) section 404 material weaknesses. The authors expand the IAF quality measure defined by SAS 65 to include IAF use of quality assurance techniques, and whether the IAF grades audit engagements in their IAF quality proxy⁸. They find a negative relationship between their IAF quality composite variable and disclosed material weaknesses. They also find a positive relationship between two IAF quality procedures (IAF use of audit engagement grading and follow up techniques) and disclosure of material weaknesses (Lin *et al.*, 2011). The authors suggest the latter finding to indicate a high quality IAF, which may lead to better internal controls and a greater likelihood that errors are detected and reported as restatements when necessary. Finally, Ege (2015) finds a negative association between a

⁷ Prawitt *et al.* (2012) control for IAF quality using a composite score that includes experience, certification, CAE education, time spent on financial reporting, internal auditor training hours, and IAF size.

⁸ These quality assurance techniques include direct supervision; independent working paper review; audit client feedback; peer review by fellow staff members, working paper checklists and tick lists, and management participation.

composite measure of IAF quality (internal auditor competence, independence/objectivity, IAF financial work, and size) and management misconduct.⁹ Specifically, the author finds a lower occurrence of financial reporting fraud, bribery, and misleading disclosure practices when IAF quality is higher.

In summary, prior research indicates that IAF quality is positively associated with financial reporting quality in publicly-traded firms. With the focus on internal control systems from SOX (2002) section 404, the IAF's role in the financial reporting process has grown (Zain *et al.*, 2006), as organizations tasked IAFs to design internal controls over financial reporting (Carcello *et al.*, 2005). Although the public sector is not under the purview of SOX (2002), the use of the IAF for internal control and within the financial reporting process has also grown in public sector organizations as well (Protiviti, 2008; The IIA, 2012d). Additionally, unlike for-profit companies, public sector organizations are service-oriented and generally not focused on profitability and competitiveness (Carhill and Kincaid, 1989); making it more likely for IAF focus to be on internal controls than consultancy activities. As strong internal controls are suggested to prevent material misstatements, it is likely that higher quality IAFs create better internal control systems that may prevent misstatements (Zain *et al.*, 2006).

⁹ Ege's (2015) uses the following items for each component; competence (experience, professional certifications and training hours), independence (reporting line and IAF use as a management training ground), and IAF financial work (percentage of time assisting external auditors). He also uses a factor analysis to create composite measure of IAF competence and objectivity. His findings are consistent with the IIA's definitions of both (competence is the knowledge and skills required to perform job responsibilities, while objectivity refers to an unbiased mental attitude toward audit matters).

This leads to the following hypotheses:

H2a: Municipalities with IAFs that have undergone an external quality assessment are less likely to have financial statement audit reportable conditions.

H2b: Municipalities with IAFs that have undergone an external quality assessment are less likely to restate their financial statements.

RESEARCH METHOD

Sample

Municipalities included in this study are limited to those considered large (populations of 100,000 or more) by Government Accounting Standards Board Statement 34 (GASB, 1999), based on U.S. Census Bureau City survey (United States Census Bureau, 2013). This is because they must issue comprehensive annual financial reports that include; 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, as some states waive this requirement for cities with populations of less than 100,000.¹⁰ The years covered by the sample are 2004-2014 (Post-SOX), and the sample is limited to municipalities that have data for at least three consecutive years. Data for this study is hand collected from individual municipality websites and comprehensive annual financial

¹⁰ Data from the U.S. census bureau shows 363 U.S. municipalities with estimated populations of 100,000 or greater as of 2013 per <https://www.census.gov/popest/data/cities/totals/2013/>. I collected data for 100 of these for a total of 926 municipality years. I used a random number generator that I applied to the aforementioned list of 363 municipalities to select the sample.

reports, the U.S. Census Bureau (2013 data), Auditanalytics.com, and GASB.org, all of which are publicly available. Table 1 includes details of the sample by state. As shown, the sample includes municipalities from 30 states.

[Insert Table 1 Here]

Dependent Variables

Table 2 provides definitions and measurements of all variables in the models.

[Insert Table 2 Here]

Financial Statement Audit Reportable Conditions (FSauditSDMW). Per U.S. Office of Management and Budget guidelines (OMB 2012a, 2012b) auditors of public sector entities must identify “reportable conditions”, which include deficiencies in internal controls when issues are deemed significant enough to warrant disclosure. These are identified as either a material weakness (MW) or significant deficiency (SD). As defined by the GAO (2011):

“A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is 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. A significant deficiency is 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.”

I operationalize this with data from Audit Analytics. I use the reportable condition field and code the variable *FSauditSDMW* as 1 if a reportable condition exists (SD or MW), 0 if not.

Restatements (Restatement). Following prior research (Baber *et al.*, 2013a; Palmrose *et al.*, 2004) I identify restatements when the municipality comprehensive annual financial statements refer¹¹ to restatements or prior period adjustments (errors) and exclude restatements due to implementation of GASB standards, reclassification between funds, changes in accounting principles, and changes in accounting estimates.

Additional Analyses. In addition, auditors must identify if there exists material noncompliance (MNC) by the auditee with applicable laws or federal grant requirements (GAO, 2011):

“A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis.”

In an additional analysis using data from Audit Analytics, I code the variable *FSauditMNC* as 1 if MNC is noted, 0 if not for each municipality year.

For the annual single audit, reportable conditions include significant deficiencies and material weaknesses. A material weakness (MW) is a significant deficiency that results in a reasonable possibility that material noncompliance with a program requirement will occur

¹¹ When identified in the comprehensive annual reports through reference within the financial statements or through footnote disclosure.

(GAO, 2011). A significant deficiency (SD) is a control deficiency that that is less severe than a material weakness, but is important enough to merit attention by those charged with governance. Significant deficiencies are identified with the variable *SAuditSD*, where 1 indicates a significant deficiency exists, 0 if not. Material weaknesses are identified with the variable *SAuditMW*, where 1 indicates a material weakness exists, 0 if not.

Independent Variables

Presence of Internal Audit Function (IAFPresent). The presence of an internal audit function is gathered from municipality websites and is coded as 1 if an IAF is present and 0 if not.

Presence of External Quality Assessment in Current or Prior Year (EQAIPPresentPrior). The presence of an external quality assessment of the IAF's compliance with Governmental Auditing Standards (GAS) or The IIA's International Professional Practices Framework (IPPF) Standards (The IIA, 2012a) in either the current year or any prior years within the sample period for the particular municipality is coded as a 1, and 0 if not.

Control Variables

Following prior research I control for various organization, IAF, and other variables, which are described below.¹²

¹² Originally I planned to use whether or not the IAF of the municipality engaged in financial work. However, only three municipalities (for a total of 18 municipality years) in my sample did not engage in financial work. These cities are Independence (Missouri) Madison (Wisconsin), and Sacramento (California). Thus, I was unable to use this as a variable in the study.

State GAAP Requirements (GAAPState). Prior research suggests that restatements are less likely in states that require GAAP accounting in the public sector and that state accounting requirements may proxy for other forms of state oversight that influence financial reporting practices and procedures (Baber and Gore, 2008). Following prior research that examines financial reporting quality of public sector organizations, I control for states where the public sector must follow GAAP (Baber and Gore, 2008; Baber *et al.*, 2013a; Rich and Zhang, 2014) and expect a negative relationship with the dependent variables.

External Auditor Variables (Big4Auditor and StateAuditor) Results from prior research demonstrate that external auditor differences impact financial reporting quality. Generally, this research suggests that Big-N auditors provide higher quality external audits than other private firms, and thus help promote higher quality financial reporting (Blokdijsk *et al.*, 2006; Eshleman and Guo, 2014; Francis, 2004). Consistent with prior research examining IAF quality and financial reporting quality (Ege, 2015; Lin *et al.*, 2011), as well as research regarding municipalities and financial reporting quality (Baber *et al.*, 2013a; Rich and Zhang, 2014), I control for use of Big-4 versus non Big-4 auditors (Baber *et al.*, 2013a; Peterson, 2014). Public sector organizations may utilize state auditors or a private auditor. Some of the limited research in this area finds that state auditors discover more financial reporting deficiencies than private CPA firms (Jakubowski, 2008; Svara, 2002). Following Peterson (2014) I also control for the presence of a state auditor. Higher-quality audits may either lead to better financial reporting quality over time or an increased likelihood to find and report audit reportable conditions or

restatements. Thus I do not make a directional prediction for the relationships between *Big4Auditor* or *StateAuditor* and the dependent variables.

Low risk auditee (LowRiskAuditee). The U.S. Government Office of Management and Budget (OMB) requires that external auditors of state and local government entities make a determination of the auditee's audit risk (OMB, 2003c). I control for municipality audit risk (*LowRisk*) based on the external auditor's classification and expect a negative relationship with the dependent variables.¹³

Presence of an Audit Committee (ACPresent). The Government Finance Officers Association (GFOA) recommends that municipalities in the U.S. form audit committees to enhance the credibility of financial reporting (GFOA 2008). The Government Accountability Office (GAO) stresses the importance of Audit Committees for municipalities (GAO, 1998). In 2003, the GAO required each governmental entity to designate an audit committee or similar

¹³ Per the OMB (2003b) the following is the criteria for a low-risk auditee. "An auditee which meets all of the following conditions for each of the preceding two years (or, in the case of biennial audits, preceding two audit periods) shall qualify as a low-risk auditee and be eligible for reduced audit coverage in accordance with § .520: (a) Single audits were performed on an annual basis in accordance with the provisions of this part. A non-Federal entity that has biennial audits does not qualify as a low-risk auditee, unless agreed to in advance by the cognizant or oversight agency for audit. (b) The auditor's opinions on the financial statements and the schedule of expenditures of Federal awards were unqualified. However, the cognizant or oversight agency for audit may judge that an opinion qualification does not affect the management of Federal awards and provide a waiver. (c) There were no deficiencies in internal control which were identified as material weaknesses under the requirements of GAGAS. However, the cognizant or oversight agency for audit may judge that any identified material weaknesses do not affect the management of Federal awards and provide a waiver. (d) None of the Federal programs had audit findings from any of the following in either of the preceding two years (or, in the case of biennial audits, preceding two audit periods) in which they were classified as Type A programs: (1) Internal control deficiencies which were identified as material weaknesses; (2) Noncompliance with the provisions of laws, regulations, contracts, or grant agreements which have a material effect on the Type A program; or (3) Known or likely questioned costs that exceed five percent of the total Federal awards expended for a Type A program during the year."

body to fulfill the financial oversight role (GAO 1999). Prior research stresses the importance of ACs for corporate governance and the financial reporting process (Cohen *et al.*, 2004). Research considering IAF quality and its association with financial reporting controls for the presence of an AC and/or AC characteristics (Ege, 2015; Lin *et al.*, 2011; Prawitt *et al.*, 2012; Prawitt *et al.*, 2009). While publicly traded firms in the U.S. must maintain an AC with at least one designated accounting expert, no such requirement is present in the public sector. Rich and Zhang (2014) find that the presence of an AC in municipalities leads to fewer internal control problems and are thus less likely to experience financial reporting failures. Thus, I control for, and expect a negative association between the presence of an AC and the dependent variables.

Form of Government (CouncilManager). Prior research suggests that financial reporting quality is higher when the council-manager form is in place (Copley, 1992; Evans and Patton, 1983; 1987). Additional research suggests that municipalities organized according to the council-manager model encounter fewer restatements (Baber *et al.*, 2013a) and report fewer material weaknesses in internal controls (Peterson, 2014). This is suggested to be a result of a stronger emphasis on accountability and transparency under the council-manager system (Svara, 2002). Thus, I control for form of government and expect a negative relationship between the presence of a council-manager form of municipal government and the dependent variables.

City Council Election Variables (Staggered and TermLimit). Research that examines corporate governance in municipalities uses staggered elections and term limits as control variables. Staggered elections require at least two elections for citizens to replace a majority of

the council, increasing the potential for entrenchment. Alternatively, staggered elections may help ensure continuity of council knowledge, and may encourage more efficient operations (Peterson, 2014). Term limits require officials to rotate out of office after a set number of consecutive terms. Research finds that governors eligible for re-election perform better (Alt *et al.*, 2011), but also finds that entrenchment due to staggered elections may lead to internal control problems (Baber *et al.*, 2013b). Peterson (2014) finds mixed results when examining the association between these variables and audit outcomes.¹⁴ Thus, I control for the presence of both staggered elections (*Staggered*) and term limits (*TermLimit*) imposed on the city council of the municipality but make no directional predictions for either variable.

Elected Finance Official (ElectedFinanceOfficial). I also control for whether the official that oversees the finance department of municipalities is elected or appointed. As the professional qualifications of elected versus appointed officials do not necessarily differ, the primary difference is the presence of an election. Following prior research I do not make a directional prediction of the association between this variable (*FinanceOfficial*) and my dependent variables (Peterson, 2014).

Organization size (OrgSize). Prior research that examines the association between IAF quality and accounting outcomes controls for organization size (Ege, 2015; Lin *et al.*, 2011; Prawitt *et al.*, 2009). The literature regarding municipalities and financial reporting quality uses population as a proxy for size (Baber *et al.*, 2013a; Peterson, 2014; Rich and Zhang, 2014). Thus,

¹⁴ The audit outcomes are material weaknesses/significant deficiencies in internal controls.

consistent with this research I control for size using the log of population, but make no directional prediction.

Model Specification

The specification of dependent and independent variables identified above can be modeled as binary logistic regressions, as follows:

$$FS_{auditSDMW} = \alpha + \beta_1 IAF_{Present} + \beta_2 GAAP_{state} + \beta_3 Big4_{Auditor} + \beta_4 State_{Auditor} + \beta_5 Lowrisk + \beta_6 AC_{present} + \beta_7 Council_{Manager} + \beta_8 Staggered + \beta_9 Term_{Limit} + \beta_{10} Elected_{FinanceOfficial} + \beta_{11} Org_{Size} + \varepsilon \quad (Model\ 1a)$$

$$Restatement = \alpha + \beta_1 IAF_{Present} + \beta_2 GAAP_{state} + \beta_3 Big4_{Auditor} + \beta_4 State_{Auditor} + \beta_5 Lowrisk + \beta_6 AC_{present} + \beta_7 Council_{Manager} + \beta_8 Staggered + \beta_9 Term_{Limit} + \beta_{10} Elected_{FinanceOfficial} + \beta_{11} Org_{Size} + \varepsilon \quad (Model\ 1b)$$

$$FS_{auditSDMW} = \alpha + \beta_1 EQAIP_{PresentPrior} + \beta_2 GAAP_{state} + \beta_3 Big4_{Auditor} + \beta_4 State_{Auditor} + \beta_5 Lowrisk + \beta_6 AC_{present} + \beta_7 Council_{Manager} + \beta_8 Staggered + \beta_9 Term_{Limit} + \beta_{10} Elected_{FinanceOfficial} + \beta_{11} Org_{Size} + \varepsilon \quad (Model\ 2a)$$

$$Restatement = \alpha + \beta_1 EQAIP_{PresentPrior} + \beta_2 GAAP_{state} + \beta_3 Big4_{Auditor} + \beta_4 State_{Auditor} + \beta_5 Lowrisk + \beta_6 AC_{present} + \beta_7 Council_{Manager} + \beta_8 Staggered + \beta_9 Term_{Limit} + \beta_{10} Elected_{FinanceOfficial} + \beta_{11} Org_{Size} + \varepsilon \quad (Model\ 2b)$$

RESULTS

Descriptive Statistics and Univariate Tests of Hypotheses

Audit Reportable Conditions (FS_{auditSDMW}). Table 3 contains descriptive statistics and univariate results for the audit reportable conditions dependent variable *FS_{auditSDMW}*. Overall 338 (38%) of the municipality years have a financial statement audit reportable condition (SD or MW), while 558 (62%) do not. This level of audit reportable conditions (SD and MW) is consistent with Peterson (2014). When an IAF is present the occurrence of audit reportable

conditions is significantly higher (65%) than when an IAF is not present (35%) ($\chi^2=48.780$, $p<0.001$). This result is inconsistent with my expectation in H1a. However, given that an IAF is present, when the IAF has undergone an external assessment, there is a significantly lower amount of audit reportable conditions (25%) than when no assessment has been completed (75%) ($\chi^2=11.186$, $p=0.001$), consistent with the expectation of H2a. For control variables, *Big4Auditor* ($\chi^2=9.571$, $p=0.001$), *LowRiskAuditee* ($\chi^2=47.756$, $p<0.001$), and *OrgSize* ($T=-7.292$, $p<0.001$) are all negatively and significantly associated with the dependent variable *FSauditSDMW*. *ACPresent* ($\chi^2=4.057$, $p=0.022$) and *CouncilManager* ($\chi^2=6.353$, $p=0.006$) are both positively and significantly associated with *FSauditSDMW*. None of the other control variables are significantly associated with *FSauditSDMW*.

[Insert Table 3 Here]

Restatements (Restatement). Table 4 contains descriptive statistics and univariate results for the restatements dependent variable (*Restatement*). Overall 213 (23%) of the municipality years have restatements, while 713 (77%) do not. When an IAF is present (*IAFPresent*) the occurrence of restatements is significantly lower (18%) than when an IAF is not present (27%) ($\chi^2=10.562$, $p=0.001$), in support of H1b. Also, given that an IAF is present, when the IAF has undergone an external assessment (*EQAIPPresentPrior*), there is a no significant difference in the occurrence of restatements (23%) than when no assessment has been completed (17%) ($\chi^2=1.421$, $p=0.117$), providing no support for H2b. For control variables, *GAAPState* ($\chi^2=1.889$, $p=0.085$) is negatively associated with the dependent variable *Restatement* at a marginally

significant level. *ACPresent* ($\chi^2=4.567$, $p=0.017$) and *CouncilManager* ($\chi^2=3.884$, $p=0.025$) are both positively and significantly associated with *Restatement*. None of the other control variables are significantly associated with *Restatement*.

[Insert Table 4 Here]

Multivariate Analysis and Tests of Hypotheses

Correlation Matrix. Table 5 presents bivariate Pearson correlation coefficients between all dependent and independent variables, where significant correlation coefficients are noted. The independent variables *IAFPresent* and *EQAIPPresentPrior* have positive and significant correlations with the dependent variable *FSauditSDMW*. *IAFPresent* has a negative and significant correlation with *Restatement*, while *EQAIPPresentPrior* is not significantly correlated with *Restatement*. While many other significant correlation coefficients between independent variables are indicated in Table 5, only the correlation between *OrgSize* and *IAFPresent* exceeds the critical level of 0.50, posing a potential multicollinearity problem. Thus, I drop *OrgSize* from model. In additional analyses I replace *IAFPresent* in favor of *OrgSize* and then include both *OrgSize* and *IAFPresent*.

[Insert Table 5 Here]

Audit Reportable Conditions (FSauditSDMW). Table 6 contains results from estimated logistic regressions for the audit reportable conditions dependent variable *FSauditSDMW*. All

models include all control variables, except *OrgSize*. Model 1a tests whether *IAFPresent* (*H1a*) is negatively associated with *FSauditSDMW*. The model is highly significant ($\chi^2=86.179$, $p<0.001$) with a Pseudo R^2 of 12.50% and a classification accuracy of 66.90%. Consistent with the descriptive results, it shows a positive and significant association between *IAFPresent* ($\beta = 0.803$, $p<0.001$) and *FSauditSDMW*, thus *H1a* is not supported. One control variable has a negative and significant relationship with *FSauditSDMW* in this model, *LowRiskAuditee* ($\beta=-0.781$, $p<0.001$). This finding indicates that the presence of an IAF may help improve the transparency of financial reporting by assisting both the external auditors and municipality leaders discharge their duties of reporting accurately to their constituencies. It may also suggest that IAFs of the public sector do not have the appropriate resources to install effective internal controls over financial reporting. None of the other control variables is significant.

Mode 2a tests if *EQAIPPresentPrior* (*H2a*) is negatively associated with *FSauditSDMW* when the municipality does have an IAF. The model is highly significant ($\chi^2=49.236$, $p<0.001$) with a Pseudo R^2 of 13.80% and a classification accuracy of 62.70%. There is a positive and significant relationship between *EQAIPPresentPrior* ($\beta =0.563$, $p=0.02$) and *FSauditSDMW* indicated by this model. Thus, *H2a* is not supported. However, this finding may indicate that higher-quality IAFs may be better equipped to recognize and promote the appropriate disclosure of internal control deficiencies.

Two control variables have negative relationships with *FSauditSDMW* in this model; *LowRiskAuditee* ($\beta=-0.652$, $p=0.002$) and *ACPresent* ($\beta=-0.311$, $p=0.098$), both at marginally

significant levels. Two control variables have a significant and positive relationships with *FSauditSDMW* in this model; *StateAuditor* ($\beta=1.443$, $p=0.003$) and *CouncilManager* ($\beta=11.834$, $p<0.001$). None of the other control variables is significant.

[Insert Table 6 Here]

Restatements (Restatement). Table 7 contains results from estimated logistic regressions for the restatements dependent variable (*Restatement*). Both models include all control variables, except *OrgSize*. Model 1b tests whether *IAFPresent* (*H1b*) is negatively associated with *Restatement*. The model is highly significant ($\chi^2=25.289$, $p=0.005$) with a Pseudo R^2 of 4.20% and a classification accuracy of 76.70%. It shows a negative and significant association between *IAFPresent* ($\beta=-0.531$, $p=0.002$) and *Restatement*, providing support for H1b. This suggests that IAFs may help promote financial reporting quality by preventing and/or catching mistakes before they become misstatements within the financial statements. Two control variables have a positive relationship with *Restatement*, *ACPresent* ($\beta=0.524$, $p=0.001$) and *CouncilManager* ($\beta=0.242$, $p=0.071$), at significant and marginally significant levels, respectively. None of the other control variables is significant.

Mode 2b tests if *EQAIIPPresentPrior* (*H2b*) is negatively associated with *Restatement* when the municipality does have an IAF. The model is not significant ($\chi^2=11.421$, $p=0.326$) with a Pseudo R^2 of 4.00%, and a classification accuracy of 81.20%. There is not a significant relationship between *EQAIIPPresentPrior* ($\beta=0.212$, $p=0.251$) and *Restatement* indicated by this model. Thus, there is no support for H2b. This, along with the finding that *IAFPresent* is

negatively associated with *Restatement* may suggest that external reviews according to government auditing standards are not stringent enough to promote IAF quality or that there is not much variance in the quality of IAFs across municipalities, regardless of the presence of an external review process. *ACPresent* ($\beta=0.667$, $p=0.035$) has a positive and significant relationship with *Restatement*. None of the other control variables is significant.

[Insert Table 7 Here]

Additional Analyses

In the main models estimated above, *OrgSize* was dropped due to multicollinearity issues with the independent variable *IAFPresent*. Additional were estimated that including both *IAFPresent* and *OrgSize*. Related to H1a, when both *IAFPresent* and *OrgSize* are included in the model, results remain largely the same. In this model both *IAFPresent* ($\beta=0.659$, $p<0.001$) and *OrgSize* ($\beta=0.194$, $p=0.031$) have significant and positive relationships with *FSauditSDMW*. When including *OrgSize* in model 2a, results also remain the same, as *EQAIPPresentPrior* ($\beta=2.647$, $p=0.052$) remains positive, but at a marginally significant level. For the *Restatements* analyses (models and hypotheses 1b and 2b), Results also remain largely unchanged. In model 1b, *IAFPresent* remains negative and significant ($\beta=-0.476$, $p=0.01$) and *OrgSize* ($\beta=-0.74$, $p=0.544$) is negative and insignificant. In model 2b *EQAIPPresentPrior* remains insignificant ($\beta=0.248$, $p=0.218$), while *OrgSize* is insignificant, ($\beta=-0.209$, $p=0.154$).

I also re-run analyses related to the *Restatements* dependent variables that include the independent variables and *OrgSize*. The untabulated results remain largely unchanged from the main analyses. Following this, I examine whether the independent variables are associated with income increasing versus decreasing restatements (*RestatementEffect*), the absolute value of restatements (*ABSrestatement\$*), and the number of items errors that lead to restatements (*RestatementItemCount*). *IAFPresent* has a negative and significant relationship with *RestatementItemCount* and *ABSrestatement\$*. It has not relationship with *RestatementEffect*. *EQAIPPresentPrior* is not significant in any of these three models.

In a separate analysis, I examine the relationships between the independent variables and each financial statement audit reportable conditions separately (material weakness, significant deficiency, and material noncompliance). These variables are termed *FSauditMW*, *FSauditSD*, and *FSauditMNC*, respectively. *IAFPresent* has a positive and significant relationship with *FSauditSD* ($\beta=0.798$, $p<0.001$), but is insignificant in its relationship with both *FSauditMW* ($\beta=0.019$, $p=0.468$) and *FSauditMNC* ($\beta=0.291$, $p<0.259$). *EQAIPPresentPrior* has a positive and marginally significant relationship with *FSauditSD* ($\beta =0.419$, $p<0.070$), but is insignificant in its relationship with both *FSauditMW* ($\beta=0.006$, $p=0.424$) and *FSauditMNC* ($\beta =0.064$, $p<0.457$).

Finally, I run analyses to examine if there are relationships between the independent variables and single audit reportable conditions, material weaknesses and significant deficiencies (*SAmpSDMW*). *IAFPresent* ($\beta=0.828$, $p<0.001$) has a positive and significant relationship with

SampSDMW, while *EQAIPPresentPrior* ($\beta=0.104$, $p=0.355$) does not have a significant relationship with *SampSDMW*.

SUMMARY AND CONCLUSIONS

Using a unique and hand-collected data set I examine the relationship of (1) the presence of an IAF and (2) the use of quality assurance programs for the IAF with financial reporting quality in public sector organizations. Specifically, this study investigates the association of the presence of IAFs and the use of quality assessments therein with the occurrence of financial statement audit reportable conditions and restatements in municipalities in the U.S. Results should help improve our understanding of the IAFs contribution to financial reporting transparency and quality.

Findings from data of U.S. municipalities with populations over 100,000 suggest a positive and significant association of the presence of an IAF and use of IAF external quality programs with financial statement audit reportable conditions related to internal control (significant deficiencies). However, results also indicate that the presence of an IAF is negatively associated with restatements. This may suggest that IAFs improve financial reporting transparency through proper disclosure of audit reportable conditions, and also at the same time help promote accurate financial accounting and reporting. Further research is necessary to understand these findings and examine why IAFs seemingly do not prevent audit reportable conditions. The use of quality assurance programs (primarily according to government auditing standards) for the IAF has no effect on restatements. Overall findings may suggest that regulators

may wish to examine and update rules around Generally Accepted Auditing Standards (GAGS), especially those specific to IAF peer reviews.

Results related to the study's control variables find that municipalities opined to be low risk encounter significantly fewer financial statement audit reportable conditions while larger municipalities have significantly fewer audit reportable conditions, but see no difference in restatements. Finally, the presence of an audit committee is positively and significantly associated with restatements. All other controls have either mixed or insignificant results.

Future research opportunities are available due to the limitations of the current study. First, the study uses the presence of external assessments of IAFs as a proxy for IAF quality. Future research may want to collect larger sample sizes on external assessments (and variation therein) or IAF quality variables and assess their effects on financial reporting therein. Second, the time consuming nature of hand collecting data on municipalities limited my sample to 100 of the 326 municipalities with populations of greater than 100,000. Future research can use this as a hold out sample and collect additional data from the remaining municipalities to investigate the issues further. Third, this study focuses on one public sector entity, municipalities. Future research may consider alternative types of public sector organizations, such as public colleges/universities, not-for-profit organizations, and state-level entities. Finally, the data collected does not allow for the analysis to include the size of the IAF relative to the municipality, thus omitting IAF resources as a variable. Future research may be able to account for IAF size relative to the municipality to determine if there is a resource allocation issue.

While this study has limitations and unexpected results, it increases our understanding of the variables that influence financial reporting quality in the public sector and raises interesting questions for future research to consider. The results should be of interest to regulators and public-sector leaders as they consider ways to improve financial reporting quality in government entities.

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**Table 1
Sample by State**

State	GAAP State?	Unique Municipalities	Municipalities Years
ARIZONA	Yes	4	37
CALIFORNIA	No	24	227
COLORADO	Yes	3	25
CONNECTICUT	Yes	1	10
FLORIDA	Yes	7	70
IDAHO	No	1	10
ILLINOIS	No	6	56
INDIANA	No	3	28
IOWA	No	1	7
KANSAS	No	2	20
LOUISIANA	Yes	2	20
MICHIGAN	No	2	19
MINNESOTA	Yes	2	20
MISSOURI	No	1	11
NEVADA	Yes	2	21
NEW HAMPSHIRE	No	1	10
NEW JERSEY	No	1	3
NEW YORK	No	6	46
NORTH CAROLINA	Yes	3	25
NORTH DAKOTA	No	1	10
OHIO	Yes	3	28
OKLAHOMA	No	2	21
OREGON	No	1	10
PENNSYLVANIA	No	3	28
TENNESSEE	Yes	2	22
TEXAS	No	11	96
UTAH	Yes	1	11
VIRGINIA	Yes	1	11
WASHINGTON	No	2	14
WISCONSIN	Yes	1	10
TOTALS		100	926

TABLE 2
Variable Definitions

Variable Name	Variable Description	Definition	Data Source
<i>FSauditSDMW</i> (<i>H1a + H2a</i>)	Financial Statement Internal Control MW or SD	1 if MW/SD present, 0 if not	AuditAnalytics.com
<i>Restatement</i> (<i>H1b + H2b</i>)	Restatement	1 if restatement is present, 0 if not	Comprehensive Annual Financial Reports
<i>IAFPresent</i>	Presence of Internal Audit Function	1 if IAF is present, 0 if not	Municipality website
<i>EQAIPPresentPrior</i>	External Quality Assessment in Current/any Prior Year	1 if EQAIP in current/any prior year, 0 if not	Municipality website
<i>GAAPState</i>	State GAAP Requirements	1 if GAAP requirements in state, 0 if not	GASB.org
<i>Big4Auditor</i>	External Auditor Type	1 if Big 4 auditor, 0 if not	AuditAnalytics.com
<i>StateAuditor</i>	State or CPA firm Auditor	1 if State Auditor, 0 if not	AuditAnalytics.com
<i>LowRiskAuditee</i>	Entity deemed Low risk Audit	1 if the entity is classified as a low-risk audit by auditor, 0 if not	AuditAnalytics.com
<i>ACPresent</i>	Presence of an Audit Committee	1 if AC present, 0 if not	Municipality website
<i>CouncilManager</i>	Form of Government	1 if council-manager, 0 if other	Municipality website
<i>Staggered</i>	Staggered council election	1 if staggered city council election, 0 if not	Municipality website
<i>TermLimit</i>	Term limit for Council	1 if term limits for city council, 0 if not	Municipality website
<i>ElectedFinanceOfficial</i>	Finance Official status	1 if the finance official is elected, 0 if appointed	Municipality website
<i>OrgSize</i>	Organization Size	Log of net assets	Comprehensive Annual Financial Reports

TABLE 3
Descriptive and Univariate Statistics
Dependent Variable: Does the municipality have any financial statement significant deficiency (SD) or material weakness (MW) (*FSauditSDMW*)?

Independent Variable	Expected Sign	Yes or No?	No: 558 (62%)	Yes: 338 (38%)	Statistic	Significance ^b
<i>IAFPresent (H1a)</i>	-	No Yes	328 59% 231 41%	117 35% 221 65%	$\chi^2=48.780$	<0.001
<i>EQAIPPresentPrior (H2a)</i>	-	No Yes	201 87% 30 13%	165 75% 56 25%	$\chi^2=11.186$	0.001
<i>GAAPState</i>	-	No Yes	360 64% 199 36%	231 68% 107 32%	$\chi^2=1.457$	0.114
<i>Big4Auditor</i>	+/-	No Yes	508 91% 51 9%	284 84% 54 16%	$\chi^2=9.571$	0.001
<i>StateAuditor</i>	+/-	No Yes	529 95% 30 5%	320 95% 18 5%	$\chi^2=0.001$	0.979
<i>LowRiskAuditee</i>	-	No Yes	180 32% 379 68%	188 56% 150 44%	$\chi^2=47.756$	<0.001
<i>ACPresent</i>	-	No Yes	250 45% 309 55%	128 38% 210 62%	$\chi^2=4.057$	0.022
<i>CouncilManager</i>	-	No Yes	228 41% 331 59%	167 49% 171 51%	$\chi^2=6.353$	0.006
<i>Staggered</i>	+/-	No Yes	90 16% 469 84%	96 28% 242 72%	$\chi^2=19.396$	<0.001
<i>TermLimit</i>	+/-	No Yes	289 52% 270 48%	166 49% 172 51%	$\chi^2=0.564$	0.453
<i>ElectedFinanceOfficial</i>	+/-	No Yes	494 88% 65 12%	288 85% 50 15%	$\chi^2=1.888$	0.169
<i>OrgSize</i>	+/-	Mean Std. Dev.	12.23 0.88	12.69 0.97	T=-7.292	<0.001

^aSee variable definitions in Table 1.

^bOne-tailed for variables with an expected sign of -, two-tailed for variables with an expected sign of +/-.

TABLE 4
Descriptive and Univariate Statistics

Dependent Variable: Does the municipality have a restatement (*Restatement*)?

Independent Variable ^a	Expected Sign	Yes or No?	No: 713 (77%)	Yes: 213 (23%)	Statistic	Significance ^b
<i>IAFPpresent (H1b)</i>	-	No Yes	338 73% 375 82%	128 27% 85 18%	$\chi^2=10.562$	0.001
<i>EQAIPPresentPrior (H2b)</i>	-	No Yes	307 83% 67 77%	65 17% 20 23%	$\chi^2=1.421$	0.117
<i>GAAPState</i>	-	No Yes	466 76% 247 80%	150 24% 63 20%	$\chi^2=1.889$	0.085
<i>Big4Auditor</i>	+/-	No Yes	601 76% 87 83%	191 24% 18 17%	$\chi^2=2.523$	0.112
<i>StateAuditor</i>	+/-	No Yes	651 77% 37 77%	198 23% 11 23%	$\chi^2=0.004$	0.949
<i>LowRiskAuditee</i>	-	No Yes	283 77% 405 77%	85 23% 124 23%	$\chi^2=0.014$	0.453
<i>ACPresent</i>	-	No Yes	320 80% 393 74%	78 20% 135 26%	$\chi^2=4.567$	0.017
<i>CouncilManager</i>	-	No Yes	329 80% 384 75%	82 20% 131 25%	$\chi^2=3.884$	0.025
<i>Staggered</i>	+/-	No Yes	155 78% 558 77%	44 22% 169 23%	$\chi^2=0.114$	0.736
<i>TermLimit</i>	+/-	No Yes	364 77% 349 77%	106 23% 107 23%	$\chi^2=0.109$	0.742
<i>ElectedFinanceOfficial</i>	+/-	No Yes	624 77% 89 77%	186 23% 27 23%	$\chi^2=0.006$	0.940
<i>OrgSize</i>	+/-	Mean Std. Dev.	12.40 0.97	12.30 0.81	T=1.420	0.156

^aSee variable definitions in Table 1.

^bOne-tailed for variables with an expected sign of -, two-tailed for variables with an expected sign of +/-.

TABLE 5
Pearson Correlation Matrix

	Variable ^a	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	<i>FSauditSDMW</i>	1													
2	<i>Restatement</i>	-.031	1												
3	<i>IAFPpresent</i>	.233**	-.107**	1											
4	<i>EQAIIPPresentPrior</i>	.157**	.056	.051	1										
5	<i>GAAPState</i>	-.040	-.045	.105**	-.063	1									
6	<i>Big4Auditor</i>	.103**	-.053	.243**	-.025	.016	1								
7	<i>StateAuditor</i>	-.001	-.002	-.051	.036	-.004	-.087**	1							
8	<i>LowRiskAuditee</i>	-.231**	.004	-.207**	-.197**	.136**	-.112**	.067*	1						
9	<i>ACPresent</i>	.067*	.070*	.230**	.183**	.075*	.128**	-.018	-.106**	1					
10	<i>CouncilManager</i>	-.084*	.065*	-.238**	-.012	-.039	-.040	-.118**	.178**	-.038	1				
11	<i>Staggered</i>	-.147**	.011	-.258**	-.181**	.081*	-.190**	-.123**	.211**	-.136**	.289**	1			
12	<i>TermLimit</i>	.025	.011	.015	.105*	.047	.113**	-.135**	-.121**	.087**	.010	-0.063	1		
13	<i>ElectedFinanceOfficial</i>	.046	.002	0.061	.257**	-.199**	.026	-.091**	-.087**	.118**	-.148**	-.120**	-.079*	1	
14	<i>OrgSize</i>	.237**	-.047	.531**	.207**	-.048	.361**	-.043	-.367**	.343**	-.145**	-.314**	.163**	.189**	1

^aSee variable definitions in Table 1.

** . Correlation is significant at the 0.01 level (1-tailed).

* . Correlation is significant at the 0.05 level (1-tailed).

TABLE 6

Dependent Variable: Does the municipality have any financial statement significant deficiency (SD) or material weakness (MW) (*FSauditSDMW*)?

Independent Variable^a	Expected Sign	<i>FSauditSDMW</i> (Model 1a)			<i>FSauditSDMW</i> (Model 2a)		
		β	Wald	Sig. ^b	β	Wald	Sig. ^b
<i>IAFPresent (H1a)</i>	-	0.803	24.321	< 0.001			
<i>EQAIPPresentPrior (H1b)</i>	-				0.563	4.224	0.020
<i>GAAPState</i>	-	-0.126	0.610	0.218	-0.319	1.995	0.079
<i>Big4Auditor</i>	+/-	0.214	0.877	0.349	0.396	2.377	0.123
<i>StateAuditor</i>	+/-	0.212	0.412	0.521	1.443	8.585	0.003
<i>LowRiskAuditee</i>	-	-0.781	25.972	< 0.001	-0.652	8.561	0.002
<i>ACPresent</i>	-	-0.031	0.041	0.420	-0.311	1.671	0.098
<i>CouncilManager</i>	-	0.051	0.101	0.375	0.808	11.834	< 0.001
<i>Staggered</i>	+/-	-0.237	1.473	0.225	-0.345	1.853	0.173
<i>TermLimit</i>	+/-	-0.012	0.007	0.935	-0.034	0.025	0.875
<i>ElectedFinanceOfficial</i>	+/-	0.071	0.096	0.757	0.455	1.689	0.194
Chi-Square (Sig.)		86.179 (< 0.001)			49.236 (< 0.001)		
Classification		66.90%			62.70%		
Nagelkerke Pseudo R ²		12.50%			13.80%		

^aSee variable definitions in Table 1.

^bOne-tailed for variables with an expected sign of -, two-tailed for variables with an expected sign of +/-.

TABLE 7
Dependent Variable: Does the municipality have a restatement (*Restatement*)?

Independent Variable^a	Expected Sign	<i>Restatement</i> (Model 1b)			<i>Restatement</i> (Model 2b)		
		β	Wald	Sig. ^b	β	Wald	Sig. ^b
<i>IAFPpresent (H1b)</i>	-	-0.531	8.340	0.002			
<i>EQAIPPresentPrior (H2b)</i>	-				0.212	0.452	0.251
<i>GAAPState</i>	-	-0.190	1.090	0.148	-0.122	0.188	0.333
<i>Big4Auditor</i>	+/-	-0.347	1.445	0.229	-0.375	1.231	0.267
<i>StateAuditor</i>	+/-	0.021	0.003	0.956	0.374	0.544	0.461
<i>LowRiskAuditee</i>	-	-0.076	0.194	0.330	-0.021	0.006	0.470
<i>ACPresent</i>	-	0.524	9.213	0.001	0.575	3.384	0.033
<i>CouncilManager</i>	-	0.262	2.165	0.071	0.278	0.929	0.168
<i>Staggered</i>	+/-	-0.065	0.083	0.774	-0.500	2.599	0.107
<i>TermLimit</i>	+/-	0.098	0.347	0.556	-0.201	0.535	0.464
<i>ElectedFinanceOfficial</i>	+/-	-0.005	0.000	0.984	-0.351	0.656	0.418
Chi-Square (Sig.)		25.289 (0.005)			11.421 (0.326)		
Classification		76.70%			81.20%		
Nagelkerke Pseudo R ²		4.20%			4.00%		

^aSee variable definitions in Table 1.

^bOne-tailed for variables with an expected sign of -, two-tailed for variables with an expected sign of +/-.