



The Intersection of Local Government Organizational Characteristics and Official Bonding Policy

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Abstract: The primary goal of risk management policy is the protection of government assets based on an evaluation of internal and external procedures and activities. The bonding of public officials with asset responsibilities is a policy component that provides an assurance of resource protection and public trust. This exploratory study examines the level of county bond issuance on selected appointed and elected government officials in North Carolina. Ordered logistic regression analyses tested official bonding amounts with government attributes. Initial findings indicate more standardized bonding practices for appointed officials while bonding practices for elected officials is more discretionary. Specified finance office staff and audit findings influenced bond amount increases for both appointed and elected officials with county characteristics also having an influence on elected official bonding increases. Implications of the study include the importance of internal control prevention through well-trained finance personnel.

Keywords: official bonding, risk management, local government management, local government finance, internal controls

JEL Classifications: H76, H82

1. Introduction

Providing government services with the highest level of efficiency is an ongoing objective among governments at all levels. Protection of government owned assets is a substantial part of this process even though it is not a widely recognized policy initiative. Expectations surrounding service delivery consist of public employees performing tasks with the highest level of integrity. This is especially true for elected and the highest level of appointed officials. Risk management policies assist with the protection of public assets despite unintended consequences associated with weather events, work related accidents with public property, cyber incidents, or even the misuse of assets by public officials. For these reasons, a comprehensive risk management plan is essential for asset protection. Insuring against personnel misconduct or misuse of assets is done through the bonding of specific appointed personnel as well as any public official that has a position of responsibility related to the temporary

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possession of key assets, especially funds (Coe, 2007). The goal of this study is to determine the level of impact that local government organizational characteristics have on official incremental bonding amounts issued by county governments. A primary feature of the study is to examine how specific personnel positions within the finance office influence policy statements through proper transaction procedures leading to a reduction of liability and lower bond coverage. Overall findings point to a link between specific accounting positions and bonding practices with elected and appointed positions among North Carolina county governments. Links were also found between financial audit findings and elected official bonding practices.

Additional transparency in the policy implementation process is the motivation for the study. The evolving disclosures within government audits continue to help with these endeavors. The Governmental Accounting Standards Board (GASB) continues to introduce standards that increases the level of transparency (GASB, 2019; GASB, 2021). The end-of-year financial statements within audits provide critical information for stakeholders, but especially for those that have a substantial financial interest in government activities or potential investors. Audit information is even more critical for units that have an interest in a potential bond rating. For the counties that will be analyzed in this study, bonding information for selected officials is available which suggests some form of a risk management policy dedicated to asset protection.

The study advances the literature in several ways. First, the literature consists of few studies that examine risk management policies, especially those that are implemented by local governments. Second, the findings indicate that in many cases, there is an ongoing challenge to attract extremely qualified personnel with a high level of accounting expertise capable of implementing key generally accepted accounting principles (GAAP) that identify potential discrepancies with transactions (Modlin, 2024b). Employees with these credentials could substantially mitigate bonding increases. Third, public official bonding is a major part of the annual budget process that provides asset protection and along with other insurance policies, is often done on a continual basis without proper assessment. Salaries and benefits are the primary drivers in the process and usually receive the preponderance of oversight. Counties that have specific personnel dedicated to risk management can assist with plan updates and any necessary changes. Finally, the study illustrates how local government policy operates under a state government with heavy oversight over many financial practices including bonding processes. Local government autonomy, especially as it relates to financial management practices, has considerable variation among states (Cahill & James, 1992; Honadle, 2003; Kloha, Weissert & Kleine, 2005; Coe, 2008).

The study is organized in the following manner. The next section consists of state legislation that provides bonding requirement specifications including basic requirements and amounts. The literature review will provide relevant studies accompanied by hypotheses development. The research design will be introduced with an overall model listing the expected factors that influence the level of county government official bonding amounts. Bonding practices will examine bonding amounts by the size of the units. Next, pairwise regression will provide a bivariate examination of the variables. Multivariate models will then be presented that provide a further interaction of all variables with robust model testing. Finally, there will be an evaluation of the findings with a discussion of the overall impact of the study.

1.1. State Legislation Foundations

Local government official bonding boundaries are outlined by North Carolina General Statute (N.C.G.S.) 159-29. Any official, inclusive of appointed and elected, with access to a minimum of \$100 at any given time are required to provide a faithful performance bond that will be payable to the corresponding unit. Officials are not allowed to perform their elected or appointed responsibilities until the bonds are fulfilled. All bonds are approved by the governing board and are deposited by the clerk to the board. Finance officer bonding is normally substantially higher with amounts approved by the governing board. Most of the finance officers in this study have a performance bond through a commercial surety bond. The legislation also states that bonded amounts have a range between \$50,000 or an amount equivalent to 10% of the unit's annually budgeted funds up to \$1M. For units that choose to bond for \$1M, coverage for finance officers in North Carolina have ranged from \$1,500 to \$6,000 (Crews, 2022). It is not uncommon for the finance officer to be bonded through a separate insurance company compared to other officials, but the occurrence limit will be substantially higher compared to other offices.

The two elected officials that are part of the study, the Register of Deeds (ROD) and the sheriff, have bonding statutory requirements limitations as well. Bonding requirements for the ROD can have a range of \$10,000 and \$50,000 that also require legislative approval; however, the bonding amounts are payable to the state (N.C.G.S. 161-4). The sheriff is also required to furnish a bond payable to the state for the faithful execution of office responsibilities with a statutory limit of \$25,000 (N.C.G.S. 162-8). The governing body approves the bonded amounts for both offices. Additionally, numerous positions within units, especially governments with budgets that exceed \$50M, have responsibilities place a minimum of \$100 in their possession at any given time inclusive of government-owned assets. In these cases, a more comprehensive plan has to be purchased that provides blanket protection for these positions that excludes the need for individual bonding. This type of bonding is useful for situations in which multiple staff members have access to funds that exceed the statutory threshold and can also include any department head (N.C.G.S. 159 2022-53 9(a)).

2. Literature Review and Hypotheses Measurement

Current research primarily examines risk management from a broad perspective. Thus far, the literature consists primarily of risk management practices encompassing disaster related activities such as emergency preparedness management and misconduct associated with public official practices. However, studies primarily consist of organizational perception as a result of differing levels of political corruption (Meier & Holbrook, 1992; Graycar & Villa, 2011; Liu & Mikesell, 2014; Thompson, 2014; Cailler, 2018; Lee & Liu, 2021). From an organizational standpoint, an increased level of preparedness was necessary for government officials with responsibilities for disaster mitigation (Meyer, Soloman & Wolf, 1984; Soloman, 1986; Donahue, Eckel & Wilson, 2014; Lee, 2020). An absence in the literature exists that examines some type of active organizational plan of risk management with clearly identified goals and objectives that are uniform, streamlined, and that also account for loss prevention. (Stanton & Webster, 2014).

Many organizational components and especially bureaucratic practices can be determinants in bonding activities that are derivatives of comprehensive risk management policy. For the purposes of this study, there will be a primary emphasis on the impact of personnel and occupational functions as well as organizational service features that have some impact on unit financial status and financial

statement accuracy. One previous study suggests less accountability among the distribution of intergovernmental funds in districts with highly influential members of Congress as defined by vote share proportions (Cuny, Mehta & Kim, 2020). Conversely, the use of a highly regarded audit firm with an accompanying voter oversight mechanism was associated with increased financial statement accuracy and therefore decreased the likelihood of a more costly debt issuance (Baber, Gore, Rich & Zhang, 2013). Internal control problems also can increase with contrasting expectation levels between the elected body and staff during the budget preparation process.

Previous studies have demonstrated the need for literature expansion into specific areas of risk management that can provide some explanation for bonding practices. Studies thus far have primarily demonstrated some impact of official or employee activity involving the use of public funds; therefore, the following hypotheses have been developed to provide an initial examination between county government characteristics and bonding practices for local government officials. There are no preconceived expectations concerning the direction of the predictors.

HYPOTHESIS 1: Local government official bonding amounts are associated with finance personnel positions.

Each county in North Carolina is required to appoint a designated finance officer for overall financial management (N.C.G.S. 159). The resulting financial responsibilities associated with the position inclusive of the overarching level of authority in fund distribution, budget preparation, and oversight of the audit process necessitate some type of bonding coverage due to the level of risk. The establishment of internal controls within financial transactions among personnel is one of responsibilities of the position as well. Previous research suggests that fewer internal control irregularities take place under more experienced finance officers (FINEXP) (Modlin, 2012; Modlin, 2017; Rich & Zhang, 2016). Proper implementation of internal controls within the finance office usually entails specific position functions that have some type of autonomy. For instance, the separation of revenue collections and disbursements is necessary for the absence of a material weakness finding. However, relationships have been found between increases in significant deficiency findings and additional accounts payable positions (APTECH) (Modlin, 2024b). However, findings have determined that additional staff accountants lessened the likelihood of material weakness findings (Modlin, 2024b). The payroll technician (PAYROLLTECH) has many responsibilities that can easily impact internal controls such as ensuring proper employee disbursements in a timely manner and in many cases, ensuring any type of pay schedule changes, types of payment changes associated with holiday pay, sick leave, etc. as well as actual employment paygrade changes in some cases. This position has not been examined for any type of risk management impact. Employee skill levels are the problem among many smaller governments due to the limited number of positions that may overlap with other areas and familiarity with generally accepted accounting principles (GAAP). The hiring of personnel with the proper education and training associated with these positions is usually the responsibility of the finance officer.

HYPOTHESIS 2: Local government official bonding amounts are associated with county government organizational characteristics.

The second hypothesis examines the relationships between county characteristics and official incremental bonding. The financial status of any county can influence types of coverage. Net position (NETPOS) is a key indicator of financial stability and substantial changes among the financial position of the organization can substantially determine levels of risk. Significant changes can be the result of

major capital infrastructure activities such as debt service issuance or retirement. Among ACFRs, county net position is featured within the Management Discussion & Analysis (MD&A) along with fund balance changes over the past fiscal year (Modlin, 2024a). Capital spending and debt issuance among county governments is primarily associated with public school construction projects; therefore, it is not unusual for educational spending (DEPTED), as a functional classification area, to have higher expenditure levels compared to other service areas. The number of local government assets (ASSETS) is an indicator of government size and in many cases, provides information for a portion of overall fund balance level which is a major predictor of bond ratings; however, the amount of discretionary funds within overall fund balance totals is usually significantly less. Asset levels among government funds could provide further information concerning bonding activities.

Variables related to service area will also be analyzed for possible relationships. County population (POP) along with the geographical composition or service (AREA) have influence on employee activity since there are extenuating service demands from both management and elected officials despite daily responsibilities that are a result of their current positions (Ladd & Yinger, 1989). Many increases are the result of department manager assertions of continual changes in service demand as a result of changing populations, service areas, technology, or a type of acquisition as a reason to increase departmental FTE. Many of these departments such as law enforcement and emergency medical services (EMS) can easily substantiate these changes while more traditional support departments such as finance and human resources can make a more indirect claim.

HYPOTHESIS 3: Local government official bonding amounts are associated with audit results.

Audit findings provide some insight into specific activities that are associated with irregularities among financial transaction execution. If audit findings determine that there are numerous financial statement inaccuracies, it is difficult to assess the financial status of the unit and possibly prevent a government unit from securing immediate external funding if necessary. The audit can also assist with internal control origins and personnel implications by specifying the type of problem and severity. The material weakness is the most serious finding and is categorized based on type of activity whether it is among financial statements, federal awards, as well as state awards (FINMW, FEDMW, STATEMW). The material weakness has a high level of severity since there is little probability of detection, prevention, or resolution in a timely manner. Management is required to address this finding as soon as possible (AICPA, 2007). Findings among material weaknesses can consist of financial issues related to excessive waste and inefficiency, fraudulent employment practices, and statement inaccuracy (GAO, 2011). Essential position vacancies that have continually lapsed, unqualified personnel performing duties that require accounting expertise not to mention the lack of proper supervision or oversight are just some sources of material weaknesses. A questioned cost (QC) finding could also lead to further internal control findings. Modlin (2024b) found relationships links between different types of material weakness findings and questioned costs. However, the higher likelihood of questioned costs primarily exists with larger governments (Edmonds, Leece, Vermeer & Vermeer, 2023). Overall, organization size has previously had an impact on internal control findings (Baber, Brooks & Ricks, 1987; Rubin, 1988; Copley, 1989).

Additional internal control information provided by the audit include whether any findings were repeated (REPEAT) compared to the previous fiscal year (FY) and were not resolved. In addition, counties are classified as “low” or “high” risk based on based on the standards found in 2 CFR 200.520 (RISK). Auditees with a “low” risk designation are required to have financial statements prepared under GAAP principles with a clean audit for the last two audit cycles. Relationships have

been found between “low” risk auditees and contracts with large CPA firms (Keating, Fischer, Gordon & Greenlee, 2005). Moreover, smaller governments with less staff capability were also found more likely to get the “high” risk designation (Lopez & Peters, 2010; Modlin, 2024b).

3. Research Design

All county governments within the state of North Carolina operate under the commission-manager form of government and are under a state oversight process that ensures financial stability through numerous legislative provisions and policy directives. In this case, there is an examination of how assets are protected through bonding of government officials. The majority of the data for the study came from 2023 or earlier annual comprehensive financial reports (ACFRs) depending on availability with the latest ACFR information in other cases. Audits from fiscal year 2023 provide an opportunity to examine more traditional operations that mostly exclude the vast amount of pandemic associated intergovernmental funding and policies. Information from many of the predictors demonstrate the varying levels of government service provision among units.

The predictors used for the study isolate as many internal components as possible. Specific finance office personnel, certain county service characteristics, and audit findings will all be tested against bonding practices. In addition to ACFRs, additional sources were used to obtain information for the predictors. Personnel information for variables was obtained from the UNC School of Government and this was inclusive of finance officer experiences (FINEXP), the number of staff accountants (ACCT), the number of accounts payable technicians (APTECH), and payroll technicians (PAYROLLTECH). Any additional finance officer experience information was obtained through county contact. County population data was provided by latest information from the U.S. Census Bureau. County service area (AREA) was measured by the number of county square miles of land only and was provided by the U.S. Census Bureau Geography Division. All additional predictor data was obtained through further examination of ACFRs.

A comprehensive underlying base model was developed and utilized the most available predictors that could impact bonding amounts. The exploratory nature of the study precludes limited previous predictor use and any preconceived predictor direction. The model below (Equation 1) tests the specified predictors for policy use with the utilization of *BONDING* as a proxy for all dependent variables.

Equation 1. Formula for Bonding Coverages

$$BONDING = \beta_0 + \beta_1 FINEXP + \beta_2 ACCT + \beta_3 APTECH + \beta_4 PAYROLLTECH + \beta_5 DEPTED + \beta_6 TOTEMP + \beta_7 ASSETS + \beta_8 NETPOS + \beta_9 AREA + \beta_{10} POP + \beta_{11} FINMW + \beta_{12} FEDMW + \beta_{13} STATEMW + \beta_{14} RISK + \beta_{15} QC + \beta_{16} REPEAT$$

Variable measurements for the study can be found in the appendix. The study will examine the bonding amounts of two appointed officials (finance officer and tax administrator) and two elected officials (Register of Deeds and Sheriff). The dependent variables in the study are based on a three-point scale with the most utilized bonding amount as the highest threshold (See Appendix). Alternate bonding amounts set by counties provided a basis for the chosen incremental method of measurement. An initial test of the hypotheses will be conducted through a pairwise correlation which provides an initial examination of multiple direct relationships. The multivariate analyses will follow providing a

more comprehensive investigation of the relationships between the predictors and official bonding practices. Directional hypotheses for the predictors are limited for the multivariate analyses.

An underlying factor among the hypotheses is that the proper staffing and subsequent actions of employees are a contributing factor to internal control occurrence findings and potential liability therefore possibly acting as a catalyst for bonding increases. Finance officer experience (FINEXP) is expected to have some type of association with bonding amounts due to the daily position responsibilities and requirements which include the monitoring of transactions and ensuring GAAP standards are followed, oversight of the budget and audit process as well as ensuring service provision for any external requests. Previous research has suggested that internal control findings could be the result of the delegation of some of these responsibilities (Modlin, 2024b). Additional finance office staff members, especially staff accountants (ACCT) with extensive governmental accounting expertise not only ensure the proper coding and entry of transactions but can provide efficiency throughout the entire budgetary process. The accounts payable technician (APTECH) and payroll technician (PAYROLLTECH) both ensure the timeliness of disbursements by eliminating payables demonstrating financial solvency of the unit along while to meet the increased demands of an elevated number of employee transactions (TOTEMP). All positions are coded according to actual position FTE.

Several county general service characteristics as well as internal finance factors will be examined. County population and service area can substantially impact elected official bonding practices due to the customer related services provided. With population (POP) increases and increases in the service area (AREA), especially in cases of substantial workload changes, elected officials face the challenge of ensuring the accomplishment of stated goals and objectives resulting in an increase in temporary employees and multitasking for current employees. Depending on the activity, internal controls could be compromised. In conjunction with the statutory finance officer requirements stated previously, the total amount of funds among all county assets (ASSETS) will be analyzed in addition to the largest amounts of FY expenditures that occurred within a specific service area. Law enforcement and public education generally have the highest levels of service area expenditures depending on the county, but public education (DEPTED) will be used due to the intergovernmental transactions and debt service impact on county net position (NETPOS).

Specific audit findings related to internal control issues will be utilized as predictors as well. In this case, material weakness specifications will be examined (FINMW, FEDMW, STATEMW). If there are enough material weakness findings with an adjoining *adverse* finding and bonding downgrade, the cost of debt issuance can greatly increase due to investor perception of risk (Edmonds, Leece, Vermeer & Vermeer, 2023; Park, Matkin & Marlowe, 2017; Gore, Henderson & Ji, 2024). Previous research has also demonstrated a link between questioned costs (QC) and material weaknesses (Modlin, 2024b). Additional variables associated with audit findings that will be examined include county risk (RISK) designation and if there was some type of repeat finding (REPEAT) compared to previous audits. All variables related to audit findings are nominal.

4. Summary Statistics and Preliminary Results

Descriptive statistics for the entire sample are found in Table 1. Among all 100 counties, finance officer bonding practices had a high level of diversity among centile values. Finance officer bonding amounts averaged approximately \$570K for the entire sample. The primary bonding amount was \$1M

and became the new statutory requirement during the 2023FY. Approximately half of the counties within the state will have to adjust these coverages to ensure legislative compliance. Tax administrator coverages exceeded \$160K with quarterly centiles remaining constant at \$100K. Register of Deeds coverage and sheriff coverage had quarterly centiles of \$50K and \$25K respectively with modest ranges. More information concerning bond averages based on county budget size are summarized on Table 3.

The personnel quarterly centiles illustrate many of the staffing complexities of counties based on population size. Finance officer experience is much higher in quartile 3 as well as more staffing including the presence of additional staff accountants. Also, among larger counties, educational spending is the primary functional classification expenditure due to the availability of additional assets and debt service capability. Nearly all 100 counties had some type of increase in net position with more than half stating increases of more than 10%. Repeat findings related to internal controls primarily took place among counties with populations less than 100K. Material weakness findings were quite limited overall; however, it was not unusual for some of the smaller counties had multiple findings.

Table 1. Descriptive Statistics, Full Sample (N=100)

Variable	Mean	Median	Standard Deviation	Q1	Q3
Finance Officer (Ordered)	2.21	3	0.90	1	3
TAXAD (Ordered)	1.76	1	0.78	2	2
Register/Deeds (Ordered)	1.39	1	0.60	2	2
Sheriff (Ordered)	1.49	1	0.61	2	2
FINEXP	2.41	2	1.52	1	3.5
ACCT	0.92	1	1.24	0	1
APTECH	1.75	1	1.53	1	2
PAYROLLTECH	0.88	1	0.88	.5	1
DEPTED	0.27	0	0.44	0	1
TOTEMP	1.46	1	0.54	1	2
ASSETS	2.63	2	1.57	1	4
NETPOS	2.43	2	0.87	2	3
AREA	0.41	0	0.49	0	1
POP	2.14	1	1.43	2	3
FINMW	0.29	0	0.46	0	1
FEDMW	0.15	0	0.36	0	0
STATEMW	0.07	0	0.26	0	0
RISK	0.54	1	0.50	0	1
QC	0.13	0	0.34	0	0
REPEAT	0.35	1	0.48	0	1

Official bonding averages demonstrate policy importance depending on the budget group (Table 2). More than half of all counties bond the finance officer for \$1M, which was the limit for any county. For the first two budget categories, the amounts were more staggered with 16 counties bonding in a range that consisted of \$5,000 for six counties with another 11 requiring a \$10,000 bond. The largest budget group average was slightly lower than the \$150M-\$200M group. This was primarily due to one choosing a \$1M bond coverage for the finance officer. The \$200M+ group had four finance officers with bond coverages of \$250K. Bonding choices for the tax administrator had similar patterns. The

\$50M-\$100M bond group had more tax administrator official bonding of \$100K compared to the other groups. Smaller governments preferred bond amounts of \$50K for this position. Tax administrators in the largest two groups had multiple representations of \$1M bond coverages.

Table 2. Average Bonding Amounts by County Budget Size

Category	Less than \$50M	\$50M-\$100M	\$100M-\$150M	\$150M-\$200M	More than \$200M	Official Average
Finance Officer	\$379,310	\$527,941	\$656,000	\$911,000	\$727,777	\$570,100
Tax Administrator	\$83,333	\$130,968	\$109,900	\$362,500	\$206,250	\$168,478
Register of Deeds	\$46,000	\$42,045	\$40,714	\$47,000	\$23,571	\$41,475
Sheriff	\$20,000	\$32,895	\$37,500	\$33,333	\$18,125	\$27,075

Bonding amounts were more consistent with the register of deeds notwithstanding the largest budget group. There appeared to be more efficiency with coverages for these positions with numerous governments covering the position with the blanket bond which would be less costly than the addition of an individual bond for the position. Only seven RODs were individually bonded and more than half of those were for \$10,000 lessening the overall mean value for the group. Conversely, among the lowest budget groups, five RODs were bonded for \$100K or more. Less bonding took place with the sheriff position compared to the other positions in the study. Smaller governments bonded the sheriff position more frequently compared to larger governments although the bonding limits were consistent with all budget groups with \$25,000 limits. Only one county in the larger two budget groups bonded for more than this amount; whereas, several among the lower groups secured higher bonds. Numerous counties in the study have bond coverages that exceed the statutory limitations. This is allowed; however, the surety has to agree to pay the increased premium for the coverage issuing a certificate of the change with a specified date for new coverage authorization.

Direct relationships are examined with the pairwise correlations (Table 3). Some correlations with the previous findings (Table 2) exist with the significant relationship between tax administrator (TAXAD) and finance officer bonding. A strong relationship also exists with elected official bonding practices (Sheriff and ROD). Many of the same patterns have also emerged concerning the direct relationships with the predictors. Several significant relationships exist with finance officer and tax administrator bonding compared to the elected official bonding; however, there appears to be very little support for hypothesis one with only one relationship with the personnel predictors and the primary dependent variables. Hypothesis two substantiation appears among administrative officials, but little support with elected official bonding practices. County population appears to be the best predictor with significance among several variables. For administrative bonding practices, the number of assets and less county employees as a percent of the population have significant relationships. This finding could suggest that additional increases with employee efficiency could reduce the need for additional bond coverage. At this point, there also appears to be little support for hypothesis three with only a few significant relationships although the findings do support the need for clean audits.

Findings among the predictors point to the importance of government service delivery practices. County population was significant with many of the variables suggesting that capacity is an ongoing factor in sustaining goals and objectives with additional personnel funding prioritization (DEPTED). County assets was also significant with many of the variables, especially the position variables. This

finding could suggest the prioritization of asset protection with the increasing amounts of qualified employees and the increase in bond coverages.

Table 3. Pairwise Correlations (N=100)

Variable	Finance Officer	TAXAD	ROD	Sheriff	FINEX	ACCT	APTECH	PAYROLL	DEPT
Finance Officer	1.00								
TAXAD	.330***	1.00							
ROD	-0.078	0.158	1.00						
Sheriff	-0.115	0.101	0.464** *	1.00					
FINEXP	0.069	-0.052	-0.066	-0.001	1.00				
ACCT	0.051	0.179*	-0.066	0.119	- 0.212**	1.000			
APTECH	0.147	0.067	-0.014	0.046	-0.072	0.483** *	1.00		
PAYROLL	0.148	0.107	0.022	0.009	0.039	0.202**	0.278**	1.00	
DEPTED	0.334** *	0.072	-0.058	-0.008	-0.15	0.314**	0.379** *	0.123	1.00
TOTEMP	- 0.429** *	- 0.167*	0.033	0.075	0.100	-0.277	- 0.407** *	- 0.204* *	- 0.395** *
ASSETS	0.333** *	0.256* *	-0.155	-0.009	-0.130	0.498** *	0.578** *	0.196* *	0.503** *
NETPOS	0.064	0.050	0.024	0.074	0.025	-0.042	0.013	0.004	- 0.199**
AREA	0.054	0.074	-0.034	0.063	-0.104	0.136	0.056	0.168*	0.134
POP	0.289**	0.264* *	-0.169*	-0.102	- 0.257**	0.552**	0.637** *	0.227* *	0.540** *
FINMW	-0.174	-0.114	-0.085	-0.080	-0.187*	-0.048*	-0.111	0.047	-0.090
FEDMW	-0.160*	- 0.195* *	-0.040	-0.108	-0.077	0.141	-0.005	0.142	-0.066
STATEMW	0.154	-0.067	-0.048	-0.092	-0.022	-0.014	-0.083	-0.035	0.098
RISK	-0.119	-0.079	-0.137	-0.048	-0.068	-0.043	-0.072	0.037	-0.161*
QC	-0.124	0.042	-0.153	- 0.213* *	-0.065	-0.023	-0.092	0.013	-0.034
REPEAT	-0.078	-0.097	-0.163*	-0.040	-0.115	-0.0375	0.023	0.025	-0.021
TOTEM	1.00								
ASSETS	- 0.487** *	1.00							
NETPOS	-0.101	0.0437	1.00						
AREA	0.869**	0.000* *	-0.274	1.00					
POP	- 0.594** *	0.868* **	-0.000	0.274* *	1.00				
FINMW	0.233**	-0.159	0.013	0.095	-0.124	1.00			
FEDMW	0.054	0.099	-0.112	0.162*	0.096	0.164*	1.00		

STATM W	-0.080	0.165*	0.045	0.090	0.165*	-0.089	0.434** *	1.00	
RISK	0.043	-0.090	0.018	0.158	-0.036	0.148	0.219**	0.175*	1.00
QC	0.162*	-0.042	-0.089	0.102	0.004	0.212**	0.421** *	0.127	0.238**
REPEAT	0.112*	- 0.202* *	-0.001	0.028	-0.145	0.224**	0.103	-0.120	0.383** *

Notes: Table 3 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.

5. Multivariate Results

Table 4 presents four ordered logistic regression models that examine the incremental changes in county government official bonding amounts. The analyses provide a method of examining the dependent variables with the interaction of the predictors. Compared to the previous table, there is now support for the initial hypothesis. Each model now has at least one significant predictor among finance personnel. The ROD model had two significant predictors with APTECH consisting of the strongest relationship (APTECH = .5081; $Z = 2.10$). This model also includes a statistically significant relationship between finance officer experience and ROD bonding. The APTECH variable was also significant with the Tax Administrator Model (TAXAD), but the relationship was inverse (APTECH = -.3949; $Z = -2.00$). Findings also indicate that as the number of staff accountants increase, sheriff bonding amounts increase. The importance of these positions was also present in Table 3 with the direct association between a number of these positions. The inverse relationship with TOTEMP and finance officer bonding is representative of the continuing pressures of the position despite the addition of personnel and additional transactions. This could explain some of the findings among additional models due to delegation of responsibilities.

The number of findings associated with organizational attributes were somewhat limited. County population was significant and negative for both the ROD model and the Sheriff Model indicating that as county populations decrease, there is a higher likelihood of increased bonding for these two positions; however, neither model had significance. Of course, this is not a tremendous burden on counties due to the legislative restrictions. Although not significant, this relationship is also negative within the Finance Officer Model indicating some type of perceived risk by either internal personnel or sureties.

Table 4. Determinants of Bonding Amounts by Government Position

Panel	Finance Officer		TAXAD		ROD		Sheriff	
FINEXP	.1473	(0.87)	.0169	(0.12)	-.3523	(-1.84)*	-.1365	(-0.85)
ACCT	-.1377	(-0.59)	.2344	(1.14)	-.0468	(-0.20)	.3954	(1.81)*
APTECH	-.2754	(-1.32)	-.3949	(- 2.00)**	.5081	(2.10)**	.2975	(1.32)
PAYTECH	.5287	(1.69)*	.2875	(1.18)	.2923	(1.09)	.0385	(0.15)
DEPTED	1.2889	(1.70)*	-.9442	(-1.45)	.2817	(0.39)	.5625	(0.84)
TOTEMP	-1.6349	(- 2.74)**	-.0805	(-0.17)	-.1796	(-0.29)	.6590	(1.18)
ASSETS	.5981	(1.91)**	.2542	(0.97)	-.2896	(-0.90)	.2821	(0.90)
NETPOS	.1176	(0.40)	-.0611	(-0.25)	.2275	(0.70)	.1590	(0.56)

AREA	-.2397	(-0.47)	-.0714	(-0.16)	.6414	(1.16)	.7560	(1.49)
POP	-.4231	(-0.97)	.4963	(1.38)	-.7425	(-1.68)*	-.9571	(-2.24)**
FINMW	-.0207	(-0.04)	-.6042	(-1.17)	-1.0884	(-1.63)*	-.3408	(-0.65)
FEDMW	-1.8632	(-2.12)**	-2.5938	(-2.73)**	.9048	(0.93)	-.2356	(-0.28)
STATEMW	3.0657	(2.03)**	-.5359	(-0.35)	-.9030	(-0.63)	-.3356	(-0.29)
RISK	-.5053	(-0.93)	-.1543	(-0.41)	-.3970	(-0.75)	.0270	(0.05)
QC	.1207	(0.15)	1.4783	(1.85)*	-.5742	(-0.50)	-1.6922	(-1.76)*
REPEAT	.6860	(1.16)	.0611	(0.12)	-1.2359	(-1.95)**	-.0191	(-0.04)
Threshold 1	-2.3584		.3525		-1.4176		1.1164	
Threshold 2	-1.2477		2.2038		.8553		3.8921	
N	100		100		100		100	
Log. Lik.	-83.7071		-92.1934		-68.9260		-75.9187	
LR Chi-Squared (16)	43.33**		26.39**		20.28		19.58	
McFadden's Pseudo R-Squared	.2056		.1252		.1282		.1142	

Notes: Cell entries are unstandardized parameter estimates; ** $p < .05$; * $p < .10$ (Two-tailed test). Z Scores in parentheses. The table presents estimates of ordered logistic regression specifications. For the dependent variables, Finance Officer = 3 if bonding amount is more than \$1 million; Tax Administrator = 3 if bonding amount is \$200K or greater; Register of Deeds = 3 if bonding amount is \$100K or greater; Sheriff = 3 if bonding amount is \$50K or greater.

Internal control findings extended across all models and provided support for the third hypothesis. It appears that with these predictors bonding increases occur despite lower internal control findings. Contrasting findings emerged from the Finance Officer Model as STATEMW findings increased, there was a higher likelihood of a bond increase (STATEMW = 3.0657; $Z = 2.03$); however, a decrease in FEDMW, or internal control findings among federal awards, also led to the probability of a higher bond rating. A questioned costs (QC) finding was present among two models but contrasting directions. A positive and significant relationship existed with the Tax Administrator Model (TAXAD), but the relationship was negative with the Sheriff Model. In addition to internal control findings within the compliance section of ACFRs, there are also remediation plans for corrective action. The combination of these procedures and the state oversight mechanism which includes further audit oversight could negate official and surety concerns over losses with market changes determining coverage amounts. Two of the models (Finance Officer and Tax Administrator) 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 finance officer and tax administrator bonding practices among county governments.

Model robustness results were tested by the substitution of two predictors (Table 5). The number of staff accountants (ACCT) was replaced with the business officer position (BUSINESS). This position is coded as a dichotomous variable since the position is budgeted by choice. This position is usually in departments with high FTE counts and is an intermediary for human resources and finance departments providing assistance for payroll and job classifications among other responsibilities. Business officers can normally be found in human service, law enforcement, and education departments. DEPTED as a functional classification area was also replaced with public safety or sheriff department spending (DEPTLAW). Among North Carolina county governments, this area has consistently comprised of the highest level of expenditures and in many cases FTE.

Table 5. Alternative Determinants of Bonding Amounts by Government Position

Panel	Finance Officer		TAXAD		ROD		Sheriff	
FINEXP	.1216	(0.68)	-.0202	(-0.13)	-.3817	(-2.23)**	-.1919	(-1.23)
BUSINESS	-.6604	(-1.17)	-.2803	(-0.55)	-.6936	(-1.52)	-.4455	(-0.89)
APTECH	-.3083	(-1.80)*	-.3045	(-1.49)	.5130	(2.38)**	.3642	(1.45)
PAYROLL	.5341	(1.20)	.2721	(1.18)	.2715	(1.52)	.0813	(0.28)
DEPTLAW	-.7271	(-1.44)	.7757	(1.20)	-.2106	(-0.33)	-.8934	(-1.71)*
TOTEMP	-1.7365	-(2.66)**	-.0101	(-0.02)	-.2327	(-0.38)	.8150	(1.40)
ASSETS	.6683	(2.07)**	.2292	(1.05)	-.2423	(-0.82)	.3007	(0.82)
NETPOS	.0589	(0.21)	-.0203	(-0.08)	.2203	(0.58)	.1953	(0.71)
AREA	-.2085	(-0.43)	.0153	(0.03)	.6800	(1.27)	.7110	(1.47)
POP	-.4205	(-1.07)	.5566	(1.59)	-.7838	(-1.86)*	-.8235	(-1.80)*
FINMW	.1852	(0.31)	-.5521	(-0.93)	-1.0115	(-1.45)	-.4373	(-0.86)
FEDMW	-2.1590	-(2.54)**	-2.2818	(-2.50)**	.8332	(1.19)	.1250	(0.18)
STATEM	2.9862	(2.50)**	-.7861	(-0.84)	-.9172	(-0.60)	-.7716	(-0.76)
RISK	-.4568	(-0.82)	-.0668	(-0.13)	-.3387	(-0.60)	.1020	(0.21)
QC	.1113	(0.18)	1.3899	(1.66)*	-.6269	(-0.64)	-2.0203	(-2.03)**
REPEAT	.4899	(0.83)	-.0496	(-0.09)	-1.3717	(-2.45)**	-.1559	(-0.31)
Threshold 1	-3.5280		1.2225		-1.9921		.4288	
Threshold 2	-2.4165		3.0584		.3258		3.1849	
N	100		100		100		100	
Log. Lik.	-83.7937		-92.8152		-67.9352		-76.4296	
LR Chi-Squared (16)	51.95**		22.46		26.60**		14.93	
McFadden Pseudo R-Squared	.2048		.1193		.1408		.1083	

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, Finance Officer = 3 if bonding amount is more than \$1 million; Tax Administrator = 3 if bonding amount is \$200K or greater; Register of Deeds = 3 if bonding amount is \$100K or greater; Sheriff = 3 if bonding amount is \$50K or greater.

Model findings are still fairly consistent with some new findings. The Finance Officer Model had a substitution among significance among personnel variables. The APTECH variable now has an inverse relationship with bonding amounts versus PAYROLLTECH in Table 4. This same variable has emerged within the ROD Model, but now has a positive relationship; however, APTECH was lost under the changes within the TAXAD Model. The Sheriff Model had one of the most interesting findings. Changing the highest expended functional classification area to law enforcement actually produced a significant, but *negative* outcome. If counties dedicate the largest amounts of expenditures

to some other functional classification area which would most likely include either public education or human services, sheriff bonding increases. Two models also have significance, except the results show a significant ROD Model at the .05 level versus the Tax Admin. Model in the previous table.

All of the findings thus far provide some support for all hypotheses. Overall, it can be concluded that some type of staff presence is associated with bonding practices although the models were not conclusive concerning specific position impact. Proper staffing can easily assist with the prevention of internal control issues. The second hypothesis only had moderate support and it primarily extended from the POP variable. County population was significant with the elected official models, but negative suggesting the likelihood of bonding increases even among counties with smaller and decreasing populations. The asset increase findings within the Finance Officer Model could provide more evidence surrounding bond increases. Hypothesis three also had findings across all models, but the relationships were mostly negative indicating the presumption of risk explaining a probability of a bonding increase among all officials versus actual audit findings concerning internal control findings.

6. Conclusion

This study has examined the bonding practices of county government officials in North Carolina. The findings appear to suggest a two-tier system of bonding with specific personnel and organizational factors correlating with more bonding for appointed officials while the bonding for elected officials appear to be more autonomous. Smaller counties with less experienced finance officers and more accounts payable technicians and clean audits were more likely to apply higher bonded amounts for the Register of Deeds in particular. This same type of pattern was likely for the sheriff as well except there is a higher number of accountants associated with the Sheriff Model. The overall conclusion is that for the larger counties with a more experienced finance officer, there is significantly more oversight of all financial transactions related to the offices therefore slightly less need for increased bonding of these officials (Table 2); whereas the responsibilities are delegated to other staff with smaller counties providing more risk. The findings also suggest some type of audit finding could be a forerunner for increased bonding amounts for appointed staff. For end of year purposes in which audit presentation is based on accrual accounting, all amounts are reconciled with eventual internal control resolutions as a result of changed procedures.

The study was exploratory therefore there is no direct relationship to previous studies. However, portions of the study did verify previous findings that suggested increased levels of accountants were associated with less material weakness findings (Modlin, 2024b) not to mention overall less audit irregularities with more experienced finance officers (Modlin, 2012; Modlin, 2017; Rich & Zhang, 2016). State driven statutes and increased scrutiny of the risk process along with the acquisition of proper bonding was evident among many of the governments (Stanton & Webster, 2014).

There are many limitations with the study. First, there is no information concerning the number of claims that can be directly attributed to the positions that were under analysis. With the exception of the finance officer, any type of occurrence could be a factor for bonding changes. This information would not be readily available in compliance reports due to the high probability of classified personnel activity that would only be discussed in closed sessions. Second, all of the relevant information concerning finance office staff entirety and the related position descriptions were not available. A list of positions responsible for accounts receivable and positions responsible for elected official financial transactions would have provided more significant information. Third, more information concerning

sureties and types of available coverages would provide more explanation concerning bonding amounts, especially as it relates to blanket bonding.

The study has illustrated many important factors contributing to official bonding coverages. Government responsibility is quite apparent as there is statutory language concerning bonding implementation related to the protection of government assets. The importance of skilled positions has also been proven, but proper staffing is important for internal controls therefore reducing unnecessary risks. The study has demonstrated that risk management and bonding practices are an essential part of the overall service implementation and evaluation process.

Appendix

Variable	Definition
Finance Officer (DV-Ordered)	Total Finance Officer Bonded Amount; 3 = \$1M Source: ACFR
Tax Administrator (TAXAD) (DV-Ordered)	Total Tax Administrator/Official Bonded Amount; 3 = \$100K or More Source: ACFR
Register of Deeds (ROD) (DV-Ordered)	Total Register of Deeds Bonded Amount; 3 = \$50K or More Source: ACFR
Sheriff (DV-Ordered)	Total Sheriff Bonded Amount; 3 = \$20K or More. Source: ACFR
FINEXP	Finance Officer Experience; 5 = More than 20 Years Source: UNC School of Government County Salary Study, ACFR
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
PAYROLLTECH	Number of Payroll Technicians on Staff; 5 = Five or More Source: UNC School of Government County Salary Study
DEPTED	Functional Classified Area with Highest Level of County Expenditures; 1 = Education. Source: ACFR
EMP	Number of County Employees as a Percent of County Population; 3 = More than 2%. Source: ACFR
ASSETS	Total accumulated assets in all governmental funds; 5 = More than \$250M
NETPOS	Net Position Change from Previous Year; 3 = Increase by More Than 10%. Source: ACFR
AREA	Number of County Square Miles; 1 = More than 500 Source: US Census Bureau Geography Division (2010)
POP	Number of County Citizens; 5 = More than 250K Source: US Census Bureau
FINMW	Auditor Finding of a Material Weakness among Financial Statements; 1 = Yes. Source: ACFR
FEDMW	Auditor Findings of a Material Weakness among Federal Awards; 1 = Yes. Source: ACFR
STATEMW	Auditor Finding of a Material Weakness among State Awards; 1 = Yes Source: ACFR
RISK	County Government Designated High Risk by Audit Firm; 1 = Yes Source: ACFR
QC	Auditor Finding of a Questioned Cost among Service Distribution; 1 = Yes. Source: ACFR
REPEAT	Auditor discovery of a repeat finding from the previous FY; 1 = Yes Source: ACFR

Disclosures

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