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# County Government Internal Control Findings: Causes and Implications

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**Abstract**

The extant literature has been quite limited concerning the underlying factors associated with internal control weakness findings among local governments. Overall financial accuracy is essential in the overall assessment of the government unit. This study examines the impact that indigenous county characteristics have on internal control problem weakness findings among financial management practices. Logistic regression measurements isolate material weakness and significant deficiency findings among North Carolina county governments for FY 2018-2019. Less accounting positions, a lower number of county employees, a lower net position compared to the previous year, and counties in a 'high' risk category had a higher likelihood of increased material weakness findings while less employees, a lower net position compared to the previous year, a larger service area, a low or no bond rating, and the use of the most contracted auditor all had relationships with elevated significant deficiency findings. Overall, the findings continue to elucidate the personnel and organizational challenges facing smaller governments along with the importance of an auditor with government expertise.

**Keywords:** Government accounting, Auditing, Local government finance, Local government administraiton

## 1. Introduction

Comprehensive standardized accounting and financial management procedures provide sustained consistency in transparency as well as service efficiency. The spectrum of state oversight practices provides a range of oversight from none to heavy oversight (Honadle, 2003; Kloha, Weissert, & Kline, 2005; Coe, 2008). States with heavy oversight examine specific indicators based on information obtained from annual financial audits to determine financial solvency. In some cases, the annual audit can provide additional information

concerning internal control issues that have an influence on financial statement presentations and exhibits and subsequently the actual status of the unit. North Carolina has a state oversight process that governs both the budget as well as the audit process which operates under the oversight of the Local Government Commission (LGC) located in the Department of State Treasurer. Driving the entire process is the North Carolina Local Government Budget and Fiscal Control Act (NCLGBFCA) (N.C.G.S. 159, 1971). For audit purposes, the legislation allows the LGC to develop a checklist with more than 200 specific items addressing both accounting and financial management practices that enable auditors to further evaluate internal controls as well as ensure state law compliance. The process enables local government officials to identify areas of concern in both internal controls and provide initial responses and remedies. This goal of this study is to determine the factors that contribute to an increased level of financial management internal control findings by auditors among county governments in North Carolina. Overall findings point to a lower net position compared to the previous year, less accountants among staff, and counties designated as high-risk lead to an increased number of material weakness findings while a higher number of county employees, counties with a lower bond rating, and a larger service area are susceptible to higher significant deficiencies.

Motivation for the study is associated with the continuing effort to improve transparency among the financial practices of state and local governments (GASB, 2019; GASB, 2021). Auditors assist with this by providing an addendum to Comprehensive Annual Financial Reports (CAFR) that provide an evaluation of internal control findings. Assessing the compliance report presents the opportunity to determine links between organizational factors, personnel actions, and previous year activities to determine to what extent internal controls are affected. For the purposes of this study, the examination will primarily focus on daily activities associated with financial management practices. Audits also include information concerning federal and state awards; however, these revenue sources are usually associated with departments that provide some human service activity and not necessarily associated with daily operations of personnel trained in finance.

This study provides numerous contributions to the literature. First, information for the study is from local government audits which has little distinction in the literature (Sacco and Bushee ́, 2013; Marsh, Montondon, & Kemp, 2005). From a research as well as a practitioner standpoint, the study reinforces the need for qualified accounting personnel within the public sector (Modlin, 2012; Modlin & Stewart, 2014). Third, the study demonstrates the numerous influences on service provision that act as a catalyst for problems within internal controls. Fourth, the study illustrates the contributions of an effective state oversight mechanism that with proper implementation, can ensure subnational government units continue to operate in sustained solvency. Fifth, the study distinguishes between material weaknesses and significant deficiencies within internal controls along with the potential impact on financial statement presentation. Finally, this study attempts to isolate specific finance positions to determine the relationship between internal control findings and specific personnel. To this point, the literature is absent of studies that examine specific positions and potential service impact.

The study is organized in the following manner. The next section consists of internal control reporting in the public sector and the North Carolina local government audit process. Next, there will be a literature review and hypotheses development. The research design will be introduced with an overall model that lists the factors that are expected to influence the level of significant deficiency and material weakness findings. Additional models will be presented that provide further comprehensive analyses along with robust model testing. Finally, there be an evaluation of the findings with a discussion of the overall impact of the study.

## 2. Internal Control Reporting and the North Carolina Approach

State oversight of the audit process in North Carolina is comprehensive and extensive. The LGC provides a template of not only financial statement presentation and disclosure within the CAFR, but the structure of request for proposal solicitation (RFP) for audit services which include the verification of the above-mentioned checklist for regulatory and statutory compliance as well as the proper implementation of generally accepted accounting principles (GAAP) and generally accepted auditing standards (GAAS). The RFP has detailed instructions concerning CAFR evaluation as the primary requirement. The RFP requires auditors to prepare a profile of the firm and the audit approach inclusive of all costs including personnel and travel. The sampling method has to be included as well. All pertinent financial statements which are part of the audit are required to be listed in the RFP including an examination of reconciliation practices and payroll distribution. Timeliness is also emphasized with a required post-closing trial balance date of September 30. Auditors are also required to make a presentation to the governing board approximately three months after the close of the fiscal year to disclose their findings.

Streamlining and uniformity within the process is made through the recommended presentation of financial statements provided by the LGC. It enables auditors to properly verify requirements and standards in a uniform manner. Items within the checklist in many instances coincide with state legislation as well as many Governmental Accounting Standards Board (GASB) statements. For instance, one requirement is that all budgets are balanced in accordance with the NCLGBFCA and that the amount of fund balance appropriated does not exceed the statutory limit. In the case of contingency funds, the amount appropriated cannot exceed 5% of all other appropriations for that fund (N.C.G.S. 159-13(b)(3)). Several GASB statements coincide with reporting requirements including prior year comparisons in the Management Discussion & Analysis (GASB 34 ¶9), the reporting of all financial and capital resources (GASB 63 ¶8), activities accounted for in government funds by function (GASB 37 ¶10), and verification that pension trust funds are used to report resources that are required to be held in a GASB defined irrevocable trust for the members and beneficiaries of defined benefit plans, defined contribution plans, other postemployment benefit plans, and other employee benefit plans (GASB 34 ¶70). Many additional statements guide the reporting within note disclosures as well. The LGC has many levels of review prior to final submission with data input occurrence as a frequent problem (Coe, 2007). The LGC informs governments of the findings and how specific statements are affected (Modlin, 2012). In the most serious cases, the LGC will actually take over financial management practices and

government operations of a unit (Coe, 2007). Payments to auditors are made in installments with the LGC approving final payment following procedural conclusion.

A compliance section is normally located in the closing section of the CAFR. The auditor lists the internal control findings according to transaction type and type of award. Internal control findings are identified as either a significant deficiency or a material weakness. Traditional deficiencies disallow staff, under normal daily operations, the opportunity to implement corrective action that would prevent or identify noncompliance with an intergovernmental program in a sufficient timeframe, thus limiting the opportunity for those in positions of responsibility to address the issue (AICPA, 2007; PCAOB, 2020). Examples include omission of reconciliation practices, no budget amendment approval for fund transfers, and overspent funds due to lack of oversight. Material weaknesses are the result of one or more deficiencies found within internal controls that present a reasonable expectation material noncompliance within an intergovernmental program can occur and there will be no remedy for correction, detection, or prevention in a timely manner. Segregation of duties among staff with management responsibilities and improper journal entry recording and ledger postings are examples of material weaknesses. Issues with material weaknesses in internal controls are more serious and can easily lead to excessive waste, fraudulent activity, and statement inaccuracy (GAO, 2011). In most cases, the responsible official, usually the finance officer or the director of the agency in which the finding occurred, is notified and corrective action measures are implemented. County and city managers usually have moderate levels of involvement within this process (Modlin & Stewart, 2014).

## 3. Literature Review and Hypotheses Measurement

### *3.1 Relevant Literature*

The importance of a sufficient level and standardization of proper internal controls have proven to be extremely beneficial for organizations (Kinney, Maher, & Wright, 1990; Hermanson, 2000; Kinney, 2001; Ziegenfuss, 2001). However, research concerning the underlying causes of internal controls, especially as it relates to organizational factors, have been evasive within the literature and most notably, within the public sector. For the most part, previous studies have examined internal controls within a government setting and as an aggregate versus specific types of sources and infractions (Wallace, 1981; Boyle, Cooper, & Geiger, 2004; Rich & Zhang, 2014; Johnson, Hartong, & Kidd, 2014). For example, previous findings have suggested that the price for debt issuance increases for governments with adverse opinions that were the result of internal control concerns (Edmonds, Leece, Vermeer & Vermeer, 2023; Park, Matkin, & Marlowe, 2017; Gore, Henderson, & Ji, 2016). Furthermore, accountability and stewardship also appear to lessen among local governments in districts that have more influential members of Congress (Cuny, Mehta, & Kim, 2020). Voter oversight mechanisms have proven to be useful with fewer reporting accounting restatements (Baber, Gore, Rich, & Zhang, 2013). Internal control incidence can easily increase if budget expectations of staff are inconsistent with request of the governing body (Modlin, 2018). The situation can become even more complicated if specific accounting actions are required that are associated with fund development (Modlin, 2024B).

The influence of internal control and auditor characteristics have been the subject of numerous studies. Private sector organizations have been the primary focus; however, Lopez & Peters (2010) provided one of the earlier comparisons between government auditors and certified public accountant (CPA) firms that conducted Circular A-133 audits. A higher likelihood of internal control findings was the result if the audit was conducted by a larger CPA firm. This was a contradiction to earlier findings in which there were higher levels of internal control findings by county government auditors notwithstanding firm size (Jakubowski, 1995). Among counties, an increased number of internal control findings are the result of lengthier and less expensive audits (Modlin, 2012). However, considering the travel distance associated with some county government audit procedures, an efficiency requirement exists resulting in a potential for increased noncompliance findings (Lopez & Rich, 2017).

### *3.2 Hypotheses Development*

The level and variety of internal control incidence can easily be a by-product of organization structure, size, and composition. Higher incidents within the private sector have also been related to complexity, significant amounts of changes, changes in rates of growth, elevated levels of turnover and organization instability (Ge & McVay, 2005; Doyle, Ge & McVay, 2007; Ashbaugh-Skaife, Collins & Kinney, 2007). The problem is exacerbated by management that are recalcitrant concerning the addition of employees with accounting expertise, or at the least, properly staffing responsible departments (Doyle, Ge, & McVay, 2007). Audit committees are not necessarily effective if there is an expectation of increased internal control deficiency findings (Krishman, 2005; Zhang, Zhou, & Zhou, 2007). Ge & McVay (2005) found that there were many personnel-related issues that are a catalyst for internal control incidence such as lack of segregation of duties, account reconciliation irregularities, deficient revenue-recognition policies, and end of fiscal year reporting policies. The preceding body of literature has developed a foundation for the development of hypotheses that are designed to provide an extension to the literature by examining the relationship between local government organizational factors and internal control findings. There are no preconceived expectations concerning hypotheses direction. All dependent variables are separated based on internal control deficiency type.

*HYPOTHESIS 1: Significant deficiencies and material weaknesses in internal controls among financial management practices are associated with type and experience of key personnel.*

Sustained occupational responsibilities among finance office personnel limits internal control occurrences. Sound financial management practices have been found to substantially increase the accuracy and quality of financial reporting (Motubatse, Ngwakwe, & Sebola, 2018). In the case of North Carolina, state law requires counties to appoint a designated finance officers with adjoining internal control responsibilities (N.C.G.S. 159-24, 2019; N.C.G.S. 159-25, 2021) along with specific legislation specifying budgetary accounting practices for operations (N.C.G.S. 159-28, 2021). The finance officer, which is normally the designated finance officer under state law besides the manager, is responsible for the annual audit. The audit

process is quite detailed and comprehensive thus requiring a finance officer with an increased level of experience (FINEXP). Higher levels of experience have proven to increase process efficiency (Modlin, 2024B). Findings also suggest that elevated levels of experience are associated with fewer reporting irregularities (Modlin, 2012; Modlin, 2017; Rich & Zhang, 2016). Segregation of duties can take place with accounts payable positions (APTECH) as well as accounts receivables positions. Depending on the size and organizational structure of the government, these positions can be combined with personnel lacking the necessary background and training all leading to a potential internal control finding. However, findings have also suggested a relationship between internal control findings and an increased level of staff accountants (ACCT) (Modlin, 2017). In this case, the presumption is made by the finance officer that accounting standards and policies have been followed due to the background training of these positions (Modlin, 2024B). Finance officers have a more favorable view of internal control systems and quality compared to external auditor assessments (Elder, Kattelus, & Ward, 1995). Further complications develop with organizations that are continually subject to change (Ge & McVay, 2005; Doyle, Ge & McVay, 2007; Ashbaugh-Skaife, Collins & Kinney, 2007). Among local governments, higher numbers of full-time equivalent positions (FTE) (TOTEMP) and the associated transactions such as payroll changes (PAYROLLTECH), benefit coverages, employee dismissals, and salary classification studies all impact audits in the absence of responsible recordkeeping. Many counties within this study have the business officer position (BUSINESS) that acts as an intermediary between a specific department (Sheriff, Human Services, Management Information Systems, etc.) and the Finance Department and in many cases, the Human Resources Department. Usually, this position does not have the training or expertise of finance or human resource personnel. In the case of the sheriff, who is elected, this position is often patronage related suggesting that occupational endeavors can easily be subject to error.

*HYPOTHESIS 2: Significant deficiencies and material weaknesses in internal controls among financial management practices are associated with auditor selection and previous audits.*

The second hypothesis is developed based on previous research suggesting more internal control deficiency findings among county governments compared to city governments (Jakubowski, 1995). Auditor specialization is prevalent within this sample and in states with heavy oversight control, it is not unusual for a modicum of auditors (AUDITOR) to sustain a sizeable share of local government audit contracts (Modlin, 2012). The perception of higher audit quality has been linked to specialization and expertise versus increased costs (Lowensohn, Elder, & Davies, 2007; Mahdi, Prihatiningtias, & Baridwan, 2023; Modlin, 2024B). However, there is that continued association between audit fees and a quality audit even if the contract is with a more reputable firm (Copley, 1991). The norm appears to be the correlation between the size of the organization and audit fees (Baber, Brooks, & Ricks, 1987; Rubin, 1988; Copley, 1989). A requirement of Circular A-133 is that the auditor assign a risk classification to the auditee as either ‘low’ or ‘high’ risk (RISK) based on criteria found in 2 CFR 200.520. The auditee was required to have no going concerns in conjunction with a clean audit for the last two audit cycles. The ‘low-risk designee’ has been associated with

organizations that utilized large CPA firms (Keating, Fischer, Gordon, & Greenlee, 2005). For smaller governments with less staff capability, the 'low' risk designation is less likely (Lopez & Peters, 2010). Conversely, larger governments are tasked with a higher likelihood of questioned costs (Edmonds, Leece, Vermeer, & Vermeer, 2023).

*HYPOTHESIS 3: Significant deficiencies and material weaknesses in internal controls among financial management practices are related to government internal organization characteristics.*

The third hypothesis investigates potential associations between internal control findings and organizational factors. The hypothesis also attempts to extend previous findings by examining changes, complexity, and size (Ge & McVay, 2005; Doyle, Ge & McVay, 2007; Ashbaugh-Skaife, Collins & Kinney, 2007), except public sector entities will be the focus of the study; however, size of the organization will be analyzed based on the total number of expenditures (BUDGET). Size of the organization has previously had an impact on internal control findings (Baber, Brooks, & Ricks, 1987; Rubin, 1988; Copley, 1989). Net position change (NETPOS) is a way to measure both substantial change and complexity. Usually, debt service issuance or the retirement of long-term debt service has an impact on net position and with these substantial changes, financial statement presentation can be compromised. In addition, the size of the entity service area is also expected to have an impact (AREA) due to the demands that are placed on elected officials and department managers for service provision despite area size (Ladd & Yinger, 1989). County governments with smaller geographical areas traditionally spend more on parochial service needs through non-major special revenue funds (Modlin, 2024B).

The study will also attempt to test some internal operations for internal control relationships. The internal service fund (ISF) is a more sophisticated accounting tool that is used to isolate indirect costs. This type of accounting is mainly the province of larger local governments and used primarily with fleet management, health insurance, and workers compensation (Modlin, 2023). These funds can account for numerous transactions and requires more staff accounting experience. Another area indigenous to each county government is functional classification of spending. In this case, it is counties that have the highest level of spending on public education (DEPTED). In North Carolina, counties are responsible for educational facilities therefore, sustainable debt issuance can be costly if the bond (BOND) rating has been lowered or if there is an adverse finding. Previous studies have demonstrated this can be a costly endeavor (Edmonds, Leece, Vermeer & Vermeer, 2023; Park, Matkin, & Marlowe, 2017; Gore, Henderson, & Ji, 2016). Over the past decade, spending in these areas are now rivaling and exceeding public safety which was previously the primary spending category (Modlin, 2024A).

One standard for high levels of transparency is the acquisition of the GFOA Certificate of Achievement for Excellence in Financial Reporting which is often in the opening section of the CAFR. One finding consists of stable investment practices among award recipients (Baber & Gore, 2008). Internal control findings associated with these awards have been an amalgamation. Cox & Wichmann (1993) discovered that cities with special districts inclusive

of enterprise funds were more likely to have stronger internal controls compared to governments without secondary units. However, the majority of the sample did not receive a Certificate of Achievement (COA) award. This finding was substantiated with another finding that award non-recipients had higher levels of dissatisfaction with the governmental accounting expertise of the auditor (Modlin & Stewart, 2014).

## 4. Research Design

### *4.1 Variable Information*

County governments within North Carolina are the units of analysis for the study. All 100 county governments operate under the commission-manager form of government and are under the beforementioned comprehensive state oversight process. This type of examination allows for clear uniformity among the structural composition of the subjects. Internal control concerns among financial management practices were broken down based on type, consisting of material weaknesses and significant deficiencies. This information was obtained through the examination of county annual CAFR reports for fiscal year (FY) 2019. Utilization of audits from 2019 provide an opportunity to examine the units following a traditional year of operations outside of the numerous intergovernmental funding streams associated with the pandemic. The majority of CAFRs had a compliance section following standard audit information that included internal control findings among specific types of practices inclusive of award sources and in some cases, the audit procedures. Specified predictors within the study demonstrate the prioritization of specific units based on service demand, organizational necessity, and additional funding.

This study attempts to examine the association between numerous organizational factors and internal control findings. Most of the personnel information was obtained through salary studies conducted annually by the UNC School of Government. These predictors include the number of accountants employed (ACCT), accounts payable technicians (APTECH), and business officer positions (BUSINESS). Finance officer experience (FINEXP) information was retrieved from each specific county. The GFOA's Certificate of Excellence in Financial Reporting (GFOA) recipient information was provided by the Government Finance Officers Association. Service area (AREA) was measured by the number of county square miles in terms of land only and was provided by the U.S. Census Bureau Geography Division. Additional predictor data availability was via CAFRs.

### *4.2 Model Development and Variable Descriptions*

A primary model was developed comprising of some previous findings concerning underlying factors associated with internal control findings as well as some exploratory predictors. The literature thus far as demonstrated a broad range of findings with only isolated internal observations with no specific internal control findings. The primary model below will be used to test internal control specifics against the predictors with *internal control* as a proxy for the specified dependent variables.

$$INTERNAL\ CONTROL = \beta_0 + \beta_1 FINEXP + \beta_2 ACCT + \beta_3 APTECH + \beta_4 BUSINESS + \beta_5 PAYROLLTECH + \beta_6 TOTEMP + \beta_7 DEPTED + \beta_8 ISF + \beta_9 NETPOS + \beta_{10} BUDGET + \beta_{11} COMM + \beta_{12} AREA + \beta_{13} AUDITOR + \beta_{14} RISK + \beta_{15} BOND + \beta_{16} GFOA$$

All variable measurements can be found in the appendix. The dependent variables in the study are divided between financial significant deficiencies (SD) and financial material weaknesses (MW) with models that address alternate levels of audit findings. Organizational characteristics that consist of the predictors used for the study provide some explanation for the probability of an internal control finding thus leading to literature advancement. Pairwise correlations will provide an initial examination of the hypotheses followed by a bivariate analysis of each type of internal control finding. Ordered logistic regression models will then measure the association between the predictors and the total number of significant deficiency findings (TotalSD) and material weaknesses (TotalMW). A five-point scale was used with the ordered dependent variables which is an approach consistent with the internal control severity measurement utilized by Rich & Zhang (2014). An absence of a standardized measurement provides a substantiation for an alternative with explanatory potential (Vermeer & Styles, 2019). Expectations concerning predictor directions are limited with the study.

A substantial portion of internal control inconsistency findings is related to official actions that take place among personnel; therefore, several staff predictors are used to analyze potential associations. Finance officer experience (FINEXP) is expected to have an inverse relationship with both material weakness and significant deficiency findings among the models. Familiarity with daily transactions as well as auditing procedures could potentially have a mitigating effect on procedural inconsistencies; however, the delegation of responsibilities in the establishment of complicated fund transactions can jeopardize procedures (Modlin, 2024B). The remaining staff variables are exploratory and the models will provide an initial examination of position type and internal control findings. Financial management efficiency generally increases with additional staff accountants (ACCT), accounts payable positions (APTECH), the number of payroll technicians (PAYROLL), and the designated intergovernmental business officer (BO), which is located among county departments to administer many business-type activities as well as act as an intermediary for the finance department as well as other departments. Departments choose whether to fund this position, but it has increased importance due to efficiency concerning administrative timeliness and recordkeeping. For instance, a business officer within an emergency services department must reconcile the amounts and types of charges for emergency medical services (EMS) billing with finance personnel in order to reduce outstanding receivables in a timely manner as well as to ensure proper account code charging and entry recording. Another variable that will be tested related to finance office objectives is the GFOA award for financial presentation (GFOA). The study will determine if the award has some type of inverse relationship that is mainly associated with government size (Cox & Wichmann, 1993).

Organizational factors under analyses are related to daily transactions and cannot only affect the overall financial position of the unit, but also have internal control occurrence foundations. For instance, any type of significant change in net position (NETPOS) can be attributed to

some form of internal control finding, especially in the case of smaller organizations (Modlin, 2024A). If the findings lead to an adverse opinion, debt issuance costs increase and with the potential of a downgrade in bond (BOND) rating (Edmonds, Leece, Vermeer & Vermeer, 2023; Park, Matkin, & Marlowe, 2017; Gore, Henderson, & Ji, 2016). Therefore, it is suggested that county bond rating has an impact on internal control finding type. However, the state oversight process in this case mitigates excessive associated costs due to the legislative requirement for an annual audit and corresponding corrective measures scheduled to be implemented by the auditee.

Two variables attributed to both the auditor and audit outcome will be tested to determine if there are relationships between specific findings. County risk (RISK) designation will be examined and coded as a dichotomous variable. In addition, the actual contracted auditor (AUDITOR) with the most county contracts will also be used as an exploratory predictor. In this case, Thompson, Price, Scott, and Adams (TPSA) represented 23 of 100 North Carolina counties for FY 2019 and has been a mainstay contractor for county governments in the state for many years (Modlin, 2012).

The study will also include variables that attempt to account for the influential actors within the budget process that can alter the number and types of transactions. The study will incorporate the number of commissioners with an ordered variable to determine if a higher number of county commissioners (COMM) is related to elevated inconsistencies as well as examining total budget size (BUDGET) and internal service fund use (ISF) to determine the impact of organization size. As an attempt to measure the impact of other department heads and administrators, a dummy variable will be used to represent education spending (DEPTED) as the functional classification area with the largest expenditure. County size also plays a role in service provision; therefore, a variable is introduced that represents counties that have more than 500 or more square miles of land area (AREA).

## 5. Summary Statistics and Preliminary Results

Descriptive statistics for the entire sample are displayed in Table 1. The higher quarterly centile values are somewhat representative of government size as indicated by budget size, total FTE, and many specific personnel such as staff accountants and accounts payable personnel. Limited number of finance personnel in quartile one are indicative of the finance officer or other higher level finance office staff performing multiple responsibilities, therefore a negation of those positions or a prolonged vacancy. Approximately 38 counties had an internal control finding among financial management practices which is less than half of all counties. Overall, there were more material weakness findings compared to significant deficiences as illustrated by the values in quartile 3 for TotalMW and FMW. Finance officer experience exceeded ten years for the sample and based on the mean values, there was adequate representation of finance staff that are responsible for daily operations. Efforts at ensuring internal controls are evidenced by the APTECH variable representation in each quartile suggesting duty segregation with some position that has responsibilities for accounts receivables. The net position finding indicates a stronger position for county governments

compared to FY 2018 and is also a testament to the effectiveness of the state oversight process.

Table 1. Descriptive Statistics

**Panel A: Full Sample (N=100)**

| Variable | Mean | Median | Standard Deviation | Q1 | Q3 |
|---|---|---|---|---|---|
| **TotalMW (Ordered)** | 0.43 | 0 | 0.88 | 0 | 1 |
| **TotalSD (Ordered)** | 0.33 | 0 | 0.76 | 0 | 0 |
| **FMW (DV)** | 0.29 | 0 | 0.46 | 0 | 1 |
| **FSD (DV)** | 0.20 | 0 | 0.40 | 0 | 0 |
| **FINGF (Ordered)** | 0.42 | 0 | 0.95 | 0 | 0 |
| **FINEXP** | 2.45 | 2 | 1.61 | 1 | 4 |
| **ACCT** | 1.07 | 1 | 1.10 | 0 | 1 |
| **APTECH** | 1.78 | 1 | 1.63 | 1 | 3 |
| **BUSINESS** | 0.44 | 0 | 0.66 | 0 | 1 |
| **PAYROLLTECH** | 0.96 | 1 | 0.91 | 0 | 1 |
| **TOTEMP** | 1.46 | 1 | 0.54 | 1 | 2 |
| **DEPTED** | 0.37 | 0 | 0.48 | 0 | 1 |
| **ISF** | 0.32 | 0 | 0.46 | 0 | 1 |
| **NETPOS** | 1.85 | 2 | 1.11 | 1 | 3 |
| **BUDGET** | 2.53 | 2 | 1.45 | 1 | 4 |
| **COMM** | 2.35 | 2 | 0.52 | 2 | 3 |
| **AREA** | 0.41 | 0 | 0.49 | 0 | 1 |
| **AUDITOR** | 0.23 | 0 | 0.42 | 0 | 0 |
| **RISK** | 0.57 | 1 | 0.50 | 0 | 1 |
| **BOND** | 1.07 | 1 | 1.08 | 0 | 2 |
| **GFOA** | 0.52 | 1 | 0.51 | 0 | 1 |

**Panel B: Material Weakness Distribution**

| | MW = 1 (N = 29) | | | MW = 0 (N = 71) | | | |
|---|---|---|---|---|---|---|---|
| **Variable** | **Mean** | **Median** | **Std. Dev.** | **Mean** | **Median** | **Std. Dev.** | **Significance** |
| **FINEXP** | 2.24 | 2 | 1.43 | 2.54 | 2 | 1.68 | |
| **ACCT** | 0.69 | 1 | 0.74 | 1.23 | 1 | 1.25 | ** |
| **APTECH** | 1.76 | 1 | 1.68 | 1.79 | 1 | 1.62 | |
| **BUSINESS** | 0.45 | 0 | 0.63 | 0.44 | 0 | 0.67 | |
| **PAYROLLTECH** | 0.93 | 1 | 0.96 | 0.89 | 1 | 0.53 | |
| **TOTEMP** | 1.48 | 1 | 0.57 | 1.45 | 1 | 0.53 | |
| **DEPTED** | 0.39 | 0 | 0.47 | 0.31 | 0 | 0.49 | |
| **ISF** | 0.43 | 0 | 0.50 | 0.38 | 0 | 0.49 | |
| **NETPOS** | 1.93 | 3 | 1.22 | 1.82 | 2 | 1.07 | |
| **BUDGET** | 2.31 | 2 | 1.42 | 2.62 | 2 | 1.47 | |
| **COMM** | 2.41 | 2 | 0.50 | 2.32 | 2 | 0.53 | |
| **AREA** | 0.48 | 0 | 0.51 | 0.38 | 0 | 0.49 | |
| **AUDITOR** | 0.34 | 0 | 0.48 | 0.18 | 0 | 0.39 | * |
| **RISK** | 0.76 | 1 | 0.44 | 0.49 | 0 | 0.50 | ** |
| **BOND** | 0.89 | 1 | 1.10 | 1.14 | 1 | 1.11 | |
| **GFOA** | 0.55 | 1 | 0.51 | 0.51 | 1 | 0.50 | |

** represents significance at the .05 level; *at the .10 level.

**Panel C: Significant Deficiency Distribution**

| | SD = 1 (N = 20) | | | SD = 0 (N = 80) | | | |
|---|---|---|---|---|---|---|---|
| **Variable** | **Mean** | **Median** | **Std. Dev.** | **Mean** | **Median** | **Std. Dev.** | **Significance** |
| **FINEXP** | 2.25 | 2 | 1.52 | 2.50 | 2 | 1.66 | |
| **ACCT** | 0.95 | 1 | 1.19 | 1.10 | 1 | 1.09 | |
| **APTECH** | 2.00 | 2 | 1.81 | 1.72 | 1 | 1.59 | |
| **BUSINESS** | 0.30 | 0 | 0.47 | 0.48 | 0 | 0.69 | |
| **PAYROLLTECH** | 0.85 | 1 | 1.18 | 0.99 | 1 | 0.83 | |
| **TOTEMP** | 1.70 | 2 | 0.57 | 1.40 | 1 | 0.52 | ** |
| **DEPTED** | 0.20 | 0 | 0.41 | 0.41 | 0 | 0.50 | * |
| **ISF** | 0.37 | 0 | 0.50 | 0.40 | 0 | 0.49 | |
| **NETPOS** | 1.70 | 2 | 1.08 | 1.89 | 2 | 1.13 | |
| **BUDGET** | 2.35 | 2 | 1.39 | 2.58 | 2 | 1.47 | |
| **COMM** | 2.45 | 2 | 0.51 | 2.33 | 2 | 0.52 | |
| **AREA** | 0.55 | 1 | 0.51 | 0.38 | 0 | 0.49 | |
| **AUDITOR** | 0.40 | 0 | 0.50 | 0.18 | 0 | 0.39 | ** |
| **RISK** | 0.70 | 1 | 0.47 | 0.54 | 1 | 0.50 | |
| **BOND** | 0.50 | 0 | 0.76 | 1.21 | 1 | 1.11 | ** |
| **GFOA** | 0.40 | 0 | 0.50 | 0.55 | 1 | 0.50 | |

** represents significance at the .05 level; *at the .10 level.

Panel B and Panel C categorize internal control deficiencies by type with additional testing for significance within predictor variances. The analyses demonstrated the impact of staff on internal control findings. First, there was a significant relationship between the number of staff accountants in counties with a material weakness finding and their counterparts with no findings (1.23) indicating the importance of this position in maintaining financial statement accuracy. Second, a significant relationship was also found among employee distributions suggesting a higher likelihood of a significant deficiency finding with a higher number of employees. The FINEXP variable was not significant with either panel; however, the importance of the position in daily activities in addition to the audit preparation process can easily be sustained. Some evidence to support this claim can be found in both panels with higher finance officer experience levels in counties without a finding. The RISK variable also verifies some of the ongoing specific personnel and procedural concerns for some counties as referenced in Panel B with a significant finding and corresponding in Panel C with a lower mean value compared to counties with a material weakness finding.

The AUDITOR variable had significant relationships in both panels. The mean value for a significant deficiency is more than twice that of counties with no deficiency (difference in AUDITOR for significant deficiencies at $p < .05$). The relationship is also significant, but moderate in Panel B. Since the overwhelming majority of counties contract with an auditor other than TPSA, this finding is not that surprising nor does it preclude audit quality. Conversely, TPSA represented 23% of all contracted auditors, but 35% of counties with some type of finding and 41% of counties with multiple findings.

Initial univariate findings taken as a collective are beginning to illuminate some of the adversity facing many smaller governments concerning the ongoing recruitment, training, and retention of qualified personnel. With the exception of the accounts payable position (APTECH), the additional finance office staff personnel palliate some of the significant deficiencies and material weaknesses. This variation can be seen with the BOND finding as well. The mean values of counties with a significant deficiency finding (0.50) were less than half of counties without a finding (1.21). The smaller mean levels are representative of smaller counties that are least likely to have a bond rating. If the internal control findings are extensive enough for a bond rating downgrade, the repercussions for sustainable debt issuance become quite limited. The pairwise correlations and multivariate analyses will examine additional relationship comparisons.

Table 2 presents all internal control findings including counties with multiple findings. Counties with budgets of less than $50M (the smallest group in this sample) represented more than half of *ALL* findings. The personnel consequences become more exacerbated when coupled with the next lowest budget group of $50-$100M. At this point, the number of total county government findings exceed 80%. Material weakness discoveries among the smaller counties appear to be the most concerning issue with one county reporting five. The most common problems were reconciliation and procedural issues. Findings included reconciliation issues among balance sheets as well as specific accounts. In one case, there were audit adjustments totaling $3.7M to correct the reported fund balance level. Challenges associated with material weaknesses are usually the most difficult to solve and extremely

important for stakeholder evaluation accuracy (Modlin, 2024A). For the most part, significant personnel endeavors are required for lengthier audit quality presentation sustainability. At least six counties cited either improper training and/or a proper educational background for many of the accounting operations. In one case, county officials solicited external assistance with financial statement preparation. Not surprisingly, this county had a repeat finding. Interestingly enough, counties with at least a 10% increase in net position from the previous FY had the highest levels of material weakness findings among financial transactions. Table 2 also illustrates potential problems larger units have with many personnel and the associated number of transactions. Although there were fewer problems, remedies are easily more achievable due to organizational pliability.

Table 2. Detailed Compliance Findings by Category Type and County Budget Size

| Category | Less than $50M | $50M-$100M | $100M-$150M | $150M-$200M | More than $200M | TOTAL |
|---|---|---|---|---|---|---|
| FinanceTMW | 19 | 11 | 8 | 2 | 3 | 43 |
| FinanceTSD | 14 | 11 | 2 | 1 | 3 | 31 |
| TOTAL | 33 | 22 | 10 | 3 | 6 | 64 |

Significant deficiency findings were also much higher for smaller entities. The largest number of findings of any county was six. Proper fund maintenance and procedural issues represented many of the findings. It was not uncommon for counties to have deficits among funds which is not allowed under LGC guidelines (Coe, 2008). Within these findings, it was also quite common for funds to have expenditures that exceeded the budgeted amount. Experience and training were also notable among significant deficiencies. In one case, there was no overall budget amendment which is required under state law while one county did not properly establish a special revenue fund for E911 funds. Some of the more consequential findings were a payment of $150K to an erroneous construction actor and 12 terminated employees with continual access to a county mainframe system. For the larger counties, the corrective action was minor and may include some type of procedural change while smaller units require significant staff innovation and changes which may include increased involvement of the county manager in the actual audit process.

Further direct relationships are examined in Table 3 with the pairwise correlation analysis. A positive and significant relationship was found between significant deficiency findings and material weaknesses demonstrating potential ongoing irregularities. Among county governments for FY 2019, approximately half of counties with a significant deficiency had at least one material weakness. The pairwise correlations only provide moderate support for hypothesis one. There was a significant and positive relationship between ACCT and MW as well as TOTEMP and SD. This was also the case for hypothesis three in which only BOND and DEPTED had significant relationships, but negative, reflecting some of the issues associated with smaller counties (Table 2). The smaller county governments were less likely to have a bond rating or have educational expenditures as the highest funded classification

area. However, the analysis provides strong support for hypothesis two. The contracted AUDITOR had a significant and positive relationship with both dependent variables while RISK was significant and positive with a MW finding. Numerous relationships were found with ACCT, APTECH, and DEPTED. Although the relationships were not necessarily strong, the data suggests that these positions create some type of conglomeration with ensuing positions. However, these findings reflect government size and capability more than internal control vulnerability. For governments that continue to increase in size with additional service levels performed by non-core departments, this necessitates these position contributions.

Table 3. Pairwise Correlations (N=100)

| Variable | MW | SD | FIN EXP | ACCT | AP TECH | BUSINESS | PAYTECH | TOTEMP | DEPTED |
|---|---|---|---|---|---|---|---|---|---|
| **MW** | 1.000 | | | | | | | | |
| **SD** | .2865** | 1.000 | | | | | | | |
| **FINEXP** | -.0832 | -.0624 | 1.000 | | | | | | |
| **ACCT** | .2214** | -.0547 | -.0463 | 1.000 | | | | | |
| **APTECH** | -.0084 | .0678 | -.0235 | .4466** | 1.000 | | | | |
| **BUSINESS** | .0081 | -.1072 | -.0841 | .3476** | .3085** | 1.000 | | | |
| **PAYROLLTECH** | -.0205 | -.0608 | .1297 | .1337 | .2393** | .0467 | 1.000 | | |
| **TOTEMP** | .0271 | .2235** | -.0198 | -.2242** | -.4119 | -.2350** | -.1268** | 1.000 | |
| **DEPTED** | -.0790 | -.1761* | -.1506 | .1398 | .3721 | .1180 | .1255** | -.4250** | 1.000 |
| **ISF** | .0445 | -.0255 | -.0918 | .1289 | .1898** | .1473 | -.1102 | -.1435 | .3172** |
| **NETPOS** | .0467 | -.0677 | .2126** | -.1805* | -.2743** | -.0194 | -.0958 | .1160 | -.2327** |
| **BUDGET** | -.0971 | -.0623 | -.0253 | .4997** | .6170** | .3357** | .1692* | -.4816* | .4355** |
| **COMM** | .0788 | .0967 | .0030 | .0449 | .0799 | .1066 | -.0983 | -.0756 | .0020 |
| **AREA** | .0945 | .1423 | -.0311 | .1876* | .1131 | .1856* | .2167** | -.2219** | .2034** |
| **AUDITOR** | .1744* | .2020** | .0245 | -.2513** | -.1163 | .1863* | -.1292 | .1513** | -.1235** |
| **RISK** | .2435** | .1313 | -.2225** | .0186 | -.1053 | .0285 | -.1724* | -.0459 | -.0456 |
| **BOND** | -.1027 | -.2640** | -.0356 | .3672** | .4485** | .2684** | .1770* | -.4351** | .3916** |
| **GFOA** | .0406 | -.1201 | -.0050 | .3530** | .4373** | .2182** | .0903 | -.2952** | .4046** |

Table 3 Continued

| Variable | ISF | NETPOS | BUDGET | COMM | AREA | AUDIT | RISK | BOND | GFOA |
|---|---|---|---|---|---|---|---|---|---|
| **ISF** | 1.000 | | | | | | | | |
| **NETPOS** | -.0945 | 1.000 | | | | | | | |
| **BUDGET** | .3435** | -.2626** | 1.000 | | | | | | |
| **COMM** | .0882 | .0916 | .1933** | 1.000 | | | | | |
| **AREA** | .2874** | -.0707 | .2711** | .0649 | 1.000 | | | | |
| **AUDITOR** | -.1498 | .2027** | -.2826** | .2274** | .0275 | 1.000 | | | |
| **RISK** | .1643* | .0465 | -.0588 | .0410 | .2723** | -.0053 | 1.000 | | |
| **BOND** | .3947** | -.2170** | .6492** | .1352** | .2285 | -.1235 | -.0185 | 1.000 | |
| **GFOA** | .2697** | -.0036 | .6154** | .1084 | .0684 | -.2835** | -.0663 | .3590** | 1.000 |

Notes: Table 4 represents pairwise correlations of the variables used in the analysis. ** represents correlations at the .05 level; *at the .10 level. MW and SD are bivariate variables in this table.

## 6. Multivariate Results

Table 4 utilizes a logistic regression analysis to determine the probability of a significant deficiency or material weakness finding based on the predictors. This approach is similar to that of Krishnan (2005) and Zhang, Zhou, & Zhou (2007). There were only a few findings within the material weakness model; however, the importance of specific personnel was demonstrated with the ACCT predictor and its relevance in reducing the probability of a material weakness finding (ACCT = -.8137; Z = -2.22). A significant finding with the RISK variable illuminates the ongoing transaction issues associated with some governments, especially the smaller units while the GFOA award achievement does not provide internal control insulation. However, the significant deficiency model had additional findings, but with different predictors. An increased number of accounts payable positions was positive and significant suggesting an increased number of these positions lead to a higher probability of a significant deficiency finding (APTECH = .8015; Z = 2.51). This finding could also suggest that staff in these positions could be executing job responsibilities that are traditionally outside their scope of responsibility such as reconciliation procedures or unauthorized transactions. Some findings were also present among the organizational factors. Counties with an increased level of spending in a functional classification area other than public education were more likely to experience a significant deficiency as well as counties with a lower bond rating (BOND) or no bond rating at all.

Table 4. Determinants of Internal Control Findings by Financial Material Weaknesses and Significant Deficiencies

| Panel | MW | | SD | |
|---|---|---|---|---|
| **FINEXP** | -.0314 | (-0.18) | -.0229 | (-0.10) |
| **ACCT** | -.8137 | (-2.22)** | -.1720 | (-0.40) |
| **APTECH** | .2448 | (1.09) | .8015 | (2.51)** |
| **BUSINESS** | .4664 | (1.01) | -.5966 | (-0.79) |
| **PAYROLLTECH** | .1334 | (0.40) | -.1903 | (-0.46) |
| **TOTEMP** | -.3612 | (-0.58) | .8795 | (1.04) |
| **DEPTED** | -.8311 | (-1.22) | -2.0281 | (-1.81)* |
| **ISF** | .2618 | (0.41) | .2084 | (0.24) |
| **NETPOS** | -.2829 | (-0.98) | -.4652 | (-1.15) |
| **BUDGET** | -.3541 | (-1.07) | .3276 | (0.74) |
| **COMM** | .3053 | (0.51) | .8761 | (1.01) |
| **AREA** | .4974 | (0.83) | 1.4012 | (1.65)* |
| **AUDITOR** | 1.0129 | (1.37) | 1.2765 | (1.24) |
| **RISK** | 1.2403 | (2.02)** | .6587 | (0.79) |
| **BOND** | -.3778 | (-1.09) | -1.8780 | (-2.96)** |
| **GFOA** | 1.6447 | (2.32)** | .5712 | (0.58) |
| **Constant** | -1.2618 | (-0.61) | -5.5105 | (-1.85)* |
| **N** | 100 | | 100 | |
| **Log. Lik.** | 2.8895 | | 29.5671 | |
| **LR Chi-Squared (16)** | 46.8811* | | 37.69** | |
| **McFadden's Pseudo R-Squared** | 0.2049 | | 0.3892 | |

Notes: Cell entries are unstandardized parameter estimates; ***$p$ <.001; **$p$ < .05; *$p$ < .10 (Two-tailed test). Z scores in parentheses. The table presents estimates of bivariate regression specifications.

Total internal control findings are measured against the predictors in Table 5. Measurement of total findings is consistent with Rich & Zhang (2014). With the TMW and TSD models, there are now additional findings associated with the number of internal control findings. Counties with lower net positions compared to the previous year have a higher likelihood of additional material weakness and significant deficiency findings versus counties with net position increases. Also, it can be determined that the number of material weakness and significant deficiency findings increase as the number of employee FTEs decrease. Along with the ACCT variable, there appears to be more support for the initial hypothesis concerning the impact of county government staff and personnel on audit findings. The RISK variable was significant and positive with the TMW model suggesting that not only is there a higher probability of a

material weakness finding within a 'high' risk designee county, but there is a likelihood of increased findings as well. Coupled with the AUDITOR finding in the TSD model (AUDITOR = 1.6126; Z = 2.09), there can now be an assessed impact of auditor attributes on internal control findings. Both models were significant at the .05 level after being tested against a constant-only model; therefore, this is an indicator that as a set, the predictors are reliable for determining the varying levels of material weaknesses and significant deficiencies among county governments.

Table 5. Determinants of Total Financial Disclosure Findings by Material Weaknesses and Significant Deficiencies

| Panel | TMW | | TSD | |
|---|---|---|---|---|
| **FINEXP** | .1554 | (0.87) | .02635 | (0.13) |
| **ACCT** | -.8913 | (-2.08)** | -.0174 | (-0.05) |
| **APTECH** | -.0265 | (-0.24) | .1072 | (0.78) |
| **BUSINESS** | .7268 | (1.53) | -.0467 | (-0.08) |
| **PAYROLLTECH** | .0785 | (0.26) | -.4509 | (-1.29) |
| **TOTEMP** | -1.0910 | (-1.65)* | 1.3809 | (1.94)** |
| **DEPTED** | -1.1869 | (-1.56) | -.6993 | (-0.81) |
| **ISF** | .7860 | (1.17) | .3814 | (0.51) |
| **NETPOS** | -.7476 | (-2.09)** | -.5638 | (-1.62)* |
| **BUDGET** | -.5776 | (-1.54) | .09790 | (0.28) |
| **COMM** | .8916 | (1.31) | -.0282 | (-0.04) |
| **AREA** | .4908 | (0.80) | 1.6761 | (2.09)** |
| **AUDITOR** | .4990 | (0.65) | 1.6126 | (1.90)** |
| **RISK** | 1.5132 | (2.28)** | .4064 | (0.60) |
| **BOND** | -.4617 | (-1.18) | -1.0830 | (-2.58)** |
| **GFOA** | 1.4561 | (1.88)* | .6272 | (0.78) |
| **Threshold 1** | .4920 | | 3.2687 | |
| **Threshold 2** | 1.8542 | | 4.9425 | |
| **Threshold 3** | 2.8895 | | 6.5760 | |
| **Threshold 4** | 4.3108 | | 7.7247 | |
| **N** | 100 | | 100 | |
| **Log. Lik.** | -68.2417 | | -53.2266 | |
| **LR Chi-Squared (16)** | 27.01** | | 33.35** | |
| **McFadden's Pseudo R-Squared** | 0.1652 | | 0.2378 | |

Notes: Cell entries are unstandardized parameter estimates; ***$p$ <.001; **$p$ < .05; *$p$ < .10 (Two-tailed test). Z Scores in parentheses. The table presents estimates of ordered logistic regression specifications. For the dependent variables, TMW = 5 if there were five or more material weakness compliance findings for finance activities; TSD = 5 if there were five or more significant disclosure compliance findings within finance activities.

Robustness of the results were tested with a deviation of two predictors (Table 6). Initially, the functional classification area was changed from education to human services. In North Carolina, public health and social services are administered by county governments and as with public education, spending in these areas have increased as well. Higher education functional classification spending was primarily associated with larger counties while smaller counties are more likely to have human service spending as the primary spending area. Second, the auditor variable was changed to reflect the top audit firms contracted for 2019. This now includes the audit firm Martin Starnes, & Associates (MSA). These two accounting firms consist of more than 40% of all county auditor contracts for 2019 (North Carolina Department of State Treasurer, 2019). The models are fairly consistent with the exception of some variables. Within the TMW model, changing the functional classification area has now produced a significant relationship between a probability of increased human service spending and additional material weakness findings. High levels of social service staff turnover and the complexities associated with Medicaid and the reconciliation of pass-through expenditures have been found to exacerbate internal control findings (Modlin, 2024A). The BUDGET finding supports this as well and even the COMM finding is consistent with Table 6. Variables in the TSD model are consistent with Table 5 with the exception of APTECH; however, this finding is consistent with Table 4 in which more APTECH positions are associated with a significant deficiency finding.

Table 6. Alternative Determinants of Total Financial Disclosure Findings by Material Weaknesses and Significant Deficiencies

| Panel | TMW | | TSD | |
|---|---|---|---|---|
| **FINEXP** | .2062 | (1.48) | .0847 | (0.36) |
| **ACCT** | -.9019 | (-2.16)** | -.2012 | (-0.91) |
| **APTECH** | .0647 | (0.35) | .5873 | (2.76)** |
| **BUSINESS** | .6572 | (1.44) | .0071 | (0.01) |
| **PAYROLLTECH** | .1027 | (0.49) | -.4591 | (-1.49) |
| **TOTEMP** | -.9699 | (-1.42) | 1.9772 | (2.40)** |
| **DEPTHS** | 1.1769 | (1.72)* | .2858 | (0.36) |
| **ISF** | .6094 | (0.90) | -.0342 | (-0.04) |
| **NETPOS** | -.5927 | (-2.07)** | -.4484 | (-1.18) |
| **BUDGET** | -.6228 | (-2.03)** | -.1700 | (-0.56) |
| **COMM** | 1.1728 | (1.82)* | .2601 | (0.41) |
| **AREA** | .4095 | (0.77) | 1.8412 | (1.73)* |
| **AUDITOR** | .1228 | (0.18) | 1.0372 | (1.34) |
| **RISK** | 1.7569 | (2.34)** | .5408 | (0.86) |
| **BOND** | -.5408 | (-1.28) | -1.1257 | (-2.83)** |
| **GFOA** | .9610 | (1.33) | .3451 | (0.39) |
| **Threshold 1** | 1.9974 | | 5.3744 | |
| **Threshold 2** | 3.3767 | | 7.1208 | |
| **Threshold 3** | 4.4932 | | 8.7754 | |
| **Threshold 4** | 5.9421 | | 9.7817 | |

| | | |
|---|---|---|
| **N** | 100 | 100 |
| **Pseudo Log. Lik.** | -68.5161 | -52.1293 |
| **Wald Chi-Squared (16)** | 24.08* | 23.72* |
| **McFadden's Pseudo R-Squared** | 0.1619 | 0.2564 |

Notes: Cell entries are unstandardized parameter estimates; ***$p$ <.001; **$p$ < .05; *$p$ < .10 (Two-tailed test) with standard errors clustered by county. Z Scores in parentheses. The table presents estimates of ordered logistic regression specifications. For the dependent variables, TMW = 5 if there were five or more material weakness compliance findings for finance activities; TSD = 5 if there were five or more significant disclosure compliance findings within finance activities.

Taken as a collective, the models and pairwise correlation analysis provide at least some support for all of the hypotheses. Personnel, especially those with accounting expertise have been prevalent throughout the models indicating the impact on internal control weaknesses. The models also point to additional personnel and the number of related transactions as staff obstacles with the models suggesting more employees were associated with an increase in significant deficiency findings, but not material weaknesses. The models did not concur on relationships between the most utilized auditor and internal control weaknesses except with the pairwise correlations, but there was indeed a relationship between material weaknesses and counties with a 'high' risk designation representing annual problems with standard compliance. The third hypothesis had very few material weakness findings until there was an isolation of specific issues related to the general fund and with the robustness testing. In those cases, there were some relationships with the number of elected board members (COMM) and county budget size. For the most part significant deficiency findings were found among counties with larger service areas, lower bond ratings, and more stabilized net positions.

## 7. Conclusion and Implications

### *7.1 Overall Findings*

This study examined the underlying factors associated with internal control weakness findings within financial management practices among county governments in North Carolina. To summarize, the findings detail the ongoing struggles of finance staff within smaller county governments. Specified material weakness findings were associated with less accounting staff, less overall government employees, counties that had little improvement in net position compared to the previous year, and counties designated as 'high' risk. However, significant deficiency findings were more likely to occur in counties with larger service areas, a lower or no bond rating, the use of a specialized auditor, a lower net position compared to the previous year, additional employees, and a lower bond rating. Table 5 also illustrated the

importance in auditor selection and significant deficiency findings, especially as it relates to financial statement presentation, analysis, and stakeholder interpretation.

Model findings with this study provide some support for previous research. Overall, larger units had less overall internal control findings (Cox & Wichmann, 1993). Finance personnel staff findings within this study, especially as it relates to the importance of accounting personnel, was consistent with previous research (Modlin, 2012; Modlin, 2017; Rich & Zhang, 2016). Also, auditor specialization findings support previous research into county government internal controls (Jakubowski, 1995). However, unlike previous studies, there appeared to be little support of increased size, complexity, and substantial change as a catalyst for internal control inconsistencies (Ge & McVay, 2005; Doyle, Ge & McVay, 2007; Ashbaugh-Skaife, Collins & Kinney, 2007). Furthermore, larger budget sizes were not associated with additional internal control findings (Baber, Brooks, & Ricks, 1987; Copley, 1989). Conversely, the predictors and additional crosstabulations suggest internal control findings, especially material weaknesses, are correlated more with smaller units that primarily consist of smaller budgets, less personnel, and capital project endeavors absent of debt service. There was also evidence of the continual decline of aesthetic awards for financial award presentation and a lower number of internal control findings (Cox & Wichmann, 1993).

Several limitations exist within the study. First, there is not enough information concerning the position descriptions among the personnel variables utilized in the study nor is there the inclusion of variables for all positions. Among the larger governments, the responsibilities can be substantially more parochial compared to smaller governments that neither have the capacity to employ additional personnel not to mention more comprehensive responsibilities for some staff. Second, the business officer was used as a variable, but there was little information concerning which departments within the units that actually consisted of this position not to mention the designated department for the budgeted expenditure. If the position was budgeted under a finance department with service responsibilities at another department, there is a higher probability of skills alignment with finance staff. Third, more information concerning the net position changes could have provided further explanatory power. Questions remain as to the impact of changes in total net position and overall fund balance levels.

### *7.2 Implications*

This study highlights the importance of proper training and execution of staff in governmental daily operations. Numerous pressures from elected officials and management often are not scheduled therefore creating additional challenges for even the most experienced staff members. More specifically, the proper background in accounting expertise has proven to generate benefits during the entire fiscal year and especially during the audit process in which clarification of policies, procedures, and responsibilities may be necessary. Financial statement accuracy and illumination have also been illustrated with the contracting of auditors with governmental expertise finding. The revealing of internal control weakness

findings through proper auditing procedures can provide timely organizational and procedural changes that can moderate concerning stakeholder impressions.

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## Appendix

| Variable | Definition |
|---|---|
| TotalMW (DV-Ordered) | Total Number of Financial Material Weakness Findings per County; 5 = Five or More Source: CAFR |
| TotalSD (DV-Ordered) | Total Number of Financial Significant Deficiencies per County; 5 = Five or More Source: CAFR |
| FINMW (DV) | Material Weakness Finding among Financial Statements; 1 = Yes Source: CAFR |
| FINSD (DV) | Significant Deficiency Finding among Financial Statements; 1 = Yes Source: CAFR |
| FINGF (DV-Ordered) | Financial Issues within County General Fund; 3 = 3 Source: N.C. Local Government Commission Department of State Treasurer |
| FINEXP | Finance Officer Experience; 5 = More than 20 Years Source: UNC School of Government County Salary Study, CAFRS |
| ACCT | Number of Staff Accountants; 5 = Five or More Source: UNC School of Government County Salary Study |
| APTECH | Number of Accounts Payable Technicians on Staff; 5 = Five or More Source: UNC School of Government County Salary Study |
| BUSOFF | Business Officer for County Social Services and/or Public Health; 1 = Yes Source: UNC School of Government County Salary Study |
| PAYROLLTECH | Number of Payroll Technicians on Staff; 5 = Five or More Source: UNC School of Government County Salary Study |
| EMP | Number of County Employees as a Percent of County Population; 3 = More than 2% Source: CAFR |
| DEPTED | Functional Classified Area with Highest Level of County Expenditures; 1 = Education Source: CAFR |

| | |
|---|---|
| **ISF** | **Use of Internal Service Fund by County; 1 = Yes**<br>**Source: CAFR** |
| **NETPOS** | **Net Position Change from Previous Year; 3 = Increase by More Than 10%**<br>**Source: CAFR** |
| **BUDGET** | **Total Budget Size by Revenue; 5 = More than $200M**<br>**Source: CAFR** |
| **COMM** | **Number of Elected County Commissioners; 3 = More than 5**<br>**Source: University of North Carolina School of Government** |
| **AREA** | **Number of County Square Miles; 1 = More than 500**<br>**Source: US Census Bureau Geography Division (2010)** |
| **AUDITOR** | **Auditor Responsible for 2019 Audit; 1 = TPSA**<br>**Source: CAFR** |
| **RISK** | **County Government Designated High Risk by Audit Firm; 1 = Yes Source: CAFR** |
| **BOND** | **County Government Bond Rating; 3 = AAA by Standard & Poor's**<br>**Source: County Analysis of Debt, N.C. Local Government Commission Department of State Treasurer** |
| **GFOA** | **Recipient of GFOA CAFR Presentation for 2018; 1 = Recipient Source: Government Finance Officers Association** |