DETERMINANTS OF FINANCIAL CONDITION:
A STUDY OF U.S. CITIES

by

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ABSTRACT

How well a local government is able to provide for the needs and preferences of its citizens generally depends on the financial resources available; and, how such resources are allocated, distributed, and managed. Demographics, size of local government, supply and age of infrastructure, financial position of the government, and the local economy represent a few of the factors affecting what public goods and services citizens prefer. Internal systems of accounting and control affect the allocation, distribution, and management of financial resources. As such, these internal systems significantly affect the provision of public goods and services.

The research outlined in this study examined the relationship between a government's financial management capacity (independent variable) and its financial condition (dependent variable), while controlling for environmental factors related to governance and demographics. Financial condition was quantitatively measured using financial ratios calculated from a database of over 1,600 U.S. cities compiled by the Government Finance Officers Association. Financial management capacity and its relationship to financial condition were measured with a survey of the chief financial officers of almost 500 of the sample cities.

This research was exploratory in nature as there is little empirical evidence with respect to financial management capacity or its relationship to overall financial condition. In this study certain statistically significant moderate correlations were found with respect to financial condition and financial management capacity. However, multiple regression analysis of financial condition and financial management capacity (controlling for governance and socio-economic

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factors), indicated no statistically significant relationship between them as conceptualized and operationalized for this study. When controlling for certain governance and socio-economic factors, annual limits on increases in assessed property valuations and population were found to be statistically significant with respect to financial condition. Additionally, these control variables increased and decreased financial condition, respectively.

A major contribution made to the literature by this study lies in its attempt to establish an empirical relationship between financial management capacity and government performance as measured by financial condition. Based on existing literature as reviewed by this researcher, the testing of this relationship had not been done previously. This study defined and measured both financial management capacity and financial condition in dimensions and indicators that can be used in future research. Additionally, efforts were made to test the internal reliability of both measures. The results of this research indicated there are a number of other financial management capacity and environmental factors influencing financial condition beyond those identified in this study. This research also provided insight regarding the extent financial management capacity affects financial condition even though such relationships were not found to be statistically significant. Because no statistically significant relationships between financial condition and financial management capacity were found in this study, additional research is necessary to further explore this relationship as well as the correlation between the various indicators of these concepts.

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CHAPTER ONE

INTRODUCTION

<u>Historical Perspective</u>

Interested citizens, politicians, and government employees have voiced demands to reform government operations and services since the glory days of the American political machines (Judd & Swanstrom, 2002). Writing in 1916, then President of Johns Hopkins University, Dr. Frank J. Goodnow urged government organizations to adopt business methods in the area of government finance. He posited that such business methods applied to a government organization would result in efficient delivery of public services with the least amount of cost (Goodnow, 1916). In response to this and other criticisms concerning increased expenditures and a lack of financial controls, accounting and financial reporting was improved and public officials improved their management practices (Rubin, 1993).

At the end of World War I, Willoughby urged the federal government to conduct business the same as other business enterprises. He contended budget reforms, including a budget system and a statement of financial condition, were necessary to efficiently address the post-war needs and changes (Willoughby, 1918). Many of the reforms in the early 20th century, such as scientific management, attempted to improve government performance by addressing issues of efficiency, effectiveness, and/or economy (Ingraham, Joyce, & Donahue, 2003; Kelly, 2003; Shafritz & Russell, 2003; Waldo, 1948).

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Significant restructuring of the executive branch of the federal government in 1938 resulted from the recommendations of the President's Committee on Administrative Management (the Brownlow Committee) (Kelly, 2003; Shafritz & Russell, 2003). Gullick's seven major functions of management in the public sector, "POSDCORB" (i.e. planning, organizing, staffing, direction, coordinating, reporting, and budgeting), developed in 1937 were considered state of the art for organization theory (Shafritz & Russell, 2003). During this time, support for a professional city manager increased and the Model City Charter was endorsed by the International City/County Management Association (ICMA) (Svara, 2001). The two Hoover Commissions in the late 1940s and mid 1950s reduced a number of federal agencies and eliminated numerous non-essential services (Shafritz & Russell, 2003). During this time, known as the positive government era, many of the precepts of modern public administration were developed (Box, Marshall, Reed, & Reed, 2001; Frederickson, 1996).

Events and circumstances in the U.S. during the turbulent 1960s led Waldo to convene the first Minnowbrook Conference in 1968. The young scholars (under 35 years old) invited to this conference were very aware the failings of American democracy necessitated a radical new way of managing the public sector. As such they advocated professional public service with the dual focus of efficiency and social equity. Their ideas and theories espoused at the conference laid the foundation for the new public administration era (Carroll & Frederickson, 2001; Frederickson, 1989; Ingraham & Rosenbloom, 1989).

President Reagan's 1982 President's Private Sector Survey on Cost Control (the Grace Commission) recommended many private sector innovations and practices for adoption by the federal government. It was President Reagan's fiscal policies and not his Grace Commission that most reformed government operations at the federal, state, and local levels. A staunch believer in

states rights and less government, President Reagan redefined domestic priorities by eliminating numerous federal programs and through massive reductions in federal aid to states and local governments (Kelly, 2003; Shafritz & Russell, 2003).

Decreased federal funding in the 1980s forced state and local governments to reduce services, raise taxes and fees, or look for more efficient methods of service delivery (Shafritz & Russell, 2003). Many governments found it necessary to empower their employees and citizens to make their own choices. This period of empowerment, creativity, and non-traditional solutions to traditional public administration issues became the reinventing government period (Frederickson, 1996).

During this time, techniques such as budgeting for outcomes were developed to accommodate the delegation of decision making to lower levels and to increase accountability among public organizations (Martin, 1997). The concept of performance measurement also came to the forefront of public administration as a method to systematically assess the quality of public services (Hatry, 1980; Wang, 2000). In an effort to link resource allocation decisions with performance and outcomes, alternative budgeting techniques and formats such as program, zero-based, target-based, outcome-oriented, and performance budgeting were adopted by a number of governments (Rubin, 1992; Wang, 1999). Decentralization of functions and moving from rules to guiding principles occurred in such areas as purchasing, budgeting, and personnel; and various public services were contracted to private enterprise (Bartle & Korosec, 1996, 2003; Gianakis & Wang, 2000; Savas, 1993, 2002).

Some of the more successful and/or creative techniques utilized by state and local governments to meet these funding challenges were the basis for the Osborne and Gaebler (1992) bestselling book *Reinventing Government* (Kelly, 2003; Osborne & Gaebler, 1992; Shafritz &

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Russell, 2003). In the spirit of reinventing the federal government, in an effort to reduce the federal government and its record deficits, President Bill Clinton authorized Vice President Al Gore to lead the National Performance Review (NPR). Unlike previous attempts to reform or reinvent government, the NPR and Osborne and Gaebler's *Reinventing Government* inspired governments at all levels to fundamentally change the way they operated (Box et al., 2001; Kelly, 2003; Martin, 1997; Shafritz & Russell, 2003; Thompson & Ingraham, 1996).

After more than a decade of reinventing government, local governments and particularly cities, now seek even more accountability for performance to their stakeholders. In some cases this is achieved through strategic and long-term initiatives to improve operating performance. Other governments seek to improve operating performance by managing for the desired results or through other performance-centered reforms (Coe, 1999; Ingraham et al., 2003; Moynihan & Ingraham, 2003). For the most part, the common thread among all government organizations, management, has been largely ignored in efforts to restructure and reorganize (Ingraham et al., 2003).

<u>Financial Condition</u>

Financial condition has been characterized in a number of ways ranging from the specific to the general (Douglas & Gaddie, 2002; Groves & Valente, 1994; Jones, 1979; Levine, 1978, 1980; Pagano, 1993, 2002b; Pagano & Hoene, 2002; Stanley, 1980; Wolkoff, 1987). Inherent in financial condition is a government's financial position as well as its ability to adequately provide services and to meet obligations not only today but in the future (GASB, 1987). As such, local government officials should adopt financial condition policies that support

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intergenerational social equity and at a minimum should have a neutral effect on future generations (Frederickson, 1994).

How well a local government is able to provide for the needs and preferences of its citizens generally depends on the financial resources available; and how such resources are allocated, distributed, and managed (Musgrave & Musgrave, 1980). In the allocation and distribution of public resources, economic efficiency requires that local preferences for public goods and services match the fiscal decisions of elected officials. Demographics, size of local government, supply and age of infrastructure, financial position of the government, and the local economy are only a few of the factors affecting what public goods and services citizens prefer (Aaronson & Schwartz, 1996; Dougherty, Klase, & Song, 2000).

In times of economic growth, financial condition improves typically due to higher property values, increased wages, and increased consumer spending. These conditions often generate additional revenues for governments thereby potentially eliminating the need to increase taxes as a way to increase revenues. The additional revenues allow elected officials and public administrators to fund new programs and services or to augment funding of existing programs and services (Levine, 1978, 1980; Mikesell, 1995).

Conversely, in periods of slow or no growth, financial condition deteriorates and such decline is often exacerbated when elected officials, public administrators, and citizens refuse to decrease services or reduce capital spending (Levine, 1978, 1980). Believing most economic downturns to be short-term, local governments typically solve budgetary crises by raising taxes and fees, employee layoffs and hiring freezes, and/or eliminating or delaying capital purchases (Stanley, 1980). These destructive budget strategies negatively impact a government's financial

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condition in both the long and short term and lead to financial collapse if not reversed (Niskanen, 1994).

A number of states have instituted measures or enacted laws designed to assess fiscal conditions at the state and/or local government level (Florida, 2003; Kleine, Kloha, & Weissert, 2003; Mercer & Gilbert, 1996; Nottley, 1995; Petro, 1998; Smith, 1998; Wolff & Hughes, 1998). Procedures used are either specified in the enabling legislation (Kleine et al., 2003; Petro, 1998; Smith, 1998) or left to the discretion of the local government (Florida, 2003). In those states where the procedures are specified, financial condition is assessed primarily using some combination of financial and demographic indicators and ratios at a point in time or over a number of years (Kleine et al., 2003; Nottley, 1995; Mercer & Gilbert, 1996; Petro, 1998; Smith, 1998; Wolff & Hughes, 1998). While some consistencies exist within either the broad areas of concern or the individual indicators, there is no general uniformity among the systems currently in use to assess financial condition.

<u>Management Capacity</u>

As a dynamic and normative science, management looks to make human systems more valuable to society by examining how individuals within the system work together to achieve organizational goals and objectives (Gullick, 1965). Without effective management, government organizations will never reach their optimum level of overall effectiveness. The management capacity of any government is represented by its skill in positioning, developing, guiding, and monitoring all of its various systems. Such systems are represented by the human, financial, physical, and information resources of a government. Total management capacity in governmental organizations is dependent on its (1) management systems, (2) vertical and

horizontal integration within those systems, (3) leadership, and (3) managing for results (Ingraham et al., 2003). Management capacity is a crucial link between government resources and public services but is most often deontological (rules or process based) rather than teleological (end justifies the means) in nature. It is a governmental organization's management that is responsible for balancing citizen demands and limited resources to maximize service delivery (Ingraham & Donahue, 2000; Ingraham et al., 2003; Martin, 1997).

However, a number of environmental factors outside the control of public managers such as socio-economic conditions, government mandates, demographics, and governance structure also affect government performance (Ingraham & Donahue, 2000; Ingraham et al., 2003; Martin, 1997). Therefore it follows that, controlling for environmental factors, the greater an organization's management capacity, the greater level of performance by the organization (Ingraham & Donahue, 2000; Ingraham et al., 2003).

In governmental organizations, financial management capacity is a subsystem of management capacity. As such, this system is charged with effectively distributing and managing the financial and economic resources of the government. A number of policies, procedures, and controls typically exist in any governmental organization to protect its financial and economic resources and to assure they are used for public purposes. These strategies may or may not be integrated with a government's human, information, and/or capital systems or in alignment with other management strategies (Honadle, Costa, & Cigler, 2004; Ingraham et al., 2003). In the case of a government's financial management capacity, financial condition is the paramount indicator of government performance as deemed by this researcher.

Understanding how management capacity relates to results is the first step in improving performance and accountability in government organizations. Effective management systems

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support managers while allowing them autonomy and holding them responsible for results. Fundamental to effective management systems are human resources, information technology, capital, and financial resources. Leadership, results management, and institutional integration are also important to effective management capacity development systems. It is necessary to define appropriate criteria within each of these management capacity subsystems in order to determine the management capacity of an organization and its effect on overall organizational performance (Ingraham et al., 2003; Moynihan & Ingraham, 2003).

One of the goals of this research was to develop definitions of financial condition and financial management capacity, measure these two concepts, and then test the relationship between them (see Table 9 in Appendix F). To date, no research has attempted to simultaneously define, measure, and test these two concepts. Therefore, one of the results of the tests performed was corroboration of the definitions and measures of financial condition and financial management capacity as defined in this study. This researcher used a multiple regression model to examine the relationship between financial condition (government performance) and financial management capacity in U.S. cities by drawing on management capacity theory. The model utilized a number of governance and socio-economic indicators as control variables. Relying on personal experience and the findings of others (Barrett & Greene, 2000; Dougherty et al., 2000; Fitch, 2003; Gargan, 1987; Ingraham et al., 2003), financial management capacity was seen by this researcher as crucial to financial condition (i.e. financial performance) in a municipal government.

Statement and Significance of the Problem

Competent management at all levels of a government organization is necessary in order to provide adequate levels of services without overspending available financial resources (Finkler, 2001). The objective of a government's system of financial management capacity is to ensure and maintain sound financial condition without negatively affecting service levels and/or quality. For any government the challenge is identifying those components of an ideal financial management system that can be effective in their specific circumstances. Financial management capacity should include strategies that enable a government to maintain services during times of economic stress (GASB, 1987; Groves & Valente, 1994; Nollenberger, 2003). Giving priority to the efficient and economical use of human and financial resources enhances the effectiveness of any financial management capacity system (Ingraham & Donahue, 2000).

Financial management is sometimes considered in terms of a set of standards relating in large part to administering the assets of an organization the efficacy of which is reflected in the net operations of the organization (Rotarius & Liberman, 2001). Typically financial management capacity includes policies and procedures related to procurement, accounting, cash and investment management, debt management, and budgetary execution and control (Fitch, 2003; Ingraham & Donahue, 2000; Ingraham et al., 2003). Proper implementation and monitoring of these and other policies and procedures effectively safeguards a government's assets and culminates in financial condition. To this end, a government's financial management capacity allows it to maintain its financial condition during times of fiscal strain as well as economic prosperity (GASB, 1987; Groves & Valente, 1994; Nollenberger, 2003).

Various budget reforms in the last century have led citizens to believe government should be not only accountable but responsive both financially and politically (Kelly, 2003). Unlike

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budgeting principles in place in the early 1900s where administrative control was emphasized, a major objective of financial management at the local government level today is providing financial information to elected and appointed officials for use in resource allocation decisions (Cleveland, 1907; Gargan, 1987). Financial data should be reliable and relevant to ensure elected and appointed officials make better-educated decisions (Berne, 1992; Bowsher, 1996; GASB, 1987; Willoughby, 1918). Likewise, information should be maintained to monitor an organization's progress toward its mission and goals. In this manner, external and internal stakeholders can assure themselves resources are being used with discretion and for intended purposes (Page, 2004).

In spite of reliable and relevant financial data, elected officials focus more on short term service delivery concerns (Svara, 1999) than long term financial health. They often decide to provide municipal services at existing or desired levels by using excess current revenues or accumulated cash reserves in lieu of increasing taxes or fees for services. Such decisions are made not only in times of fiscal stress or declining economic conditions but even in times of relative economic stability or growth (Aaronson & Schwartz, 1996; Groves & Valente, 1994; Higgins, 1984; Levine, 1978, 1980; Musgrave & Musgrave, 1980; Pagano, 1993; Stanley, 1980). Continued use of excess current revenues or accumulated cash reserves as a budget balancing technique depletes a local government's available reserves and seriously weakens its financial condition (Groves & Valente, 1994; Higgins, 1984; Honadle et al., 2004; Levine, 1978, 1980; Mikesell, 1995; Pagano, 1993).

Until the fiscal crises of such cities as New York, New York; Bridgeport, Connecticut; Chelsea, Massachusetts; and Cleveland, Ohio it was inconceivable that a U.S. city could be bankrupt or insolvent. These cities, as elsewhere in the U.S. at the time, assumed economic

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prosperity would be continuous and economic growth unlimited (Brecher & Horton, 1985; Jones, 1979; Lipsky, 1997; Pagano, 1993, 2001, 2002a). The fiscal crisis in New York City in the mid-1970s emphasized the significant impact of a government's accounting and reporting practices upon its financial condition. A review of the New York City financial crisis by the Securities and Exchange Commission concluded the financial condition of New York City masked its unsound accounting and reporting procedures as well as the inadequacy of its internal accounting control system (Berne, 1992; Soybel, 1992). Specifically, the use of cash accounting, poor management decisions, overspending, and deficient accounting records were major factors leading to the financial crisis in New York City (Fitch, 2003; Soybel, 1992).

Prompted by these near and other actual defaults of municipal debt, credit rating agency, Fitch IBAC (Fitch), revised its rating criteria in the late 1990s. Based on this review, Fitch concluded management practices were more predictive of favorable credit performance than previously thought. A number of best practices were identified by Fitch analysts as making a difference of up to three rating notches if incorporated by issuers of municipal debt. The most notable of these best practices are as follows:

1. Fund balance reserve policy/working capital reserves;

2. Multi-year financial forecasting;

3. Monthly/quarterly financial reporting and monitoring;

4. Contingency planning policies;

5. Policies regarding non-recurring revenues;

6. Debt affordability reviews and policies;

7. Superior debt disclosure practices;

8. Pay-as-you-go capital funding policies;

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9.   Rapid debt retirement policies;

10.   Five-year capital improvement plan integrating operating costs for new

        facilities;

11.   Financial reporting and budgeting awards (Fitch, 2003).

<div align="center">Causal Process Statement</div>

A strong financial management capacity system is the integral link between a government's economic resources and its financial condition. Financial management capacity includes a number of policies, procedures, practices, and strategies as well as competent and professional financial leadership. The resulting system of financial management capacity creates and then helps maintain a sound financial condition, which is one measure of governmental performance (Ingraham & Donahue, 2000; Ingraham et al., 2003).

Financial condition has both a current and long-term component and results primarily from excess current revenues over expenditures for a number of years. Strong financial condition is necessary for a government to continue providing services at levels citizens expect and require and to continue to invest in capital improvements and infrastructure. However, continued use of excess current revenues or accumulated cash reserves to finance improved or existing service levels causes a city's overall financial condition to deteriorate. Continued avoidance of tax and fee increases and/or use of excess current revenues or accumulated reserve funds deplete a city's cash reserves (Aaronson & Schwartz, 1996; Berne, 1992; Brecher & Horton, 1985; Honadle et al., 2004; Nice, 2002).

When all accumulated cash reserves are exhausted, it becomes necessary to significantly reduce existing service levels unless tax rates or fees for services are increased. Significant

reductions in municipal service levels threaten the health, safety, and welfare of property owners, residents, and visitors (Groves & Valente, 1994; Higgins, 1984; Levine, 1978, 1980; Lipsky, 1997; Mikesell, 1995; Pagano, 1993). Therefore, it is essential a government's financial condition be adequate to avoid decreasing service levels and/or increasing taxes and/or user fees to maintain existing municipal services.

Research Questions

From the research summarized in this chapter as well as the introductory section two basic questions arose. Generally, these questions related to the relationship between a city's system of financial management capacity and its financial condition. Specific research questions that evolved from the examination of relevant literature were as follows.

1. Are specific dimensions and indicators of financial condition defined in existing literature?

2. If specific dimensions and indicators of financial condition are defined in existing literature, have their relationships been empirically tested?

3. Are specific dimensions and indicators of financial management capacity defined in existing literature?

4. If specific dimensions and indicators of financial management capacity are defined in existing literature, have their relationships been empirically tested?

5. Do specific financial management techniques influence the financial condition of cities differently?

6. If specific financial management techniques influence financial condition, how do these techniques influence the financial condition of cities?

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CHAPTER TWO

FRAMEWORK

<u>Previous Literature</u>

For purposes of this section, relevant scholarly articles from both a theoretical and empirical perspective are presented. The researcher's variable of interest was financial condition as it is or is not affected by financial management capacity and as controlled for environmental factors. Little research exists related to management capacity and there is a paucity of research relating to financial management capacity in public sector organizations. A number of researchers have examined financial condition in public sector organizations and the most pertinent and prolific of those are delineated in this section. In addition to theoretical and empirical research relating to financial condition and financial management capacity, a number of control variables appear consistently in the literature related to these concepts.

This review of previous literature first discusses (1) management capacity and then (2) financial management capacity from the theoretical and empirical perspectives. In this study, financial management capacity was the independent variable. Following these discussions, the theoretical and empirical research supporting the dependent variable, financial condition, is presented.

Financial Condition: Framework

In the United States, the Governmental Accounting Standards Board (GASB, the Board) is the recognized standard setting body for governmental accounting and financial reporting by state and local governments (GASB, 2004; Honadle et al., 2004; Ingraham et al., 2003). Since its creation in the mid 1980s, the Board has proposed financial reporting as one way for governments to meet their obligation to be accountable to the public they serve. As such, the Board adopted a broad based approach to financial reporting that considers not only the needs of the users but the decisions they make based on such information. Applying this holistic approach, financial reporting was defined to include financial statements and other types of financial reports such as (a) special purpose reports; (b) debt offering documents; (c) budgets; (d) external grant reports, and (e) other non-financial information (GASB, 1987).

The Board defined financial condition to include not only financial position but also the government's ability to continue to provide services and to meet obligations both now and in the future (GASB, 1987). As such, financial condition has both a short term and long term dimension. Characteristics of financial condition used by the Board to define financial condition follow:

1. measurement of financial condition includes a time dimension;

2. financial condition is rooted in a government's economic environment;

3. financial condition is multidimensional (or multiconstituency) with complex interdependencies among the various parts; and

4. financial condition involves implicit and explicit obligations that are not necessarily reflected in cash flows or financial contracts (i.e. little outstanding debt but deteriorating infrastructure) (Berne, 1992).

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In the public sector, government performance is typically considered in light of efficiency, effectiveness, and equity. Governmental entities are expected to consistently provide high quality services at the lowest possible cost to the taxpayer while also maintaining sound financial condition. Management capacity, and specifically financial management capacity, is essential to maintaining the delicate balance between government services and financial condition. A number of financial management capacity strategies (such as implementation of financial policies in the areas of cash management, capital programming/forecasting, budget to actual comparisons, and quality of financial reporting) aids in evaluating the effectiveness of financial management capacity (Berne, 1992).

The framework for financial condition outlined in this section is important because the GASB issued Statement No. 44 related to economic condition reporting in the spring of 2004. This statement related to reporting economic condition and represented the second phase in a multi-year, multi-phase financial condition reporting project initiated by the GASB in 1993. Since the GASB is the sole standard setting body in the United States for accounting and financial reporting by state and local governments, this statement represents generally accepted governmental accounting principles (GAGAP, governmental GAAP). As such, state and local governments will be required to follow this statement in their accounting and financial reporting (GASB, 2004).

According to the GASB, too many users of governmental financial reports use the terms financial position and financial condition interchangeably. Therefore, the phrase "economic condition" was adopted by the Board and used in Statement No. 44 (GASB, 2004). Dimensions of the concept of financial condition, as utilized by this researcher, as well as the researcher's

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governance and demographic dimensions, were similar to those required, in part, under GASB Statement No. 44.

Financial Condition: Empirical Research

Ammar, Duncombe, Hou, Jump, and Wright (2001), used a fuzzy rule-based system (FRBS) to evaluate financial performance and creditworthiness using data collected as part of the Government Performance Project (GPP). They compared their determination of financial performance to external bond/credit ratings for these cities. The researchers primarily utilized rating agency factors as dimensions and indicators of financial performance. Categories used were (1) economic factors, (2) debt ratios, (3) financial factors, and (4) management. Economic measures included population growth, employment, housing, and poverty. Debt ratios considered debt burden, repayment history, and capital spending levels. Financial factors related to the general fund and encompassed average unrestricted/unreserved fund balances, average surpluses, and differences in recent and average surpluses.

These researchers developed indicators within each of the categories and related low, moderate, and high ranges using GPP data and rating agency criteria. Using a fuzzy rule-based system, scores were determined for each component and weights were developed (initial assessment was that all categories equally affected creditworthiness) based on interactions between the four areas. When this analysis was completed, a combined "defuzzified score" representing overall creditworthiness was determined. When their fuzzy rule-based scores, excluding financial management, were compared to bond ratings assigned by Moody's, they found a simple correlation of .85 and that FRBS scores, within the five major rating categories, correctly predicted Moody's ratings for 22 of 30 ratings (73%). Adding financial management

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the simple correlation was .92 and 90 percent of the FRBS ratings correctly predicted Moody's ratings. Additionally, the researchers found the FRBS rating changed in 40 percent of the cities (three ratings increased and seven decreased) when financial management was considered.

The Ammar, Duncombe, Hou, Jump, and Wright (2001) study was relevant to this researcher because it studied financial performance in U.S. cities which was the dependent variable and the population, respectively, of this researcher's study. Additionally, the purpose of the study was to measure overall financial performance using standardized criteria and then to compare it to externally determined bond ratings. These findings indicated financial management tended to improve financial performance which is related to the hypotheses outlined in this researcher's study. Of particular interest were the indicators used by these researchers to determine financial performance and the segregation of scores into 25th percentiles, medians, and 75th percentiles. Some of the indicators used to measure financial condition and economic factors, as well as the scoring techniques, used by this researcher were the same as those used by Ammar, Duncombe, Hou, Jump, et al. (2001).

Governments respond to fiscal stress and a robust economy in a number of ways. Continuing decline of the U.S. economy in the early 1990s, forced cities and states to re-evaluate services in light of the diminished fiscal capacity produced by the recession. Studies examining the use of reserves and rainy day funds have found a relationship between their existence/use and fiscal stress (Douglas & Gaddie, 2002; Hou, 2003, 2004; Pagano, 1993, Wolkoff, 1987). Other studies have suggested a relationship between capital spending patterns and financial condition in U.S. cities (Pagano, 2002b). Various studies examined the effect of specific characteristics of rainy day funds such as funding sources, withdrawal mechanisms, and funding levels (Douglas & Gaddie, 2002; Hou, 2003, 2004; Pagano, 1993, Wolkoff, 1987).

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Hou (2003) found a statistically significant positive relationship ($p < .01$) between state general fund expenditures and budget stabilization funds (BSFs) and unreserved undesignated general fund balances (UUBs). Of the various control variables, there was a statistically significant relationship between state general fund expenditures and per capita personal income ($p < .01$) also (Hou, 2003). Douglas and Gaddie (2002) found the existence of multiple state rainy day funds and/or other balances as well as a rainy day fund savings requirement significant (.05 level or better) in reducing fiscal stress in states during the 1990-1991 recession. These studies were of interest because dimensions of financial management capacity used by this researcher included a city's fall back system as indicated by rainy day funds, use of fund equity, delay of capital projects, or reducing/eliminating services.

Management Capacity: Framework

Ingraham and Donahue (2000) posited government management, which they termed the "black box," as the main intervening variable linking government resources to results. They identified management capacity as the cornerstone of their theoretical framework related to government management. The two interactive dimensions of government management posited by Ingraham and Donahue were administrative support and policy implementation which were later similarly defined by Ingraham et al. (2003) (Ingraham & Donahue, 2000; Moynihan & Ingraham, 2003).

Basic assumptions underlying the theoretical framework posited by Ingraham and Donahue (2000) follow:

1. Government performance is strongly influenced by management capacity;

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2.   The degree to which various management functions are performed affects the

management system taken as a whole; and

3.   The positive influence of effective leadership on management generally

affects organizational performance.

Within this framework the researchers identified core management subsystems as (1)

financial management, (2) human resources management, (3) information technology

management, and (4) capital management. Ingraham and Donahue (2000) posited the design,

procedures, and processes of a government's management subsystems provided the support for

government management capacity. This framework was important to the researcher as it

represented the basis underlying the theoretical foundation for the independent variable, financial

management capacity.

Management Capacity: Empirical Research

As part of the Government Performance Project (GPP), Barrett and Greene (2000)

"graded" government performance for 35 of America's largest city governments. Cities selected

were those that had the largest total revenues (using most recent comparable data) when the GPP

began in late 1999. Data was collected using extensive surveys, interviews, and other data

sources. Cities received an overall grade based on individual grades in the five areas of (a)

financial management; (b) human resources; (c) information technology; (d) capital

management; and (e) managing for results. Average grades for the 35 cities examined were "B"

for financial management; "C+" for human resources; "C+" for information technology; "B" for

capital management; and "B-" for managing for results (Barrett & Greene, 2000; Ingraham et al.,

2003; Moynihan & Ingraham, 2003).

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Grades were assigned in the financial management area based primarily on interviews and data analysis. Major criteria used to assign the grades included (1) meaningful revenue and expenditure forecasts (current and future); (2) ability to gauge future impact of fiscal decisions; (3) mechanisms to maintain fiscal health and stability; (4) adequate, accurate, and timely information to elected officials, managers, and citizens; and (5) proper control over financial operations with sufficient managerial flexibility. With respect to (3) above, the researchers considered contingency-type planning policies, investment and cash management policies, and prudent pension fund management. Additional information considered with respect to (4) above included the usefulness of information, effective communication of financial and budgetary information to citizens, and the capacity to determine the cost of programs and services. Procurement and contract management were also considered by the researchers with respect to (5) above (Barrett & Greene, 2000).

This study was relevant to this researcher because it studied financial management capacity in U.S. cities which was the independent variable and the population, respectively, of this researcher's study. The findings of Barrett and Greene (2000) formed the major support for this researcher's model regarding the relationship of financial management capacity and financial condition. Of particular interest to this researcher were the indicators used by Barrett and Greene to evaluate financial management capacity. To a large extent, this researcher's dimensions of the concept financial management capacity, as well as many of the related indicators, were those used by Barrett and Greene.

Donahue, Selden, and Ingraham (2000) examined human resources management systems in 29 of the largest U.S. cities (based on U.S. Census figures for 1995). In this exploratory study the researchers used data from the GPP to relate the capacity of human resource management

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systems to human resources management outcomes. In addition, they controlled for differences in government structure and the extent of unionization. Sound human resources management was characterized as (1) workforce planning; (2) hiring the workforce, (3) sustaining the workforce, (4) motivating the workforce, and (5) workforce structure.

Using survey data, human resources management variables were grouped by criteria, weighted and summed, and scales were standardized. An overall capacity index was created by totaling the five standardized scales and this index had a Cronbach's alpha of .76. The researchers found human management systems and capacity varied greatly among the 29 cities studied. On a scale of 0 to 100 (low to high), total capacity scores ranged from 14 to 65, had a mean of 34.44, and a standard deviation of 12.73. Unionization and city classification were significantly ($p < .05$ for all except motivating and unionization where $p < .10$) negatively correlated to the hiring and motivating criteria for human resources management capacity. These correlations were moderate (R^2 of -.29 to -.39) except for hiring and city classification which were strongly correlated. In addition, city classification was significantly ($p < .10$) and negatively correlated ($R^2 = -.27$) to the overall human resources capacity index (Donahue et al., 2000).

This study was relevant because it studied a subsystem of management capacity with U.S. cities as the sampling unit. Findings of Donahue et al. (2000) were important to this researcher for the support they lent to the management capacity framework linking government results (performance) with resources. Of particular interest was the statistically significant negative correlation ($p < .10$) between city classification and overall human resources management capacity (-.27). This researcher also used form of government, in slightly different context from Donahue et al. as one of the control variables.

How social norms and values affect the nature of municipal politics and policymaking was the subject of an exploratory analysis done by Pierce, Lovrich, and Moon (2002). They focused on 20 American cities evaluated for quality governmental operational performance as part of a performance project published in 2000 in *Governing.com: The Magazine of States and Localities (Governing.com)*. The five measures of governmental operational performance studied for the *Governing.com* project included (a) financial management, (b) human resource management, (c) information technology management, (d) capital management, and (e) managing for results. All of the cities studied by Pierce et al. represented large urban areas located throughout the country and were selected for their study because both social capital and government performance data were available.

At the .05 level, all correlations were significant except for that of capital management/human resource management; therefore, they concluded the five measures reflected a single dimension representing government operational performance. Of the composite government performance measures, financial management correlations were statistically significant for all measures ($p < .01$ except for information technology where $p < .05$). The highest correlation was financial management/average grade (.704), followed by financial management/capital management (.669), financial management/managing for results (.638), financial management/human resources (.595), and financial management/information technology (.404) (Pierce et al., 2002).

Additional analyses focused on how true the correlations were when controlled for certain demographic characteristics. Human resources and information technology were statistically significant ($p < .05$) with respect to the percentage of the population below poverty. There was no statistically significant relationship between percentage of the population with a

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bachelor's degree and any of the five composite measures of government performance or the overall performance grade. Percentage of the population that was non-white and the government performance indicators for financial management, capital management, and overall performance grade were statistically significant ($p < .05$) (Pierce et al., 2002). Chief limitations of the Pierce et al. analyses were the limited number of cities studied and that all municipalities studied represented large urbanized areas.

This study was relevant because it also studied financial management capacity in U.S. cities which were the independent variable and the population, respectively, for this research. The findings of Pierce et al. (2002) were important to this researcher for the support they lent to the management capacity framework linking government results (performance) with resources. Of particular interest was the statistically significant correlation ($p < .01$) between financial management and average performance grade (.704). Environmental control variables related to poverty, education, and race used in this study were somewhat similar to the variables used by the researcher to control for income and education (per capita income and percentage of population with a high school education, respectively).

Brewer and Selden (2000) developed a predictive model of organizational performance and tested it using data from the Merit Systems Protection Board's (MSPB) 1996 Merit Principles Survey. This MSPB survey was based on a random sample of 18,163 permanent full-time employees in the 23 largest agencies in the federal government and a response rate of 53.5 was achieved. The researchers' dependent variable was perceived organizational performance that they defined in terms of efficiency, effectiveness, and fairness differentiated between internal and external performance. Independent variables were identified at an agency-level and at an individual-level. Using ordinary least squares regression, the researchers found all four

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components of organizational culture significantly affected organizational performance ($p <$ .001) at the agency level in federal agencies. Leadership and supervision and task structure were significant ($p <$ .001) and positively related to perceptions of organizational performance while red tape had no significant relationship to organizational performance.

Findings of these researchers related to the independent variables of leadership and supervision, task structure, and red tape were of interest to this researcher. This researcher's independent variable of financial management capacity included dimensions related to leadership and internal control. Within this researcher's dimension of leadership were indicators related to experience and qualifications, which were reflected in the management and organizational skills, measured by Brewer and Selden (2000). Autonomy and flexibility in purchasing and budgeting were indicators this researcher used to measure the internal control system dimension of financial management capacity. These indicators were similar to the task structure and red tape indicators studied by Brewer and Selden.

Financial Management Capacity: Framework

During 2000, the 32 member Municipalities in Transition panel of the National League of Cities developed a discussion framework for a system of public finance in the 21st century. The following nine principles were developed as a foundation for a new system of public finance:

1. Equity (internal fairness) – focuses on how a city imposes its revenue burden.
2. Intergovernmental fairness (external equity) – seeks to ensure users of services pay their fair share.
3. Adequacy of revenue production (productivity) – deals with revenue elasticity and sustainability.

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4.   Administrative capacity and cost/effectiveness (collectibility) – considers management capacity with respect to revenue administrative structures.

5.   Economic effects on individuals and firms (behavioral) – addresses the neutrality aspect of a municipal tax system.

6.   Accountability (transparency) – applies to the system of finance and its understandability and political acceptability to and communication of to residents.

7.   Self-directed governance – posits cities should determine their own revenue sources and levels rather than being forced through federal or state mandates.

8.   Responsibility/responsiveness to broader finance system – encourages cooperation among jurisdictional finance and service delivery systems.

9.   Quality of service delivery – deals with the efficient, effective, and productive provision of municipal services and programs (NLC, 2003).

The nine principles identified in the National League of Cities framework were reflected in the measures and/or indicators related to the independent and dependent variables examined in this study as well as several of the demographic control variables.

Financial Management Capacity: Empirical Research

Ammar, Duncombe, Hou, and Wright (2001), used a fuzzy rule-based system (FRBS) to evaluate financial management in cities using data collected as part of the GPP project. These researchers identified financial management practices along traditional budgetary functions associated with (1) planning, (2) management, and (3) execution and control. Fiscal planning, forecasting, and structural balance (i.e. available fund balance and rainy day funds) were broad

components of planning. Management included financial reporting (i.e. financial, budget, and cost accounting), working capital management (i.e. cash, investments, and short term debt), and management of long term obligations. Control and flexibility, audits, and procurement and contracting out were included in execution and control (Ammar, Duncombe, Hou, & Wright; 2001).

Ammar, Duncombe, Hou, and Wright (2001) developed indicators within each of the categories and related low, adequate, and high ranges using GPP data, financial statements, and input from experts. Using a fuzzy rule-based system, scores were determined for each component and combined into a "defuzzified score" representing overall financial management. Their fuzzy rule-based scores were compared to letter grades assigned to these same cities by Barrett and Green (2000) in a separate GPP evaluation; the results obtained by both groups were comparable. Ammar, Duncombe, Hou, and Wright found financial management in most of the cities they studied was between poor and fair. None of these cities received "good" rankings in planning or maintaining adequate structural balance. Most cities, however, were considered "fair" with respect to basic financial management and control.

This study was relevant to this researcher because it studied financial management capacity in U.S. cities which was the independent variable for this researcher's study. Additionally, the purpose of the Ammar, Duncombe, Hou, and Wright (2001) study was to measure overall financial management using standardized criteria. Their findings, and those of Barrett and Greene (2000), formed the major support for the researcher's model regarding the relationship of financial management capacity and financial condition. Of particular interest were the indicators used by Ammar, Duncombe, Hou, and Wright to evaluate financial management capacity and the segregation of scores into 25th percentiles, medians, and 75th percentiles. To a

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large extent, this researcher's dimensions of the concept financial management, indicators of such, and scoring techniques were based on those of Ammar, Duncombe, Hou, and Wright.

The efficacy of using a fuzzy rule-based system (FRBS) to evaluate state financial management systems was studied by Ammar, Wright, and Selden (2000) using data collected as part of the GPP project. These researchers defined financial management as (1) budget preparation, (2) budget execution, and (3) accounting, cash, and debt management. Budget preparation included forecasting, and structural balance (i.e. available fund balance, rainy day funds, surplus growth and effective use of surplus). Accounting, cash, and debt management encompassed debt, investment, and pension management.

Ammar et al. (2000) developed indicators within each of the categories and related good, fair, and poor ranges using GPP data, financial statements, and input from experts. Using a fuzzy rule-based system, scores were determined for each component and combined into a "defuzzified score" representing overall financial management. Their fuzzy rule-based scores produced similar scores and large differences were noted for only 10 states due primarily to interpretations and perceptions as well as use of selective information.

This study was relevant to this researcher because it studied financial management capacity in states which was the independent variable but not the population, respectively, of this researcher's study. The purpose of the Ammar et al. (2000) study was to determine if a FRBS measured overall financial management effectively when compared to other external evaluations. Of interest to this researcher were the indicators used by Ammar et al. to evaluate financial management capacity and the segregation of scores into poor, fair, and good. This researcher's dimensions of the concept financial management, indicators of such, and scoring techniques were based, in part, on those of Ammar et al.

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Dougherty et al. (2000) examined the relationship between public finance issues, financial management issues, and fiscal stress conditions in small and rural communities in West Virginia. For this study the primary data source was a 1996 survey sent to 1,803 elected and appointed local public officials in small/rural West Virginia communities. The survey addressed 164 issue items in 14 categories including public finance and financial management issues and a response rate of 31.3 was achieved.

Dougherty et al. (2000) studied a number of relationships between and among fiscal stress, financial management, public finance, and other control variables related to geographic, demographic, political, and administrative capacity variables. The independent variable, fiscal stress, was defined as perceptions of "revenues adequate for expenditure levels needed". Financial management (dependent variable) was defined using values for perceptions related to (a) financial techniques (ten indicators); (b) budget and fiscal condition (five indicators); (c) local own source revenues (six indicators); and (d) intergovernmental grant revenues (two indicators).

Fiscal stress (Adjusted R^2 = .4297) was found to significantly influence and be significantly influenced by financial techniques ($p < .001$), budget and fiscal condition ($p < .001$), local own source revenues ($p < .001$), and intergovernmental grant revenues ($p < .001$). There were no statistically significant relationships between fiscal stress and metropolitan area, professional city management, or population. The only statistically significant relationships between the control and dependent variables were between population and budget and fiscal condition ($p < .05$) and intergovernmental grant revenues ($p < .001$). Statistically significant relationships were found among and between all of the dependent variables ($p < .05$) except for financial techniques and budget and fiscal condition (Dougherty et al., 2000).

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This study was important to the researcher because it supported the researcher's operationalization of financial management capacity and because it examined the relationship between financial condition (defined as fiscal stress) and financial management capacity. The conceptualization and operationalization of these two variables in this study were not the same as that used by this researcher. In the Dougherty et al. study (2000), financial condition ("fiscal stress") was the independent variable but it was the dependent variable used by this researcher and conceptualized differently. Conversely, the Dougherty et al. study used several dimensions of financial management as the dependent variables while this researcher identified financial management capacity as the independent variable and conceptualized it differently.

Additionally, Dougherty et al. (2000) relied solely on a survey of perceptions of elected and appointed officials of small/rural West Virginia as the underlying data for the variables studied. This researcher's study operationalized financial condition using a quantitative analysis of 1,575 U.S. cities and financial management capacity using a survey of the chief financial officers of 487 of these cities. Additionally, this researcher controlled for several more demographic and governance variables than used in the Dougherty et al. study. However, this researcher and Dougherty et al. utilized regression analysis to examine the data.

The effect of capacity on financial management performance, using state rainy day funds as a proxy for performance, was the subject of an exploratory study by Hou, Moynihan, and Ingraham (2002). Data for their analysis of the 50 states (Alaska was subsequently omitted due to its outlier effect) was obtained from the 1998 and 2000 state surveys conducted in connection with the Government Performance Project (GPP). They identified capacity as (a) source of funding for the rainy day fund; (b) maximum allowable balance; (c) procedure by which funds could be used; and (d) purposes for which funds could be used. Ordinary least squares regression

was used to analyze four variations of their dependent variable which was state rainy day funds. Results between the four variations of the model were statistically inconsistent; however, the researchers concluded a strong relationship (R^2 = .739, .781, .902 and .750) existed between capacity measures and balance levels of state rainy day funds.

The Hou et al. (2002) study had a strong relationship to this researcher's study even though the sampling unit was states instead of cities. The theoretical framework of management capacity and the specific subsystem related to financial management capacity formed the basis for both this study and that of Hou et al. Financial management capacity was the independent variable and "results" as conceptualized by rainy day funds was the dependent variable in the Hou et al. study. In addition, indicators of financial management capacity used in their study were similar to those used by this researcher with respect to the fall back system dimension of the concept financial management capacity.

Environmental Factors: Empirical Research

In its 17th annual survey of America's cities, the National League of Cities (the League) surveyed municipal elected officials regarding their perceptions of the issues facing their cities in the near future. A random sample of 1,335 surveys was mailed in October, 2000 to all elected officials of cities with populations over 10,000 that were in the League's database of municipal officials (NLC, 2001).

The League's study was relevant to this researcher primarily as it related to the governance and demographic control variables that were used. Areas where the League asked elected officials for their perceptions that were similar to the governance or demographic variables used by this researcher were unemployment, poverty, and quality of public education.

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In addition, the League study asked elected officials their perception of city fiscal conditions, which was this researcher's variable of interest. Of note is the 17% of those surveyed feeling that city fiscal condition was one of the most important issues for their city to address in the next two years (NLC, 2001). This finding was extremely interesting in light of the time frame in which it was surveyed – prior to the fiscal decline of 2001 and the drastic negative impacts of the September 11, 2002 terrorist attacks on the U.S. (Pagano, 2001, 2002a).

In the spring of 2002 Pagano (2002a) surveyed the chief financial officers of 307 cities from throughout the U.S. Questionnaires were mailed to 1,060 cities with 545 mailed to all cities with populations greater than 50,000 and a random sample 512 mailed to cities with populations between 10,000 and 50,000. Unlike the previous ten years, respondents reported cities being worse off financially than in the previous year, which reflected concerns about the national economy and world affairs.

Pagano (2001) also surveyed 325 cities from throughout the U.S. in the spring of 2001. A total of 1,060 questionnaires were mailed to all cities with populations greater than 50,000 (n=540) and a random sample of cities with populations between 10,000 and 50,000 (n=520). Most financial information requested by the researchers related to General Fund transactions, activities, and balances.

Findings from the two Pagano (2001, 2002a) fiscal conditions surveys were not of as much interest to the researcher as were the stratifications and the methodology. This researcher also surveyed municipal finance officers; however, cities of all sizes were included in the population and sample. Response rates from the two Pagano (2001, 2002a) surveys, stratified by city size and geographic region, were of interest to this researcher. Additionally, findings of Pagano (2001, 2002a) related to ending balance goals and average ending fund balances were of

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interest to this researcher. These findings related to the reserve policies this researcher included in the survey of chief financial officers.

Svara (1999) used a mail survey to examine relations between city council members and city managers in the 31 U.S. cities with populations in excess of 200,000. Response rates of 44 percent (n = 118) and 42 percent (n = 82) were achieved with those surveys mailed to council members and city managers, respectively. Personal interviews were conducted with selected council members and administrators in four of the cities surveyed. The purpose of the interviews was to determine if the findings were representative of elected officials and professional staff.

Roles and relationships of council members and professional administrators were examined in the broad areas of cooperation, coordination of roles, and performance in roles. Contrary to normal expectations of governance in council-manager cities, Svara (1999) found council members focused on specific, operational, and current matters while city managers and their staff guided goal setting and were active in developing middle-range policies. This finding was more evident in cities where council members were subject to term limits. Svara also found 65% of council members elected by district, but only 6% of those elected at large, felt council intervention was needed to assure adequate staff response to citizen complaints. Less than one third of council members and professional administrators felt the council was effective in establishing long term goals.

These findings were relevant to this researcher because of the response rates and the governance variables used as well as some of the findings related to opinions of elected officials. Svara (1999) found council members to focus on the short term rather than long term and strategic issues and that this attitude was reinforced where term limits were in place. For some issues, differences of opinion were noted in council members elected by district and those

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elected at large (Svara, 1999). This researcher included district/at large elections and term limits as indicators of the governance dimension for environmental factors. Additionally, strategic policies (i.e. cash, investment, and debt management) and plans were conceptualized by this researcher as indicators of the strategic dimension of financial management capacity.

Summary

As can be seen from this review of previous literature, there is little empirical research concerning the relationship between financial management capacity and financial condition. Financial management capacity in a government organization represents the procedures and processes associated with the fiscal administration function (see further discussion in Chapter Three page 40). Financial condition represents a government's financial position and its ability to provide services and meet its obligations both currently and in the future (see further discussion in Chapter Three page 39). There have been a number of studies examining rainy day funds as either an indicator of financial condition, a proxy for government performance, or as the sole dimension of financial condition. While a number of studies have examined financial condition, none found by this researcher considered financial condition in the context promulgated by the ICMA or the GASB.

Systems to monitor government performance encourage improved performance and strengthen public trust in government. Such systems generally compare actual results to targeted performance levels and/or prior performance (Wholey & Hatry, 1992). Using external performance standards or targets is a common form of benchmarking in the public sector. Benchmarks are often based on professional standards; performance targets established by

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regulatory or other oversight agencies; or other similar or respected entities (Ammons, Coe, & Lombardo 2001; Wang, 2000).

A number of ratios and benchmarks have been used to determine and/or evaluate a government's financial position or condition but there is no consistency in their selection, use, and/or application (Ammons, 2001; Berne, 1992; Finkler, 2001; Groves & Valente, 1994; Kleine et al., 2003; Nollenberger, 2003; Petro, 1998; Wolff & Hughes, 1998). Local government financial condition is predicated on more than simply achieving established benchmarks (Ammons, 2001; Honadle et al., 2004). A consistent set of national-based benchmarks could assist stakeholders in objectively evaluating the quantitative aspect of a local government's financial condition.

Organizations are either formal or informal based, respectively, on whether they are, or are perceived to be, rigid or flexible. Formal bureaucratic and hierarchical organizations are more prevalent in the public sector because governments must balance competing demands with order, fairness, and responsibility. Successful public administrators find the proper balance between effective management and the democratic process of governance (Frederickson, 2000). Management capacity balances administration and political implementation in order to link public resources with results (Ingraham & Donahue, 2000; Ingraham et al., 2003; Moynihan & Ingraham, 2003). This emerging theoretical framework requires considerable empirical analysis in order to establish it as a workable theory of government performance. This study, as related to the financial management capacity subsystem of the management capacity framework, adds to the limited existing body of knowledge in this area. Additionally, the extensive quantitative analysis of financial condition performed by this researcher provides a major contribution to the literature as well as a management tool for government finance professionals.

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From the review of the literature and in response to the research questions outlined in Chapter One, the following model was developed to provide the framework for this study. Detailed regression equations are delineated in Appendix A.

$$FC = f(FMC, EF) + e$$

Where: FC   =   Financial condition

FMC   =   Financial management capacity

EF   =   Environmental factors

e =   error

Applying the literature to this model, the following hypotheses, with statistical null and alternative hypotheses, were examined. The research model designed and used to test these hypotheses is outlined in Chapter Three.

1.   Quantified financial condition in U.S. cities is affected by its established financial management capacity.

H_o There is no relationship between financial condition and financial management capacity in U.S. cities.

H_a There is a positive relationship between financial condition and financial management capacity in U.S. cities.

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2.   Quantified financial condition in U.S. cities is affected by environmental factors related to governance and demographics (i.e. income, education, employment, and age).

H_o There is no relationship between environmental factors and financial condition in U.S. cities.

H_a There is a positive relationship between environmental factors and financial condition in U.S. cities.

CHAPTER THREE

METHODOLOGY

This chapter summarizes the research design; research sample; dependent, independent, and control variables; data collection; and statistical techniques used in this study. A quasi experimental design was used consisting of a quantitative analysis for the dependent variable and a qualitative analysis for the independent variable. The purpose of the study was to determine the effect of financial management capacity on a city's financial condition controlling for governance and demographic factors.

Conceptualization and Operationalization

For purposes of this research, the concepts were identified as (a) financial condition (dependent variable); (b) financial management capacity (independent variable); and the (c) environmental factors (control variables) affecting each of them. Financial condition was determined through ratio analysis using data from the 2001 Comprehensive Annual Financial Reports of selected cities. Financial management capacity in was determined using a survey of chief financial officers from cities selected from those included in the ratio analysis of financial condition. Environmental factors related to governance were obtained through the survey of chief financial officers and those related to socio-economic demographics were obtained from 2000 U.S. Census data.

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Financial Condition

In this study, financial condition was identified as the dependent variable and conceptualized using the criteria established by the International City/County Managers Association (ICMA). Financial condition was conceptualized as a government's ability to:

1. Generate enough cash over thirty (30) to sixty (60) days to pay its bills;

2. Generate enough revenues over the normal budget period to meet expenditures without incurring deficits;

3. In the long run, pay all costs of doing business including annual expenditures and those appearing only in years in which they must be paid; and

4. Provide services at levels and quality required for health, safety, and welfare of the community and that citizens desire (Groves & Valente, 1994, Nollenberger, 2003).

Respective dimensions of financial condition are delineated in Appendix B in sequence with the related above noted concepts. The respective indicators were also based on those established by the ICMA (Groves & Valente, 1994; Nollenberger, 2003) as well as other researchers. For example, expenditures, revenues, and outstanding debt on a per capita basis were used by this researcher and recommended and used by Swanson and Vogel (1986), Ammons (2001) and/or Honadle et al. (2004). These researchers and Martell and Smith (2004) also recommended or used intergovernmental revenues and own source revenues as well as liquidity ratios which this researcher also used. Unreserved and undesignated general fund fund balance as a percentage of general fund operating revenues, long-term debt to assessed valuation, and unfunded pension liability were recommended by Ammons and also used by this researcher. Honadle et al. recommended operating ratios such as the ratio of general fund revenues to

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general fund expenditures and general fund cash and investments to total general fund liabilities which were also used in substance or form by this researcher. Indicators related to capital spending used by this researcher were based on those of Pagano (2002b).

To provide additional support that the identified dimensions and indicators provided reliability and adequately measured the concept of financial condition (i.e. face validity) they were sent, as a pilot, to several municipal chief financial officers. These professionals were from the Central Florida area and known to this researcher, which allowed for timely and candid feedback as well as positive suggestions for improvement. All chief financial officers agreed the identified dimensions and indicators measured financial condition given the limitations of the data source. Cronbach alpha statistics were run on all indices representing the dimensions of financial condition to further test for internal reliability (Berman, 2002; Pallant, 2001) and these results are discussed in the Data Collection and Analysis section of this chapter.

In Appendix B, dimensions of financial condition are listed first with the various indicators enumerated following the dimension. Indicators were calculated using General Fund information (unless indicated otherwise) as this was the one fund all cities had in common and it accounted for the majority of governmental expenditures (Pagano, 1993). A cross sectional quantitative analysis of the various indicators of the four dimensions was used to operationalize the concept of financial condition.

Financial Management Capacity

For purposes of this research, financial management capacity (a subsystem of management capacity) was the independent variable and was conceptualized primarily based on the factors identified in the Government Performance Project (GPP). Simply stated, financial

management capacity is the processes and procedures related to the fiscal administration function in government organizations. Financial management capacity was conceptualized as governmental financial management systems designed to:

1. Distribute and manage money for public purposes;

2. Demonstrate accountability for safeguarding the government's financial assets;

3. Provide accurate, reliable, and timely financial information to citizens, elected officials, management, and other stakeholders by way of the following:

    (a) Forecasting revenues and expenditures accurately

    (b) Focusing on the long-term

    (c) Planning for contingencies

    (d) Linking costs and performance

    (e) Providing appropriate flexibility (Ingraham & Donahue, 2000, Ingraham et al., 2003)

    (f) Financial leadership

Dimensions of financial condition used by this researcher are delineated in Appendix B in sequence with the related above noted concepts. The respective indicators were also based on those established by the GPP that are discussed in detail in the *Management Capacity: Empirical Research* section of the previous chapter (Brewer & Selden, 2000; Ingraham et al., 2003) as well as other researchers. For example, this researcher used indicators related to contingency planning (i.e. rainy day funds) such as those used by Wolkoff (1987); Pagano (1993); Douglas and Gaddie (2002); Hou et al. (2002); and Hou (2003, 2004). Indicators related to cash, investment, and debt management policies used by this researcher were based on those characteristics delineated by

Fitch IBAC (Fitch, 2003). This researcher used education and qualification indicators (among others) in the leadership dimension similar to Brewer and Selden (2000), Pierce et al. (2002), and Burns and Lee (2004). Indicators used by this researcher for the budget dimension of financial management capacity such as targets, policy guidance, and control over appropriations as well as indicators for the internal control dimension including cost accounting were similar to those of Burns and Lee.

To provide additional support that the identified dimensions and indicators provided reliability and adequately measured the concept of financial management capacity (i.e. face validity) they were also sent, as a pilot, to several municipal chief financial officers. These professionals were the same as those used to review the dimensions and indicators related to financial condition. This allowed for timely and candid feedback as well as positive suggestions for improvement. All chief financial officers agreed the identified dimensions and indicators measured financial capacity given the limitations of a survey and the parameters of the GPP (Ingraham et al., 2003). As was done for dimensions of financial condition, Cronbach alpha statistics were run on all indices representing the dimensions of financial management capacity to further test for internal reliability (Berman, 2002; Pallant, 2001) and these results are discussed in the Data Collection and Analysis section of this chapter.

Respective dimensions of financial management capacity with the related indicators are delineated in Appendix B. Dimensions of financial management capacity are listed first with the various indicators enumerated following the dimension. Indicators were determined using general fund information (unless indicated otherwise) as this was the one fund all cities had in common and it accounted for the majority of governmental expenditures (Pagano, 1993). A

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survey of chief financial officers (of the cities included in the quantitative analysis) was used to operationalize the concept of financial management capacity.

Environmental Factors

In this study, environmental factors represented the control variables and were conceptualized as situations and conditions influencing financial condition or financial management capacity over which the governing body has little or no control. This researcher selected indicators of governance and demographic information based on those used by other researchers. Indicators used by this researcher related to form of government, term length, and/or term limits were based on those used by Swanson and Vogel (1986), Svara (1999), and Donahue et al. (2000). The socio-economic indicators for income and education used by this researcher were based on those used by Swanson and Vogel and Pierce et al. (2002). Indicators related to state or locally mandated limitations on property tax rates, property values, and outstanding long term debt used by this researcher were similar to those discussed by Swanson and Vogel and Colby, Rueben, Rust, and McDonough (2000).

Respective dimensions of the control variables were governance and demographics and are delineated in Appendix B. Environmental factors related primarily to governance were obtained from the survey of chief financial officers while factors related primarily to demographics were taken from 2000 Census data. Since no index was created for the governance or demographic dimensions of the environmental factors, this researcher did not calculate Cronbach alpha statistics as they were not considered appropriate in these circumstances (Berman, 2002; Pallant, 2001).

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Construct Validity

This researcher found no empirical research that studied the relationship between financial management capacity (independent variable) and financial condition (dependent variable) as conceptualized in this study. Previous empirical research related to financial condition used external bond ratings or rainy day funds as indicators of financial condition (Ammar, Duncombe, Hou, Jump, et al., 2001; Douglas & Gaddie, 2002; Hou, 2003; Pagano, 1993; Wolkoff, 1987). A number of researchers identified various ratios as indicators of financial condition but conducted no empirical research related to them (Groves & Valente, 1994; Honadle et al., 2004; Nollenberger, 2003). The indicators used by this researcher to measure financial condition have construct validity based on those studied by other researchers.

Empirical studies of financial management capacity are extremely limited but have found statistically significant correlations between the indicators used to measure financial management capacity (Ammar, Duncombe, Hou, & Wright, 2001; Ammar et al., 2000). One study found a statistically significant relationship between financial condition (defined as fiscal stress) and financial management (defined as specific techniques, policies, etc.); however, this study examined the variables using the perceptions of finance officers and elected officials (Dougherty et al., 2000). The indicators used by this researcher to measure financial management capacity have construct validity based on the limited existing research.

Despite the lack of empirical research to support the relationship of financial management capacity and financial condition (as defined in this study), certain relationships among the variables were expected which provided construct validity (Babbie, 2001). For example, strategic initiatives such as cash and/or investment management policies were expected to be positively correlated with or statistically significant to the cash and budget solvency

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dimensions of financial condition. Likewise, debt management policies were expected to be negatively correlated with or statistically significant to the long run and service level solvency dimensions of financial condition. Within financial management capacity, the budget and internal control dimensions were expected to be positively correlated with or statistically significant to budget and service level solvency. Similarly, the leadership dimension of financial management capacity was expected to be positively correlated with or statistically significant to all dimensions of financial condition.

<u>Samples and Subjects</u>

Subjects for this research (i.e. population) were the approximately 1,600 U.S. cities that received the award from the Government Finance Officers Association ("GFOA") for Excellence in Financial Reporting for their comprehensive annual financial reports ("CAFR") for the fiscal year ended in calendar 2001 (GFOA, 2003). The data for these cities was obtained by purchasing an electronic data base of selected financial indicators prepared by the GFOA. Information for the fiscal year 2001 was used as it was the latest year of data available from the GFOA and because it is closest to the year of the 2000 Census data.

From this data base of 1,609 cities, 487 cities were selected for further study regarding their financial management capacity system. These 487 cities represented the cities that also received the Distinguished Budget Award from the GFOA for their fiscal year 2001 budget document. Cities receiving both awards were considered by this researcher to exhibit the highest level of quality financial management capacity systems and accordingly sound financial condition. As such, these cities were expected to demonstrate a strong positive relationship between financial management capacity and financial condition. Because of this and the

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structure of the research hypotheses, any failure to reject the null hypotheses is of tremendous interest to the government finance community, educators, public administrators and the general public.

The sample of 487 included cites receiving awards for quality (GFOA, 2000, 2001) and such quality is generally associated with professional organizations often presumed to operate within effective financial management capacity systems. Use of this particular purposive sample is similar to that of a previous study where researchers surveyed a section within the International Personnel Management Association. These researchers assumed those surveyed represented elite members of the human resource community and would therefore be more aware of trends in the profession (Hays & Kearney, 2001). Similar to Hays and Kearney, this researcher believed the purposive sample of chief financial officers selected from the broad GFOA data base to be those most able to understand the questions and statements included in the survey instrument.

Issues concerning the variability of data were related to the sample of 487 cities selected for further research related to financial management capacity. These variability issues could have limited the results of the research. Accordingly, results of the tests of the null hypothesis associated with financial condition and financial management capacity could be biased. To address this limitation, the survey of financial management capacity included a number of measures related to the level of quality associated with certain indicators of the organization's financial management capacity system.

Established in 1906, the GFOA is a professional association of nearly 15,000 state and local government finance officers in the U.S. and Canada that are committed to sound management of government financial resources (GFOA, 2002). Over 3,200 and 925 state and

local governments participated in the GFOA's CAFR Program and Budget Awards Program, respectively, in 2001. The CAFR Program, established in 1945, recognizes excellence in financial reporting by state and local governments. Participants in the CAFR Program submit audited financial statements, supplemental financial statements, supporting financial data, and statistical trend information in a uniform and consistent format (i.e. the comprehensive annual financial report). The GFOA Budget Awards Program established in 1984 encourages governments to prepare budget documents of the highest quality that meet the needs of decision-makers and citizens. Budget documents submitted to this award program are required to contain certain detailed information reflecting the budget as a policy document, a financial plan, an operations guide, and a communication device (GFOA, 2001). Using these sources for research subjects resulted in a non-probability purposive sample. However, this sample represented quality financial as well as government operational performance information that was audited as well as comparable in nature. This researcher considered the quality, consistency, and comparability of data a higher research priority than the generalizability of results that could be obtained using a random sample of U.S. cities.

<u>Measurement Instruments</u>

As stated in the conceptualization and operationalization portion of this chapter, operationalization of the variables was accomplished using a (a) quantitative analysis to operationalize the concept of financial condition; (b) survey of chief financial officers and selected CAFR data, where appropriate, to operationalize financial management capacity; and (c) survey of chief financial officers and selected 2000 Census data to operationalize the environmental variables. In addition, interviews with selected chief financial officers included in

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the survey were conducted to determine if the researcher's results were consistent with the actual 2001 circumstances in their respective jurisdictions.

Levels of Measurement, Index Creation, and Statistics

Levels of Measurement

Selected financial statement indicators were used to calculate ratio level data for the various indicators for each dimension of financial condition (dependent variable). The survey instrument designed to collect information related to financial management capacity (independent variable) utilized "zero, one" responses which created nominal level data for the various indicators for each dimension of financial management capacity. This nominal level data was totaled at the various indicator levels to create a total score for each indicator and then each indicator was totaled to create a total score for each dimension of financial management capacity. For example, a survey question asking respondents to "check all that apply" was coded "1" for each item checked and "0" for each item not checked and then combined for a ratio level measure of the indicator. As a result of the coding of survey responses and summations of "zero, one" responses, ratio level data was created for each dimension of financial management capacity.

Data related to the environmental factors was nominal, interval, or ratio level data. Information related to the governance dimension was collected using the survey instrument in a "zero, one" format for all indicators except for number of years incorporated which was interval level data. Information for the demographic dimension was obtained from the 2000 U.S. Census and each such indicator represented interval or ratio level data.

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Index Creation

To analyze the relationship between financial condition (dependent variable) and financial management capacity (independent variable), an index was created for each of the dimensions of the two variables. A combined index for each variable was then created using these dimension indices. No index variables were considered necessary for the governance and/or demographic dimensions of the environmental factors. Indices related to the various dimensions of and total financial condition were determined for all valid cases (n = 1,575) based on the financial information included in the data base this researcher obtained from the GFOA.

Financial Condition Index

Financial condition was determined for all cities in the data base purchased from the GFOA (n = 1,575 after data cleaning). Relative strength of financial condition (dependent variable) was assigned, using a scale of one (1) to five (5). As such, one (1) indicated weak financial condition, two (2) indicated below average financial condition, three (3) indicated average financial condition, four (4) indicated above average financial condition, and five (5) indicated strong financial condition. The average of these individual indicator indices was used as the index for each of the respective dimensions of financial management capacity. A simple average of the four dimension indices was used as the score for total financial condition.

No empirical evidence was found by this researcher indicating that any one of the dimensions used by this researcher were more or less related to overall financial condition. Therefore, indices for the dimensions of overall financial condition were assumed by this researcher to equally impact overall financial condition and no weights were assigned to them.

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Any observations with missing data were not considered in the determination of the individual dimension indices nor were they considered in calculating the total financial condition index.

The average of the individual dimension indices was used as the index for financial condition. A simple average of the four dimension indices was used as the score for total financial condition. For ease of discussion, and for comparability to the grading of the cities project (Barrett & Greene, 2000), this researcher converted the average financial condition score to a letter grade of "A" to "F" (high to low). Grades were assigned to total average scores based on the following scale:

1. Grades of "A" – total average scores of 5;

2. Grades of "B" – total average scores of 4.00 to 4.99;

3. Grades of "C" – total average scores of 3.00 to 3.99;

4. Grades of "D" – total average scores of 2.00 to 2.99; and

5. Grades of "F" – total average scores below 2.00.

Individual index scores were assigned to all financial condition indicators based on where the individual ratio for a single observation fell in terms of the total population. Index scores were assigned to observations at the bottom and top 5 percent, the next bottom and next top 20 percent, and the middle 50%. The five categorization of the indices used by this researcher is similar to the 25th percentile, median, and 75th percentile approach used by other researchers (Ammar, Duncombe, Hou, Jump, et al., 2001; Ammar, Duncombe, Hou, & Wright, 2001). Frequencies were run for each indicator in order to determine the lower and upper bounds to be used in assigning index scores for each indicator. When the number of cases in the frequencies reports did not break exactly at the 5 percent, 20 percent, and 50 percent levels, the index parameters were assigned as close as possible to these predetermined levels.

Scores from a low of one (1) to a high of five (5) were assigned to indicators of financial condition in different contexts based on existing literature and empirical research. The methodology supporting the assignment of scores to indicators of financial condition used in this study is discussed in the following paragraphs.

Indicators of cash solvency used in this study related to liquidity and effective working capital management where high ratios are desired (Ammons, 2001; Finkler, 2001; Groves & Valente, 1994; Honadle et al., 2004; Nollenberger, 2003). Therefore, they were assigned scores of one (1) to (5) representing low to high indicators of financial condition.

Budget solvency indicators in this study represented sufficiency of revenues to fund current/desired service levels. To assess the adequacy of revenues to cover expenditures and the contribution of own source revenues, net operating revenues (operating revenues less operating expenditures) and tax revenues should be high (Ammons, 2001; Finkler, 2001; Groves & Valente, 1994; Honadle et al., 2004; Nice, 2002; Nollenberger, 2003). To this end, scores were assigned from one (1) to (5) representing low to high indicators of financial condition. Conversely, reliance on grants and other intergovernmental revenues can place a burden on tax payers when such revenues decline or are eliminated. The intergovernmental ratio was assigned from five (5) to one (1) representing a high to low indicator of financial condition.

Indicators used in this study to measure long run solvency represented the impact of existing long term obligations on future resources. Resources currently available for these purposes can be used to mitigate or fund these commitments in the future (Ammons, 2001; Berne, 1992; Finkler, 2001; Groves & Valente, 1994; Honadle et al., 2004; Nice, 2002; Nollenberger, 2003). The fund balance ratio and unfunded pension liability ratio represented current resources available for existing long term obligations and scores were assigned from one

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(1) to five (5) accordingly. Scores were assigned from (5) to one (1) for the outstanding long-term debt and debt service ratios as they represented existing commitments having a claim on current and future resources.

Service level solvency indicators were those related to the effect existing resources and long term obligations had on current tax payers. High levels of per capita spending for operations, outstanding general long term debt and annual debt service requirements reduce future resources available to provide services at current levels (Ammons, 2001; Berne, 1992; Finkler, 2001; Groves & Valente, 1994; Honadle et al., 2004; Nice, 2002; Nollenberger, 2003). Therefore, scores of five (5) to one (1) were assigned to the per capita ratios for outstanding general long term debt, general fund expenditures, and debt service fund expenditures. High levels of per capita operating revenues offset high levels of per capita spending for operations. Future extensive maintenance costs are reduced and continuance of service delivery is ensured with high levels of per capita expenditures for capital projects. Conversely, scores of one (1) to five (5) were assigned to per capital ratios for general fund operating revenues and capital project fund expenditures.

Figure 1 graphically illustrates the relationship of the operationalized data to the ultimate index representing financial condition.
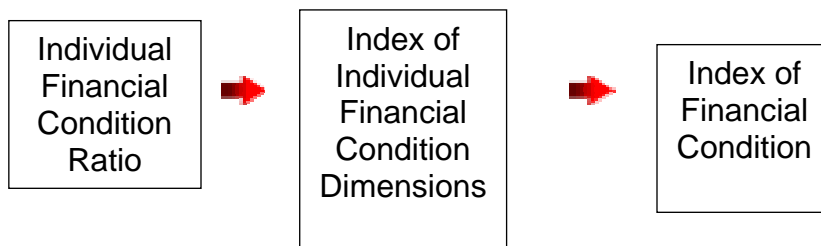
Figure 1: Creation of Financial Condition Index

<u>Financial Management Capacity Index</u>

Financial management capacity was determined for a sample of the cities (n = 217) included in the data base used to determine the indices for the dimensions of financial condition as well as total financial condition. Relative strength of financial management capacity (independent variable) was assigned to individual dimensions of financial management capacity, using a scale of one (1) to five (5) based on the total numeric score for that dimension. As such, one (1) indicated weak financial management capacity, two (2) indicated below average financial management capacity, three (3) indicated average financial management capacity, four (4) indicated above average financial management capacity, and five (5) indicated strong financial management capacity. Financial management capacity was measured using a number of indicators to which a score of zero or one was assigned (see previous discussion of survey instrument construction and measurement levels). These scores were summed in order to calculate the total score for a particular dimension.

The average of these individual dimension indices was used as the index for financial management capacity. A simple average of the six dimension indices was used as the score for total financial management capacity. For ease of discussion, and for comparability to the grading of the cities project (Barrett & Greene, 2000), this researcher converted the average financial management capacity score to a letter grade of "A" to "F" (high to low). To increase variability for the sample (n = 217), a "plus" system of grading was used for the sample (n = 217); however, a "plus" system was not used in grading the population due to the increased size (n = 1,575). Grades were assigned to total average scores based on the following scale:

1.   Grades of "A" – total average scores of 5;

2. Grades of "B+" – total average scores of 4.50 to 4.99;

3. Grades of "B" – total average scores of 4.00 to 4.49;

4. Grades of "C+" – total average scores of 3.50 to 3.99;

5. Grades of "C" – total average scores of 3.00 to 3.49;

6. Grades of "D+" – total average scores of 2.50 to 2.99;

7. Grades of "D" – total average scores of 2.00 to 2.49; and

8. Grades of "F" – total average scores below 2.00.

No empirical evidence was found by this researcher indicating that any one of the dimensions used by this researcher were more or less related to overall financial condition. Additionally, management capacity represents emerging theory and little research exists with respect to it or its subsystems which include financial management capacity (Ingraham & Donahue, 2000; Ingraham et al., 2003). Therefore, indices for the dimensions of overall financial management capacity were assumed by this researcher to equally impact overall financial management capacity and no weights were assigned to them. Any observations with missing data for a specific indicator were considered in the calculation of its total score on which the index was assigned. Observations with missing scores for any dimension were not considered in the determination of the total financial management capacity index.

Individual index scores were assigned to all financial management capacity dimensions based on where the individual dimension score for a single observation fell in terms of the total sample. Index scores were assigned to observations at the bottom and top 5 percent, the next bottom and next top 20 percent, and the middle 50%. The five categorization of the indices used by this researcher is similar to the 25th percentile, median, and 75th percentile approach used by other researchers (Ammar, Duncombe, Hou, Jump, et al., 2001; Ammar, Duncombe, Hou, &

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Wright, 2001). Frequencies were run for each dimension in order to determine the lower and upper bounds to be used in assigning index scores for each indicator. When the number of cases in the frequencies reports did not break exactly at the 5 percent, 20 percent, and 50 percent levels, the index parameters were assigned as close as possible to these predetermined levels.

Scores from a low of one (1) to a high of five (5) were assigned to indicators of financial management capacity primarily based on zero/one scoring. The survey instrument was designed such that a response for a particular indicator was coded as a "one (1)" and a "zero (0)" for a non-response. For certain indicators, scores were assigned on a basis other than zero/one when supported by the literature. The methodology supporting the assignment of scores to indicators of the dimensions of financial management capacity used in this study is discussed in the following paragraph.

Budget format was scored as three (3) for a program/performance format, two (2) for a line item format, and (1) for any other format. This coding reflects budgeting format from a management perspective (i.e. a principle of management capacity) to a control perspective (Kelly, 2003; Rubin, 1992; Wholey & Hatry, 1992). Form of government was used as an environment factor rather than an indicator of financial management capacity. Because form of government is associated with reformed public administration, this environmental indicator was similarly scored using three (3) for a manger-council form of government, two (2) for a mayor-council form of government, and three (3) for a commission form of government (Svara, 1999).

Figure 2 graphically illustrates the relationship of the operationalized data to the ultimate index representing financial management capacity.
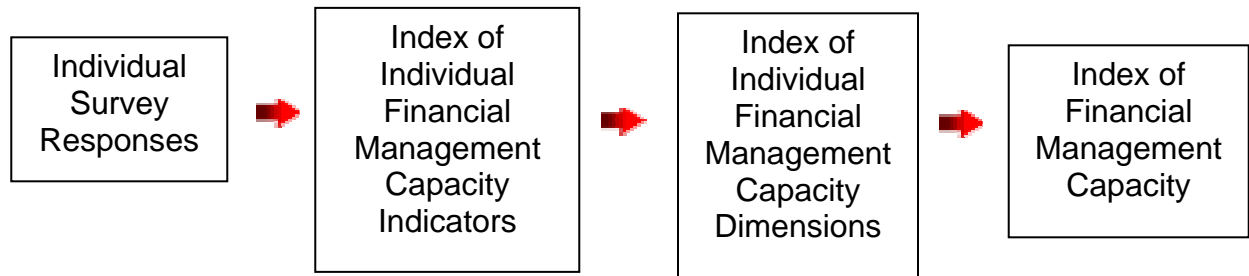
Figure 2: Creation of Financial Management Capacity Index

Statistics

As the indices created for each dimension and each variable were interval levels of measurement, ordinary least squares regression analysis was used to analyze the effect of financial management capacity (independent variable) on financial condition (dependent variable) controlling for governance structure and demographics (environmental factors). Since ordinary least squares multiple regression was used, unstandardized coefficients of the individual indices for the dimensions of financial condition (dependent variable) and financial management capacity (independent variable) were analyzed for statistical significance ($p < .05$) and direction of influence. A discussion of the results and other various additional statistical tests (including those to test the regression assumptions) used to analyze the results of the multiple regression analysis can be found in Chapter Four. Additionally, procedures performed by this researcher to address the assumptions inherent in ordinary least squares multiple regression analysis are discussed in Chapter Four.

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Information related to financial condition was calculated using a data base of selected financial statement information from the comprehensive annual financial reports for 1,609 cities. This data base was purchased from the GFOA and required a substantial amount of data cleaning. An initial review of the data revealed several entities that were not cities (i.e. special purpose governments, Indian reservations, etc.) were included in the data base. These were deleted for purposes of analysis in this study. When financial data needed to calculate the ratios used by this researcher was missing, it was necessary to the city with the missing information from the data base. Since regression analysis is sensitive to outliers (Berman, 2002), box plots were used to detect the existence of outliers in the raw data. After the initial data cleaning, ratios representing the indicators for the dimensions of financial condition were calculated. A visual inspection of, and frequencies reports and box plots for, the ratio indicators were used to determine the existence of outliers and/or unreasonable/unexpected relationships. All data cleaning and analysis resulted in the elimination of 34 entities from the GFOA data base which resulted in a final population of 1,575 cities.

Data related to financial management capacity as well as some governance indicators was obtained from survey data. Cities included in the adjusted GFOA data base that received both the award for financial reporting excellence and distinguished budget presentation were selected for purposes of analyzing financial management capacity (n = 487). Prior to mailing the survey to these cities, this researcher performed a number of procedures to increase validity and reliability.

A draft of the survey instrument was administered in March 2004 to a group of Florida municipal finance officers attending a continuing education seminar in St. Petersburg, Florida. The purpose of the survey pilot was to further increase face validity and reliability of the survey

instrument. Generally, participants in the survey pilot completed the survey instrument within 20 to 30 minutes. This information was used in the cover letter for the actual survey as an indicator of the estimated time required to complete the survey. Based on the results of the survey pilot and comments from participants, several questions were either eliminated as irrelevant or re-worded for clarity. More than 400 data points were included in the final survey instrument a copy of which can be found in Appendix C.

In June 2004 a copy of the revised draft survey instrument was submitted to the Institutional Review Board ("IRB") for expedited review and tentative approval of the survey was obtained in early July 2004 (prior to mailing of the survey). Formal IRB approval of the final survey instrument was obtained in August 2004, and a copy of such approval is included in Appendix D. No significant changes to the survey instrument were required as a result of the expedited IRB review.

Prior to mailing, written survey instruments were coded with a number in the upper right hand corner to indicate the survey respondent and were used for tracking purposes. In addition to the survey instrument, an explanatory cover letter and a self addressed return envelope were included in the packet mailed to the cities in the sample (n = 487). The cover letter asked participants to return the survey instrument by July 19, 2004 (approximately two weeks to respond). An incentive was offered to survey participants to encourage them to return the survey instrument within the desired time frame. The incentive was a complimentary copy of the 2004 ICMA yearbook for cities to one respondent selected from a random drawing. Survey packets were mailed to all cities during the first week of July 2004. From the first mailing, the researcher received 109 surveys for a 24.85 percent response rate.

On July 24, 2004, this researcher sent a second mailing to the 378 cities for which no responses had been received as of that date. The second cover letter asked participants to return the survey instrument by August 4, 2004 (approximately two weeks). Again, an incentive was offered to survey participants to encourage them to return the survey instrument within the desired time frame. This incentive was four movie passes to one respondent selected from a random drawing. As a result of the second and first mailings, a total of 226 surveys were received for a total response rate of 46.41%.

A response rate of 46.41% was considered by this researcher to be acceptable for further analysis based on response rates received by other researchers and t-tests performed by the researcher. Pagano (2002b) and Wolkoff (1987) received response rates of 40.1% and 49.1%, respectively, in their studies of U.S. cities. Svara (1999) received a 42% response rate from city administrators and Hays and Kearney (2001) received a combined response rate of 30% when surveying public administration professionals in the area of human resources. This researcher also performed t-tests between respondents and non-respondents to determine if response bias existed. There were no statistically significant differences ($p < .05$) between respondents and non respondents based on region or population category. A tabular analysis of response rates by region and population category can be found in Table 8 (Appendix E).

One survey response was eliminated as a result of the review of the financial condition data base for outliers and reasonableness of information. An additional seven survey responses were eliminated because they had missing information critical to the determination of the dimensions of financial management capacity. One additional survey response was eliminated after conducting tests for multicollinearity and heteroscedasticity (see Chapter Four for further discussion regarding multiple regression assumptions). The net effect of these procedures

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resulted in a final sample size of 217 which represented a final response rate of 45.4%. A final response rate of 45.4% was acceptable to this researcher for purposes of further analysis.

<u>Limitations in Study Design and Execution</u>

Several limitations existed within the research design and execution of this study. To the extent possible, alternative or additional procedures or tests were included in the design to compensate for the limitations discussed in this section.

As has been mentioned previously, the major limitation of this research design was the source of data for the cities studied. While a large number of cities participate in the GFOA Budget Awards Program and CAFR Program it was not the entire population of U.S. cities. Additionally, cities that participated in either or both of these programs are those interested in quality, which could be considered an extreme for purposes of validity and reliability. To partially compensate for this, the cities selected for study were stratified by region and city size for both the dependent (financial condition) and independent variables (financial management capacity) and compared to the corresponding national demographics for representativeness as to region and size only. These results have been included in Table 8 (Appendix E).

Researcher discretion exercised in the definition of the concepts of financial condition and financial management capacity was also a limitation of this study. There has been general consensus among national credit rating agencies, government finance officers, and professional organizations as to the indicators and dimensions used by this researcher to conceptualize financial condition (Groves & Valente, 1994; Nollenberger, 2003). However, there is little research much less agreement regarding the concept of financial management capacity. While the selected dimensions of financial management capacity were considered by this researcher to

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represent common policies, procedures, and techniques, the related indicators may not necessarily have measured financial management capacity. Pearson's correlation coefficient was separately calculated to measure the direction and strength between the respective indicators of both the dependent (financial condition) and independent (financial management capacity) variables (see Chapter Four for a discussion of these results). Additionally, the computation of Coefficient Alpha among and between the indicators, dimensions, and variables was calculated to determine internal validity and reliability (see Chapter Four for a discussion of these results).

The independent variable in this study was operationalized using a survey of finance officers and the dependent variable was operationalized using quantitative analyses. Scale indices were created for each of the dimensions representing these variables. Because the data to measure financial management capacity for this research do not exist, this researcher used a survey to collect the data. Consequently, a data structure issue resulted from the different methods of data gathering because objective measures were used for the dependent variable (financial condition) while subjective measures were used for the independent variable (financial management capacity). The exploratory aspect of this study attempted to add to the body of knowledge related to the emerging theory of management capacity and government performance (Ingraham et al., 2003). Therefore, this data structure issue was considered necessary in order to study the relationship between these variables in the context of management capacity theory.

Because self reported data was used to create the financial management capacity indices (independent variable) it was possible that survey responses were influenced by the exogenous variables (i.e. environmental factors related to governance and demographics) included in the model. In lieu of using the Hausman specification test to determine exogeneity (Gujarati, 2003), this researcher used univariate analysis (as a proxy for reduced form equations) to determine the

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strength of exogeneity between the independent variable (financial management capacity) and each of the environmental variables (governance and demographic indicators). The results of these tests and any additional tests resulting from them are discussed in Chapter Four.

Any study examining less than the entire population, has limited usefulness and generalizability of results. This study was designed as a non-probability purposive sample of U.S. cities and chief financial officers for selected cities within that sample. Because non-probability sampling was used, the results may not be generalized to the population studied. However, to partially compensate for this, the cities selected for study were stratified by region and city size and compared to the corresponding national demographics for representativeness as to region and city size only. These results have been included in Table 8 (Appendix E).

A previously vetted standardized survey was not used which is also a limitation of the design and execution of this study. This represented threats to internal validity and reliability that were partially addressed by the independent review and survey pilot processes done prior to mailing of the survey instrument. In addition, the computation of Coefficient Alpha among and between the indicators, dimensions, and variables was calculated to determine internal validity and reliability (see Chapter Four for a discussion of these results).

In this study, financial condition was determined using data for fiscal years ending in 2001 and surveys to ascertain financial management capacity were conducted in 2004. Therefore, the potential existed that financial management capacity information would not be representative of conditions that existed as of the financial condition determination date (2001). To address this, the survey instrument included a statement at the top and at the beginning of each section reminding respondents to answer all questions as to situations existing for fiscal year 2001.

Another limitation of this study related to the determination of financial condition results from the period of study. In June 1999 the GASB issued Statement 34 which radically changed the nature of accounting and financial reporting for state and local governments at the government wide and fund levels. Phase 1 governments (those with assets or revenues of $100,000,000 or greater as of June 15, 1999) were required to implement the provisions of this statement for fiscal years beginning after June 15, 2001. Phase 2 (those with assets or revenues greater than $10,000,000 and less than $100,000,000 as of June 15, 1999) and Phase 1 governments (those with assets or revenues less than $10,000,000 as of June 15, 1999) were not required to implement GASB Statement No. 34 until fiscal years beginning after June 15, 2002 and 2003, respectively (GASB, 1999).

A number of governments of all sizes chose to implement the provisions of GASB Statement No. 34 prior to the required implementation date (GASB, 2004). No information was collected during this study relative to whether a government had implemented the provisions of GASB Statement No. 34. The majority of changes required by GASB Statement No. 34 affect financial information reported at the government wide level rather than fund level information (GASB, 1999). Data collected by the GFOA and used by this researcher to determine financial condition was fund level data; however, the effect of GASB Statement No. 34 on this data can not be determined. To address this limitation, the researcher reviewed all raw data and indicator ratios for outliers and reasonableness. Additionally, this researcher reviewed indicator ratios for consistency and reasonableness of relationships existing between them.

CHAPTER FOUR

RESULTS

This chapter summarizes the results of this researcher's study of how financial condition (dependent variable) in U.S. cities is affected by financial management capacity (independent variable) when controlled for certain environmental factors related to governance and demographics. Research results are discussed in this chapter within the context of the population (n = 1,575) for financial condition and the sample (n = 217) for financial management capacity as well as financial condition. Results related to the relationship between financial condition and financial management capacity, when controlled for certain environmental factors, are discussed in the context of valid sample observations (n = 160). Because of the exploratory nature of this study and its potential impact on future research related to the emerging theory of management capacity, results are discussed, where indicated, using a 10 percent standard for statistical significance. Additionally, some results that were not statistically significant are discussed in the context of how they impact financial condition, emerging theory, or future research.

Descriptive Information

Specific descriptive information related to the variables of study (i.e. financial condition and financial management capacity) is summarized in Table 1 and descriptive information related to the control variables is delineated in Table 2. Descriptive information is included in Table 1 related to financial condition for both the sample (n = 217) and the population (n =

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1,575). Crosstab results related to financial condition and financial management capacity for the sample (n = 217) are delineated in Table 3.

Mean financial condition was 3.052 (s = .3698) for a "C" and 2.839 (s = .3460) for a "C+" in the population (n= 1,575) and sample (n = 217), respectively. In the population (n = 1,575), mean scores of the individual indices ranged from a low of 3.000 (s = .7954) for Cash Solvency to a high of 3.116 (s = .6465) for Long Run Solvency. Both of these mean scores equated to a grade of "C". In the sample (n = 217), mean scores of the individual indices of financial condition ranged from a low of 2.993 (s = .7257) for Cash Solvency (grade "C+") to a high of 3.054 (s = .5850) for Budget Solvency (grade "C"). Mean total financial management capacity was 3.01 (s = .908) or a grade of "C". Means of the individual dimension indices ranged from a low of 2.16 (s = 1.519) for Fall Back System (grade "D") to a high of 3.03 (s = .784) for Budget System (grade "C"). See Table 1 for additional descriptive information related to the study variables.

Table 1

Descriptive Statistics of Study Variables

Variable	n	Mean	Standard deviation	Minimum	Maximum
Financial condition[a]	1,575	3.052	0.370	1.900	4.200
Cash solvency	1,575	3.000	0.795	1.000	5.000
Budget solvency	1,575	3.030	0.651	1.000	4.700
Long run solvency	1,575	3.116	0.647	1.000	5.000
Service level solvency	1,575	3.062	0.339	2.000	4.200
Financial condition[b]	217	3.032	0.321	2.000	3.800
Cash solvency	217	2.993	0.726	1.000	5.000
Budget solvency	217	3.054	0.585	1.300	4.300
Long run solvency	217	3.038	0.555	1.700	4.700
Service level solvency	217	3.041	0.324	2.200	4.000
Financial management capacity[b]	217	3.010	0.908	1.000	5.000
Budgeting system	217	3.030	0.784	1.000	5.000
Strategic planning system	217	3.000	0.869	1.000	5.000
Fall back system	217	2.160	1.519	0.000	5.000
Accounting/reporting system	217	2.980	0.902	1.000	5.000
Internal control system	217	3.010	0.887	1.000	5.000
Financial leadership system	217	3.010	0.877	1.000	5.000

[a]Data for population
[b]Data for sample

The majority of survey respondents (n = 127 for 58.5 percent) were in a

metropolitan statistical area, had a manager-council form of government (n = 157 for 76.6

percent), and held at large elections (n = 160 for 78.0 percent). Mean term length for elected

officials for those cities responding to the survey (valid responses) was three to four years (n =

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144 for 71.6 percent) and the mean number of voting elected officials was six to ten (n = 67 for 59.3 percent). Mostly cities in the final sample (n = 217) had populations from 10,000 to 49,999 (n = 103 for 47.5 percent), per capita income from $15,000 to $24,999 (n = 134 for 61.8%). Additionally, for over 68 percent of the cities in the sample (n = 149), 89 percent of their population had a high school education and the median age was mostly 26 to 35 years (n = 115 for 53.0 percent). For almost all of the sample cities (n = 215 for 99.1 percent), 79 percent of their population over 16 years of age was employed. See Table 2 for further information regarding environmental factors for the sample cities.

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Table 2

Descriptive Statistics of Control Variables

Variable	n	Mean	Standard Deviation	Minimum	Maximum	Mode
Form of government[a]	205	2.750	0.466	1	3	3
Years Incorporated	190	100.550	56.850	0	365	38
At Large Elections[b]	205	0.780	0.415	0	1	1
Term Length[c]	201	1.780	0.484	1	3	2
Voting Members[d]	206	2.290	0.559	1	3	2
Limits-Operating Millage[e]	192	1.510	0.943	0	3	2
Limits-Changes in Taxable Property Value[e]	198	1.390	0.980	0	3	2
Limits-Outstanding Debt[e]	196	1.600	.0891	0	3	2
Metropolitan Area[b]	217	0.410	0.494	0	1	0
Population	217	78,850	98,506	3,455	650,100	3,455
Per Capita Income	217	24,374	9,485	11,084	60,115	14,388
Percentage of Population with High School Education	217	84.3	9.041	49.1	98.0	92.2
Median Age	217	35.1	5.485	22.0	53.6	33.0
Percentage of Population over 16 Employed	217	65.8	7.113	45.2	85.0	61.7

[a]Commision-1; mayor/council-2; manager/council-3
[b]No-0; Yes-1
[c]One/two years-1; three/four years-2; five+ years-3
[d]Eleven or more-1; six/ten-2; Five or less-3
[e]Combined score-one each for mandated by local ordinance, state statute, or other

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In the sample (n = 217), the overall highest (i.e. "C" and "C+") and lowest (i.e. "D" and "D+") financial condition grades were for cities in the South region (43.8 and 43.1 percent, respectively). However proportionately, North Central cities had the lowest grades (49.1 percent) and cities in the West region had the highest proportional grades (77.6 percent). These regional results are consistent with growth trends in the U.S. during the 1990s (Brennan & Hoene, 2003).

The most prevalent combination of the financial condition grade and grades for the individual dimensions was a "C" and "C", respectively. This relationship was most prevalent for the budget system variable (n = 68 for 31.5 percent) and least prevalent for the fall back system variable (n = 46 for 21.2 percent). The next most prevalent combination of financial condition grade and individual dimension grade was a "D+" and "C", respectively. This trend did not hold for the fall back system variable, however. For the fall back system variable, the second most prevalent grade combination was "C" and "F" for financial condition and financial management capacity (fall back dimension), respectively (n = 38 for 17.5 percent) . This finding was not surprising as many of survey responses indicated few mandated reviews were in place related to cash, investment, and debt management policies and that these policies were most often not mandated by state statute or local resolution/ordinance. See Table 3 for additional information related to crosstab results.

Table 3

Crosstab Matrix of Financial Condition and Financial Management Capacity-Sample

Financial condition grade by independent variable	Total		D		D+		C		C+	
	n	%	n	%	n	%	n	%	n	%
Budget system - Total	216	100.0	9	4.2	71	32.9	117	54.2	19	8.8
Budget system - Grade A	11	5.1	0	0.0	2	2.8	9	7.7	0	0.0
Budget system - Grade B	30	13.9	2	22.2	11	15.5	16	13.7	1	5.3
Budget system - Grade C	138	63.9	4	44.4	50	70.4	68	58.1	16	84.2
Budget system - Grade D	31	14.4	3	33.3	8	11.3	20	17.1	0	0.0
Budget system - Grade F	6	2.8	0	0.0	0	0.0	4	3.4	2	10.5
Strategic system - Total	217	100.0	9	4.1	71	32.7	118	54.4	19	8.8
Strategic system - Grade A	11	5.1	0	0.0	4	5.6	6	5.1	1	5.3
Strategic system - Grade B	42	19.4	1	11.1	15	21.1	23	19.5	3	15.8
Strategic system - Grade C	108	49.8	3	33.3	35	49.3	62	52.5	8	42.1
Strategic system - Grade D	49	22.6	5	55.6	13	18.3	25	21.2	6	31.6
Strategic system - Grade F	7	3.2	0	0.0	4	5.6	2	1.7	1	5.3
Fall back system - Total	217	100.0	9	4.1	71	32.7	118	54.4	19	8.8
Fall back system - Grade A	7	3.2	0	0.0	2	2.8	4	3.4	1	5.3
Fall back system - Grade B	30	13.8	1	0.5	12	16.9	14	11.9	3	15.8
Fall back system - Grade C	78	35.9	2	0.9	24	33.8	46	39.0	6	31.6
Fall back system - Grade D	36	16.6	2	0.9	12	16.9	16	13.6	6	31.6
Fall back system - Grade F	66	30.4	4	1.8	21	29.6	38	32.2	3	15.8

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Financial condition grade by independent variable	Total		D		D+		C		C+	
	n	%	n	%	n	%	n	%	n	%
Accounting/reporting system - Total	217	100.0	9	4.1	71	32.7	118	54.4	19	8.8
Accounting/reporting system - Grade A	11	5.1	0	0.0	5	7.0	4	3.4	2	10.5
Accounting/reporting system - Grade B	42	19.4	1	11.1	12	16.9	25	21.2	4	21.1
Accounting/reporting system - Grade C	107	49.3	5	55.6	31	43.7	60	50.8	11	57.9
Accounting/reporting system - Grade D	46	21.2	1	11.1	19	26.8	24	20.3	2	10.5
Accounting/reporting system - Grade F	11	5.1	2	22.2	4	5.6	5	4.2	0	0.0
Internal control system - Total	217	100.0	9	4.1	71	32.7	118	54.4	19	8.8
Internal control system - Grade A	12	5.5	0	0.0	4	5.6	8	6.8	0	0.0
Internal control system - Grade B	39	18.0	0	0.0	15	21.1	20	16.9	4	21.1
Internal control system - Grade C	116	53.5	5	55.6	35	49.3	66	55.9	10	52.6
Internal control system - Grade D	39	18.0	3	33.3	13	18.3	19	16.1	4	21.1
Internal control system - Grade F	11	5.1	1	11.1	4	5.6	5	4.2	1	5.3
Financial leadership - Total	217	100.0	9	4.1	71	32.7	118	54.4	19	8.8
Financial leadership - Grade A	7	3.2	0	0.0	3	4.2	2	1.7	2	10.5
Financial leadership - Grade B	51	23.5	2	22.2	15	21.1	30	25.4	4	21.1
Financial leadership - Grade C	108	49.8	5	55.6	36	50.7	59	50.0	8	42.1
Financial leadership - Grade D	39	18.0	1	11.1	15	21.1	20	16.9	3	15.8
Financial leadership - Grade F	12	5.5	1	11.1	2	2.8	7	5.9	2	10.5

Correlation Results

Pearson's correlation coefficient was calculated to measure the direction and strength between the dependent variable (financial condition) and the various independent (financial management capacity) and control variables (Pallant, 2001; Berman, 2002). There were statistically significant ($p < .05$) positive relationships between financial condition and accounting/reporting system ($r = .149$) and limits on annual increases to property values ($r = .200$). A statistically significant ($p < .05$) negative relationship was noted between financial condition and population ($r = -.176$). There was a statistically significant ($p < .10$) positive relationship between financial condition and median age ($r = .112$). A statistically significant ($p < .10$) negative relationship was noted between financial condition and budget system ($r = -.106$) and percentage of the population employed ($r = -.110$). All relationships, regardless of statistical significance, were weak with the exception of financial condition and annual limits on increases in property values which was moderate. These results did not indicate a high level of correlation between and among the variables; however, as there were no high levels of correlation (i.e. $r > .80$), the potential for multicollinearity was decreased (Berman, 2002; Pallant, 2001).

To increase construct validity with respect to the indicators and dimensions of the independent and dependent variables, Pearson's correlation coefficient was calculated. Statistically significant moderate correlations were noted among several of the independent variables (see Table 4). Strategic planning system was significantly ($p < .01$) and moderately correlated with fall back system ($r = .229$), accounting/reporting system ($r = .283$), and internal control system ($r = .217$). Additionally, fall back system and accounting/reporting system were significantly ($p < .01$) and moderately correlated ($r = .260$). Accounting/reporting system was significantly ($p < .01$) and moderately correlated ($r = .252$) with internal control system. The

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leadership dimension of financial management capacity was only weakly correlated with the other dimensions of financial management capacity. However, the correlations between leadership system and accounting/reporting and internal control systems were statistically significant ($p < .05$ and $p < .10$, respectively). The correlation between leadership system and internal control system was negative indicating that cities with stronger internal controls had less of a financial leadership dimension (as conceptualized and operationalized by this researcher).

Correlations among the control variables of interest to this researcher included the statistically significant ($p < .001$) strong relationship between annual limits on increases in property values and annual limits on operating millage rates ($r = .553$). Other correlations between the control variables were of the strength and nature expected based on previous research (i.e. per capita income and percentage of population with a high school education; per capita income and median age; and percentage of population with a high school education and percentage of population over 16 employed).

Table 4

Correlation Matrix of Financial Management Capacity (Independent Variables)

n = 217	Budgeting system	Strategic planning system	Fall back system	Accounting/ reporting system	Internal control system	Financial leadership system	Financial management capacity
Budgeting system	1.000	0.177*	0.182*	0.073	0.199*	(0.027)	0.286*
Strategic planning system	0.177*	1.000	0.182*	0.260*	0.246*	0.073	0.716*
Fall back system	0.182*	0.182*	1.000	0.228*	0.074	0.061	0.425*
Accounting and Reporting System	0.073	0.260*	0.228*	1.000	0.272*	0.187*	0.616
Internal control system	0.199*	0.246*	0.074	0.272*	1.000	(0.101)	0.448*
Financial leadership system	(0.027)	0.073	0.061	0.187*	(0.101)	1.000	0.297*
Financial management capacity	0.286*	0.716*	0.425*	0.616*	0.448*	0.297*	1.000

* $p < .01$

Correlations among the dimensions of the dependent variable (financial condition) were different for the sample (n = 217) and the population (n = 1,575). In the sample (see Table 5), there was a statistically significant ($p < .01$) moderate relationship (r = .211) between cash solvency and long run solvency. There was also a statistically significant ($p < .01$) strong

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relationship between long run solvency and service level solvency (r = .476). These relationships existed in the population data also.

Table 5

Correlation Matrix of Financial Condition - Sample (Dependent Variables)

Sample only n = 217	Cash solvency	Budget solvency	Long run solvency	Service level solvency	Financial condition
Cash solvency	1.000	(0.052)	0.211*	0.039	0.613*
Budget solvency	(0.052)	1.000	0.045	0.058	0.409*
Long run solvency	0.211*	0.045	1.000	0.476*	0.592*
Service level solvency	0.039	0.058	0.476*	1.000	0.461*
Financial condition	0.613*	0.409*	0.592*	0.461*	1.000

* $p < .01$

In addition to the correlations discussed above, several additional statistically significant correlations existed in the population data (see Table 6). Service level solvency was statistically significant ($p < .01$) with respect to cash and budget solvency but the correlations were weak. Long run solvency was statistically significant ($p < .05$) to budget solvency but only weakly correlated. All directions were as expected.

Table 6

Correlation Matrix of Financial Condition - Population (Dependent Variables)

Population n = 1,575	Cash solvency	Budget solvency	Long run solvency	Service level solvency	Financial condition
Cash solvency	1.000	0.000	0.231*	0.093*	0.660*
Budget solvency	0.000	1.000	0.051**	0.069*	0.478*
Long run solvency	0.231*	0.051**	1.000	0.546*	0.709*
Service level solvency	0.093*	0.069*	0.546*	1.000	0.548*
Financial condition	0.660*	0.478*	0.709*	0.548*	1.000

*$p < .01$; ** $p < .05$

Univariate Analysis

Prior to running multiple regression reports, this researcher examined the nature and strength of the bivariate relationships in the initial sample data (initial n = 218) using simple regression. Univariate analyses were performed for all dimensions of financial management capacity and all environmental factors regressed against financial condition. This researcher used univariate analysis as a proxy for reduced from equations and in lieu of the Hausman specification test to determine exogeneity. Statistically significant univariate relationships were found between financial management capacity and (1) limits on operating millage ($p < .05$, $R^2 = .021$), (2) increases in property values ($p < .05$, $R^2 = .032$), and (3) long term debt ($p < .10$, $R^2 = .016$); (4) per capita income ($p < .10$, $R^2 = .013$); and (5) population ($p < .05$, $R^2 = .028$). Due to the extremely low R^2 for each of these variables, this researcher concluded that even if endogeneity existed among the variables, the weak exogeneity indicated the variables could be used for estimating and testing (Gujarati, 2003).

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Multicollinearity can exist when variables that are highly significant in bivariate relationships (i.e. $r^2 > .60$) are statistically insignificant in multiple regression analysis (Berman, 2002). Some of the statistically significant relationships noted in the univariate analysis were not significant in the initial multiple regression analysis. However, no significant bivariate relationships were noted in the univariate analysis. No R^2 statistics for any of these variables exceeded .60 which this researcher interpreted as indicating no multicollinearity should occur among the variables in a multiple regression analysis (Berman, 2002; Pallant, 2001).

Results of the univariate analyses indicated a statistically significant positive relationship between financial condition and the independent variable for accounting/reporting system ($p < .10$, R^2 .016). Statistically significant positive relationships were noted between financial condition and the environmental factors related to number of voting members in the governing body ($p < .05$, R^2 .022) and population ($p < .05$, R^2 .028). All of the R^2 results fell below .20 and were considered by this researcher to represent individually weak relationships (Berman, 2002; Pallant, 2001) between them and the dependent variable of financial condition.

Scale Analysis

Cronbach's alpha coefficients were calculated to determine internal consistency among the indicators used to measure the dependent variable (financial condition) and the independent variable (financial management capacity) (Pallant, 2001). As stated previously, this study is primarily exploratory in nature because it attempts to build on the emerging theory of management capacity as it relates to the subsystem of financial management capacity. Therefore, this researcher did not expect high levels of internal reliability using scale analysis.

Moderate reliability is indicated when alpha scores are .70 or more (Berman, 2002; Pallant, 2001). When scales have less than 10 items, low Cronbach's alpha values (i.e. .5) are common (Pallant). The scale used by this researcher for the independent variable used six (6) items and the scale for the dependent variable used four (4) items. Cronbach's alpha values were .4789 and .2967 for the independent variable (financial management capacity) and dependent variable (financial condition), respectively. These low values are reflective of the shorter scales used to measure the independent and dependent variables in this study.

While these Cronbach's alpha values were not ideal, they do represent some measure of internal consistency in the scales used in this study. The concepts of financial condition and financial management capacity, in general and in this study, have several dimensions that are not related to each other very well. Pearson's correlation coefficient values did not indicate a high level of correlation between and among the variables. This situation is not unique in social research and was not considered unusual by this researcher due to the exploratory nature of this study. It could suggest that financial management capacity is a concept that includes diversified dimensions whose relationships are indirect. For example, financial leadership concerns personal attributes and abilities of financial managers. However, it may not directly contribute to adoptability of a budgetary system which in turn is affected by many other organizational factors. Because one of the goals of this research was to define, measure, and test the indicators and dimensions of financial condition and financial management capacity, these less than ideal values were acceptable to this researcher.

Corrected item-total correlation values less than .3 may indicate a particular item is measuring something different to the scale as a whole and they may need to be removed from the model (Pallant, 2001). For the independent variable, corrected item values for budget system

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(.2352), fall back system (.2656), internal control system (.2222), and leadership system (.0784) were below .3. Corrected item values for the dependent variable that were less than .3 were those for cash solvency (.1008), budget solvency (.0055), and service level solvency (.2826). Variables used in this study are based on those used by other researchers (see discussion in Chapter Three regarding conceptualization and operationalization and *Literature Review* section in Chapter Two). Because of this and the exploratory nature of this study, these variables were not removed from the model.

When the "scale mean if item deleted value" is higher than the total alpha value, it should be deleted from the model (Pallant, 2001). In the scale for financial management capacity (independent variable), the deleted value for leadership system (.5070) exceeds the Cronbach's alpha value of .4789. Likewise, in the scale for financial condition (dependent variable) the deleted values for cash solvency (.3411) and budget solvency (.4151) exceed the Cronbach's alpha value of .2967. For the same reasons outlined in the previous paragraph, these items were not deleted from the model.

The Cronbach's alpha value (.3656) measuring the scale for financial condition in the population (n = 1,575) was slightly better than that discussed previously for the sample (n = 217). Corrected item values in the population (n = 1,575) for cash solvency (.1607) and budget solvency (.0434) were less than .3. The "if deleted" values for cash solvency (.3694) and budget solvency (.4669) exceeded the alpha value (.3656). These items were not removed from the model for the population for the same reasons stated above related to the model for the sample items.

Multiple Regression Assumptions

Multiple regression analysis is a strong analytical technique that provides robust results and allows the researcher to predict relationships while controlling for extraneous or environmental variables. However, a number of assumptions provide support for the use of multiple regression as a tool for research analysis (Berman, 2002; Pallant, 2001):

1. Sample size should be adequate for a reliable equation

2. The dependent variable is continuous and all other variables are at least ordinal with a minimum of five (5) categories

3. Outliers in the data can bias multiple regression results

4. Multicollinearity and singularity should not be present

5. A linear relationship is constant over the observations

6. Variances of the error term are equal (no heteroscedasticity)

7. Differences in obtained and predicted scores are normally distributed

The sample size used in this study was 217 observations which is more than the 15 subjects per predictor (90 as calculated for this study) recommended for social science research (Pallant, 2001). All independent variables in this study were either ordinal or dichotomous and the dependent variable was continuous (scale level data). Procedures performed by this researcher to determine the existence of outliers, and correct for them as necessary, has been previously discussed.

Multicollinearity was not detected from the univariate analysis (i.e. $r < .90$ (Pallant, 2001) nor with correlation analysis (see Table 4). Additionally, tolerance statistics exceeded .700 for all independent variables and exceeded .380 for all control variables. Variance inflation factors (VIF) for the independent variables were less than two (2) and all VIF for the control variables

were less than three (3). Since these values were less than five (5), the variables did not indicate multicollinearity (Berman, 2002). Standardized residuals were plotted as part of the SPSS® multiple regression analysis (n = 218). Based on visual inspection, this researcher noted a diagonal line on the Normal Probability Plot and that the standardized residuals in the scatterplot appeared rectangular in nature and no outliers appeared to exist.

To further test for outliers, this researcher inspected the Mahalanobis distances (X^2 = 22.46, df = 6) produced as part of the multiple regression analysis (Pallant, 2001). From the five (5) highest values produced by this test, this researcher deleted one observation from the sample because its Mahalanobis distance was 82.08212 which was much greater than the critical value of 22.46. The remaining four (4) values ranged from 34.545 to 47.049 and were systematically deleted from the analysis. However, when the model was rerun for each of these deleted items, the results deteriorated. Therefore, these four items were retained and, given the size of the remaining sample (n = 217), were determined acceptable by this researcher.

<u>Multiple Regression Results</u>

Table 7 summarizes the results of the multiple regression analysis performed to determine the relationship between financial condition and financial management capacity when controlling for environmental factors. Based on the adjusted R^2 (.028), this predictive model of financial condition explained only 2.8% of the variation in financial condition when controlling for environmental factors. However, since there are relatively few additional variables in the model, the R^2 of .150 may be more indicative of the actual regression results. There were no statistically significant relationships between financial condition (dependent variable) and financial management capacity (independent variable) when controlling for environmental

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factors. There was, however, a statistically significant relationship ($p < .05$) between financial condition (dependent variable) and annual limits on increases in property values (governance variable) and population (demographic variable).

Table 7

Regression Analysis of Model Fit (Dependent Variable: Financial Condition)

Variables	Unstandardized coefficients	Standard error	t	Sig.
Independent variables				
Budgeting system	(0.043)	0.035	(1.216)	0.226
Strategic planning system	(0.013)	0.033	(0.396)	0.693
Fall back system	0.016	0.019	0.877	0.382
Accounting/reporting system	0.051	0.032	1.565	0.120
Internal control system	0.017	0.033	0.527	0.599
Financial leadership system	0.017	0.033	0.510	0.611
Control variables				
Form of government	(0.026)	0.066	(0.390)	0.697
Years incorporated	0.000	0.001	0.369	0.713
At large elections	(0.050)	0.069	(0.729)	0.467
Term length	0.013	0.056	0.242	0.809
Voting members	0.012	0.051	0.239	0.812
Limits-operating millage	(0.027)	0.035	(0.786)	0.433
Limits-changes in taxable property value	0.078	0.033	2.331	0.021 *
Limits-outstanding debt	0.024	0.032	0.738	0.462
Metropolitan area	0.004	0.060	0.069	0.945
Population	0.000	0.000	(2.412)	0.017 *
Per capita income	0.000	0.000	1.136	0.258
Percentage of population with high school education	(0.007)	0.005	(1.498)	0.136
Median age	0.003	0.007	0.469	0.640
Percentage of population over 16 employed	0.002	0.006	0.366	0.715
R^2	0.150			
Adjusted R^2	0.028			

* $p < .05$

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Data limitation issues and the exploratory nature of this study contributed to the relatively low R^2 of .150. Useable financial management capacity information was received from only a portion of the cities (n = 217) represented in the population under study (n = 1,575). Additionally, the indicators of financial condition were limited to those that could be calculated from information included in the GFOA supplied data base. As such, they may or may not have been the best indicators of financial condition. Values of one (1) to five (5) were assigned to the dimensions of financial condition and financial management capacity which may have created a lack of variation among the observations.

Due to the limited data base (discussed in the previous chapters), it was necessary for this researcher to merge two data bases collected through different data gathering methods. Financial management capacity (independent variable) was operationalized using a survey of finance officers and financial condition (dependent variable) was operationalized using quantitative analyses. A data structure issue resulted from these different data gathering methods because objective measures were used for the dependent variable (financial condition) while subjective measures were used for the independent variable (financial management capacity). When these two variables were combined in the same model, the data structure issue may have contributed to the relatively low the R^2 (.150).

Negative relationships between financial condition and the budget and strategic planning dimensions of financial management capacity were not expected. Based on existing research (Bowsher, 1996; Dougherty et al., 2000; Fitch, 2003; Frederickson, 1996; Martin, 1997; Hou et al., 2002; Ingraham & Donahue, 2000; Ingraham et al., 2003), this researcher expected a positive relationship between financial condition and all dimensions of financial management capacity.

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Survey results indicated respondents did not utilize the more flexible or innovative approaches (Nice, 2002) in the budgeting dimension of financial management capacity. For example, survey cities were split with respect to budget format (47.3 percent used line item format, 45.0 percent used program/performance format). Almost 82 percent of the survey cities indicated excess revenues over expenditures revert in full to unreserved fund equity. While fiscally responsible, this does not "reward" those managers, departments, or agencies that contributed to the overall financial success of the organization with respect to budget goals. Only 13.9 percent of the cities that prepared multi-year operating budgets prepared them for a planning horizon beyond three years. With respect to multi-year capital budgets, only 37.3 percent of the cities prepared them for a planning horizon beyond five years.

Most survey respondents had policies related to cash management (78.2 percent), investment management (94.2 percent), and debt management (73.9 percent). Of those cities with policies, most had performance benchmarks with respect to investment and debt management (69.4 percent and 69.1 percent, respectively) but only one third (34.9 percent) had performance benchmarks associated with their cash management policies. Investment policies were formally mandated more often (74.8 percent) than cash management (42.2 percent) and debt management (43.8 percent). Fewer cities had strategic plans (55.8 percent) but of those with strategic plans, most used them to prepare the operating budget (82.4 percent), the capital budget (63.6 percent), or the capital improvement plan (79.3 percent). Strategic plans were not mandated as often (13.3 percent) as other strategic policies, however. The lack of formal mandate with respect to strategic policies may contribute to the negative relationship between strategic planning systems and financial condition.

This researcher did not expect a negative relationship between form of government and at large elections based on existing research (Svara, 1999; 2001). Because elected officials and the professional city manager work together in a council-manager form of government to provide sound governance (Svara, 2001), reform-type governments (i.e. council-manager) were expected to positively influence financial condition. Elected officials subject to term limits and shorter term lengths focus on the short term rather than long term viability (Svara, 1999); therefore a positive relationship between term length and financial condition was expected. The unexpected result may result from a lack of variability in the data. Only a small number of cities had term lengths of five or more years (n = 6 for 2.9 percent). This may also be the case with respect to form of government as most respondents had a council-manager form of government (n = 163 for 76.2 percent).

The significant ($p < .05$) negative relationship between population and financial condition was expected but the significant ($p < .05$) positive relationship between limits on property value increases and financial condition was not. Survey respondents in several large (in terms of population and proportion of sample and responses) states such as California (n = 23 for 10.2 percent), Florida (n = 32 for 14.2 percent), and Texas (n = 31 for 13.7 percent) indicated limits on increases in property values were state mandated. This may have biased the multiple regression results even though assumption testing did not indicate any bias in the model.

A multiple regression analysis of financial condition and financial management capacity, not controlling for environmental factors, produced similar trends and results ($R^2 = .032$, adjusted $R^2 = .005$). When environmental factors were ignored, there was a statistically significant ($p < .10$) negative relationship between financial condition and budget system which was not statistically significant in the full model. The relationship between strategic planning system and

financial condition (not statistically significant) was positive when environmental factors were ignored but negative when they were considered.

<div align="center">Effect of Results on Hypotheses</div>

As stated in Chapter Two, the null hypotheses for this study were:

Hypothesis One

H_o There is no relationship between financial condition and financial management capacity in U.S. cities.

H_a There is a positive relationship between financial condition and financial management capacity in U.S. cities.

Hypothesis Two

H_o There is no relationship between environmental factors and financial condition in U.S. cities.

H_a There is a positive relationship between environmental factors and financial condition in U.S. cities.

Based on the results of the multiple regression analysis, this researcher failed to reject the null hypothesis for Hypothesis One. This researcher also failed to reject the alternative hypothesis for Hypothesis One. Even though this study indicated there are negative relationships (i.e. budget and strategic planning systems) between some aspects of financial management capacity and financial condition, they were not statistically significant ($p < .05$). Accordingly this researcher failed to reject the alternative hypothesis for Hypothesis One.

This researcher failed to reject the null hypothesis for Hypothesis Two with respect to all environmental factors except for annual limits on increases in property values (governance

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variable) and population (demographic variable). This researcher rejected the null hypothesis for Hypothesis Two with respect to annual limits on increases in property values ($p < .05$) and population ($p < .05$). Even though this study indicated there are positive relationships between some aspects of financial management capacity and financial condition, there was only one positive relationship that was statistically significant ($p < .05$). Therefore this researcher failed to reject the alternative hypothesis for Hypothesis Two with respect to years incorporated, metropolitan area, term length, number of voting elected officials, limits on long term debt outstanding, per capita, median age, and percentage employed. This researcher rejected the alternate hypothesis for Hypothesis Two as it related to population because it had a statistically significant ($p < .05$) negative relationship to financial condition.

Because of the exploratory nature of this study, a failure to reject the null hypothesis for Hypothesis One is considered an acceptable result. The results of this study indicated traditional approaches to managing financial condition such as rainy day funds (i.e. fall back system); internal accounting controls (i.e. internal control system); and qualified and experienced staff (i.e. leadership system) strengthen financial condition. Conversely, more recent budget techniques to manage financial condition such as budgeting for results, multi-year operating and capital budgets, and gain sharing (budget system) weakened financial condition in this model (when included in an index). Strategic initiatives such as cash, investment, and debt management policies; strategic planning; and fiscal impact statements (strategic planning system) also weakened financial condition in this model (when included in an index).

A failure to reject the null hypothesis for Hypothesis Two is also considered an acceptable result. Due to their nature, the environmental factors considered in this study as control variables are not easily changed or controlled. If environmental factors had a statistically

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significant effect on financial condition, the government could do little or nothing about them in order to influence their financial condition. The results of this study related to environmental factors, while not significant, provide information that could be used to influence future policy directions at a state and/or local level (see further discussion in Chapter Five).

<div align="center">Additional Procedures</div>

This researcher contacted five of the survey respondents in order to confirm the conclusions reached and to ascertain if the researcher's results were consistent with actual circumstances. The five cities represented all four geographic regions and ranged in population from 22,000 to 192,000. One of the cities contacted had a financial condition grade of "D+", a financial management capacity grade of "A", and a perception of financial condition for 2001 as "very strong". Another city had a financial condition grade of "C+", a financial management capacity grade of "A", and a perception of financial condition for 2001 as "very strong". In both cases, interviews with respondents indicated their perception of financial condition was more related to bond ratings and not as comprehensive as that conceptualized in this study. Also, for the respondent from California, the 2000/2001 fiscal crisis at the state level severely impacted the financial condition of local governments. As a result, this government had strengthened several of its fall back policies to better provide for economic uncertainty in the future.

Two cities had financial condition grades of "C+" and financial management capacity grades of "D". The respondent for one of these cities indicated their financial condition was moderately strong while the other indicated their financial condition was very strong. For one of the cities, the disparity between the two variables was due to the experience and span of control of the person completing the survey. Had the chief financial officer completed the survey, the

financial leadership dimension would have scored higher and the two variables would have been more consistent. In the case of the other city, financial management capacity was negatively impacted because of its lack of a fall back system; limited distribution of accounting/financial information to elected officials, citizens, and managers; and limited experience and tenure of the chief financial officer.

The fifth city represented a city with relatively balanced grades for financial condition ("C+") and financial management capacity ("C"). Financial management capacity was negatively impacted because existing strategic policies were not required nor was periodic review/ratification. Additionally, this city did not use fiscal impact statements nor did it have a rainy day fund.

CHAPTER FIVE

CONCLUSIONS AND FUTURE DIRECTIONS

<u>Conclusions</u>

This study of the relationship between financial management capacity and financial condition, when controlling for environmental factors, was exploratory in nature. A major purpose of this study was to define, measure, and test financial condition and financial management capacity within the context of emerging theory related to management capacity. As such, it was designed to build on emerging theory related to management capacity by examining the relationship between management (i.e. financial management capacity) and results (i.e. financial condition). As with other research related to, or resulting from, the GPP (Brewer & Selden, 2000; Hou, 2003; Hou et al., 2002; Ingraham & Donahue, 2000; Ingraham et al., 2003) this research served as another early step in refining management capacity theory. No researchers had previously studied the relationship of financial condition and financial management capacity within the framework of management capacity theory. Therefore, this study is of major importance and makes a significant contribution to existing literature.

Several major contributions to the field of public administration and to literature on financial condition in governments are made with this research. Of primary importance is that this research provided empirical evidence supporting the theory of government management set forth by Ingraham et al. (2003). The major contribution made by this study is its attempt to connect government performance, as measured by financial condition, to financial management

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capacity. To date, no previous research examined government performance and management capacity in this context and to this extent.

The concepts used in this study to measure financial management capacity are very important to effective financial management in U.S. cities. No previous research attempted to analyze financial management capacity as comprehensively as that done in this study. The definition, measurement, and testing of the indicators of financial management capacity done in this research is of great import to the emerging theory of management capacity. It also provided a significant contribution to the existing literature.

While not statistically significant, this research indicates there is, generally, a positive link between a city's system of financial management and its financial condition (i.e. financial "performance"). In addition, this research quantitatively examines the concept of management capacity in the context of financial management capacity which is a subsystem of management capacity (Ingraham et al., 2003). The empirical evidence provided by this research indicated management capacity, in the form of financial management capacity, had a mostly positive (albeit not statistically significant) effect on results as represented by financial condition. Lastly, this research provides government finance officers, rating agencies, oversight bodies, and other interested stakeholders with benchmarks for total financial condition as well as the various indicators of such (as conceptualized in this research).

This research also indicated the nature and strength of the relationship between financial condition and environmental factors related to governance and demographics. This information might be useful to elected officials and public administrators in determining future policies. Additionally, researchers might want to control for these same variables to see if they have the same effect on their dependent variable(s).

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<u>Future Directions</u>

Results of this study related to the dimensions conceptualized as financial management capacity bear further research for cities as well as other units of local government. Additional research is also indicated with respect to the dimensions conceptualized in this study as financial condition. Ratios used in this study to measure financial condition could be evaluated in case study format over a number or years in order to determine if they adequately measure whether financial condition deteriorated or improved.

This study may be relevant to decision making in the financial management area, the bond rating process, and/or to direct policy. Additionally, this study addressed broad theoretical issues associated with management capacity theory. Like the work of Donahue et al. (2000), the methodological limitations in this study represent opportunities for additional research. Further analysis should be done related to the indicators used by this researcher to measure financial management capacity.

The results of this study related to environmental factors, while not significant, provide information that could be used to influence future policy directions at a state and/or local level. Limits on operating millage rates were found to negatively impact financial condition even though it was not a statistically significant relationship ($p < .05$). As demonstrated in this study, almost all states have imposed limits on operating millage rates (South Carolina and Kansas were the only exceptions in this study) which has unintentionally negatively impacted the financial condition of their cities. Conversely, limits on outstanding long term debt improved financial condition; therefore, the 22.9 percent of the cities without some mandated limits could reasonably expect to improve their financial condition if these limits were implemented or instituted.

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In summary, there are still a number of areas in which the effect of financial management capacity on financial condition is unclear. This study does confirm emerging management capacity theory with respect to the subsystem of financial management capacity. It indicates how management in the various dimensions of financial management capacity matters to overall performance as measured by financial condition. Further research must be done in order to advance the relationships between financial condition and financial management capacity identified in this study.

APPENDIX A

DETAIL REGRESSION EQUATIONS SUPPORTING RESEARCH MODEL

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Research Model

$$FC = f(FMC, EF) + e$$

Where: FC   =   Financial condition

FMC=   Financial management capacity

EF   =   Environmental factors

e =   error

Regression Equation – See following pages for descriptions of variables and indicators.

$$Y = \text{Constant} + ((X_{1a,b,c,d,e,f} + X_{2a,b,c,d,e} + X_{3a,b} + X_{4a,b,c} + X_{5a,b} + X_{6a,b,c}) + (C_{1a,b,c,d,e,f,g,h} + C_{2a,b,c,d,e,f})) * FC + e$$

Where: $FC = (Y_{1a,b} + Y_{2a,b,c} + Y_{3a,b,c,d} + Y_{4a,b,c,d,e})$

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Indicators for Financial Condition (Y - dependent variable)

1. Cash Solvency Cash solvency

   - Y_{1a} - Cash ratio

   - Y_{1b} - Liabilities ratio.

2. Budgetary solvency

   - Y_{2a} - Operating ratio

   - Y_{2b} - Property tax revenue ratio

   - Y_{2c} - Intergovernmental revenue ratio.

3. Long-run solvency

   - Y_{3a} – Fund balance ratio

   - Y_{3b} - Outstanding general long-term debt ratio

   - Y_{3c} - Governmental debt service ratio

   - Y_{3d} - Unfunded pension liability ratio.

4. Service-level solvency

   - Y_{4a} – Outstanding general long-term debt per capita

   - Y_{4b} – General Fund operating revenues per capita

   - Y_{4c} – General Fund expenditures per capita

   - Y_{4d} – Debt Service Fund expenditures per capita

   - Y_{4e} – Capital Projects Fund expenditures per capita.

Indicators for Financial Management Capacity (X - independent variable)

1. Budgeting system

    1. X_{1a} - Budget format

    2. X_{1b} - Revenue policies

    3. X_{1c} - Expenditure policies

    4. X_{1d} - Budget allocation system

    5. X_{1e} - Budget execution system

    6. X_{1f} - Revenue and expenditure accountability

2. Strategic planning system

    -   X_{2a} - Cash management policy

    -   X_{2b} - Investment management policy

    -   X_{2c} - Debt management policy

    -   X_{2d} - Strategic plan

    -   X_{2e} - Fiscal impact statements

3. Fall back system

    -   X_{3a} - Rainy day fund

    -   X_{3b} - Use of fund equity

4. Accounting and reporting system

    -   X_{4a} - Cost accounting

    -   X_{4b} - Financial accounting and reporting

    -   X_{4c} - Budgetary reporting

5. Internal control system

   - X_{5a} - Procurement

   - X_{5b} - Budgeting

6. Financial leadership

   - X_{6a} - Qualifications

   - X_{6b} - Span of control

   - X_{6c} - Chain of command

Indicators for Environmental factors (Control variables)

1. Governance

   - C_{1a} - Form of government

   - C_{1b} - Years incorporated

   - C_{1c} - Form of elections

   - C_{1d} - Term of office

   - C_{1e} - Number members in governing body

   - C_{1f} - Statutory limits on ad valorem tax rate

   - C_{1g} - Statutory limits on changes in taxable property values

   - C_{1h} - Legal debt limit.

2. Demographics

   - C_{2a} - Metropolitan area

   - C_{2b} - Population

   - C_{2c} - Income

   - C_{2d} - Education level

   - C_{2e} - Median age

   - C_{2f} - Unemployment rate.

APPENDIX B

DETAIL OF DIMENSIONS AND RELATED INDICATORS, FINANCIAL CONDITION,

FINANCIAL MANAGEMENT CAPACITY, AND ENVIRONMENTAL FACTORS

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Dimensions and Indicators

Financial Condition

Indicators for each of the dimensions of the dependent variable financial condition are as follows:

1. Cash solvency

    a. Cash ratio - determines a government's ability to pay its short-term (i.e. due within one year) obligations.

    b. Liabilities ratio - indicates increasing use of short-term debt and/or postponement of payments to cope with revenue shortfalls or excess expenditures (Groves & Valente, 1994; Nollenberger, 2003).

2. Budgetary solvency

    a. Operating ratio - indicates the extent to which actual revenues were sufficient to fund actual expenditures.

    b. Property tax revenue ratio - indicates a local government's dependence on revenues from property taxes and consequently the burden on citizens to provide these revenues.

    c. Intergovernmental revenue ratio - indicates a local government's dependence on revenues from federal, state, or other local government sources and consequently the burden on citizens to provide replacement revenues should intergovernmental revenues decline (Groves & Valente, 1994; Nollenberger, 2003).

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3. Long-run solvency

   a. General Fund fund balance ratio - indicates the ability of a government to withstand financial emergencies (i.e. economic downturns, loss of major taxpayer, etc.) and to accumulate resources for capital purchases.

   b. Outstanding general long-term debt ratio - indicates the burden of outstanding debt on the existing tax base.

   c. Governmental debt service ratio - indicates the portion of general revenues devoted to repayment of principle and interest on long-term (i.e. due in more than one year) debt.

   d. Unfunded pension liability ratio - indicates financial burden on future taxpayers to fund retirement benefits and whether pension contributions and revenues are able to fund pension benefits (Groves & Valente, 1994; Nollenberger, 2003).

4. Service-level solvency

   a. Outstanding general long-term debt per capita - relates outstanding long-term debt to population and indicates the burden of outstanding debt on existing citizens.

   b. General Fund operating revenues per capita - indicates revenues relative to population and therefore the burden placed on current citizens to provide future revenues.

   c. General Fund expenditures per capita - indicates expenditures relative to changes in population and indicates the level of service delivery provided to current citizens.

d. Debt Service Fund expenditures per capita - indicates the portion of debt service expenditures (principle and interest) funded by current citizens.

e. Capital Project Fund expenditures per capita - relates expenditures for long-term capital assets to population and indicates a government's ability to provide capital assets for current and future citizens (Groves & Valente, 1994; Nollenberger, 2003).

Financial Management Capacity

Dimensions, respective indicators, and measures of the indicators relating to the independent variable financial management capacity are as follows:

1. Budgeting system

    - Budget format – line item, performance, program, other.

    - Budget execution system – balanced budget requirement, time of budget adoption.

    - Legal and administrative levels of control.

    - Allocation method for excess revenues over expenditures.\

2. Strategic planning system

    - Cash management policy – level of mandate (i.e. state, local ordinance, local resolution, formal policy, informal policy), frequency of review and ratification, accountability for performance, and flexibility of policy amendment process.

    - Investment management policy – level of mandate (i.e. state, local ordinance, local resolution, formal policy, informal policy), frequency of review and ratification, accountability for performance, and flexibility of policy amendment process.

    - Debt management policy – level of mandate (i.e. state, local ordinance, local resolution, formal policy, informal policy), frequency of review and ratification, accountability for performance, and flexibility of policy amendment process.

- Strategic plan – level of mandate (i.e. state, local ordinance, local resolution, formal policy, informal policy), frequency of review and ratification, use of strategic plan in operations/budgeting, and involvement of citizens and other stakeholders in the strategic planning process.

- Fiscal impact statements – required or preferred, multi-year impacts included (personnel, operating, capital), estimated useful life of capital assets.

3. Fall back system

- Rainy day fund – level of mandate (i.e. state, local ordinance, local resolution, formal policy, informal policy), existence of formal written policy, mandated funding, dedicated funding source, specific circumstances for use of funds, frequency of review and ratification, and flexibility of policy amendment process.

- Use of fund equity – level of mandate (i.e. state, local ordinance, local resolution, formal policy, informal policy), specific circumstances for use of funds, and frequency of review and ratification.

4. Accounting and reporting system

- Cost accounting – required or preferred use (fiscal impact, pricing of fees/charges, alternate delivery considerations) and level of costs included.

- Financial accounting and reporting – level of reporting to stakeholders, frequency of reporting, availability of information (paper, on-line/real-time, web site), understandability (use of flexible report writing systems, summary data, citizen-friendly, concise), and extent of dissemination to stakeholders.

- Budgetary reporting – frequency of reporting, availability of information (paper, on-line/real-time, web site), understandability (use of flexible report writing systems, summary data, citizen-friendly, concise), and extent of dissemination to stakeholders.

5. Internal control system

- Procurement – level of mandate (i.e. state, local ordinance, local resolution, formal policy, informal policy), frequency of review and ratification, flexibility of policy amendment process, extent of decentralization of purchasing, and authorization levels.

- Budgeting – extent of decentralization of preparation phase, authorization levels and level of mandate, and ease of amendment/transfer process.

6. Financial leadership

- Qualifications – professional certification(s), education level, years of public sector experience, years in position and tenure with survey government.

- Span of control – functions and number of personnel supervised.

- Chain of command – direct reporting relationship, title.

Environmental Factors

Dimensions, respective indicators, and measures of the indicators relating to the control variables are as follows

1. Governance

   - Form of government.

   - Years incorporated.

   - Form of elections (non-partisan, at-large).

   - Term of office (limit, length).

   - Number members in governing body (voting, non-voting).

   - Statutory limits on ad valorem tax rate.

   - Statutory limits on changes in taxable property values.

   - Legal debt limit.

2. Demographics

   - Metropolitan statistical area.

   - Population.

   - Income (per capita).

   - Education level (percentage of high school graduates).

   - Median age.

   - Employment rate (percentage of population over 16 employed)

APPENDIX C

SURVEY INSTRUMENT

(ADMINISTERED TO CHIEF FINANCIAL OFFICERS)

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National Survey of Financial Management Capacity

Please answer all questions as to situations existing for your *fiscal year 2001*.

Budgeting System for Situations Existing in Fiscal 2001

1. If you prepare multi-year **operating budgets**, what is the planning horizon?
   - ○ Don't prepare   ○ 2-3 years   ○ Over 3 years   ○ Don't know

2. If you prepare multi-year **capital budgets**, what is the planning horizon?
   - ○ Don't prepare   ○ 2-5 years   ○ Over 5 years   ○ Don't know

3. Which of the following best describes the **format of the budget** you prepare for formal and/or external purposes?
   - ○ Line item   ○ Performance/program   ○ Other   ○ Don't know

4. If you have a **legal balanced budget requirement** for the General Fund is it mandated by **(check all that apply)**?
   - ○ Not mandated   ○ Local ordinance, etc.   ○ State statute   ○ Other   ○ Don't know

5. If your budget is required to be formally adopted prior to the start of the new fiscal year is it mandated by **(check all that apply)**?
   - ○ Not mandated   ○ Local ordinance, etc.   ○ State statute   ○ Other   ○ Don't know

6. At what level of accountability is the **legal level of control** (i.e. actual exceeding appropriated amounts at legally adopted levels) for **General Fund** expenditures **(check all that apply)**?
   - ○ Fund   ○ Department   ○ Program   ○ Other   ○ Don't know

7. At what level of accountability is the **administrative level of control** (i.e. actual exceeding appropriated amounts at internal management levels) for **General Fund** expenditures **(check all that apply)**?
   - ○ Fund   ○ Department   ○ Program   ○ Other   ○ Don't know

8. Which of the following best describes the disposition of any year end **actual excess revenues** and other sources over expenditures and other uses in the **General Fund (check all that apply)**?
   - ○ Partially reverts to unreserved fund equity   ○ Reverts in full to unreserved fund equity
   - ○ Shared with *responsible* departments   ○ Shared with *all* departments
   - ○ Other   ○ Don't know

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Strategic Initiatives for Situations Existing in Fiscal 2001

9. Which of the following policies (as listed separately or in some combination) are either formally or informally in place in your jurisdiction **(check all that apply)**?
    ○ Cash management
    ○ Investment management
    ○ Debt management
    ○ Strategic plan

For any of the following areas where you have combined policies, please answer the questions as if you have a separate policy within the subject area.

Cash Management – Fiscal 2001

10. If you have a cash management policy is it mandated by **(check all that apply)**?
    ○ Not mandated
    ○ State statute
    ○ Local ordinance, etc.
    ○ Other
    ○ Don't know
    ○ No cash policy (skip to #15)

11. If you have a cash management policy does it specify objective performance benchmarks such as average balances, net/gross return, etc.?
    ○ No
    ○ Yes
    ○ Don't know

12. If you have a cash management policy, how often is it **required** to be reviewed at the staff level?
    ○ Not required
    ○ Annually
    ○ Biannually
    ○ Other
    ○ Don't know

13. If you have a cash management policy, how often is it **required** to be reviewed and/or ratified by the governing body?
    ○ Not required
    ○ Annually
    ○ Biannually
    ○ Other
    ○ Don't know

14. If you have a cash management policy does it allow changes to be made on an interim basis without review/ratification of the governing body?
    ○ No
    ○ Yes
    ○ Don't know

Investment Management – Fiscal 2001

15. If you have an investment management policy is it mandated by **(check all that apply)**?
    ○ Not mandated
    ○ State statute
    ○ Local ordinance, etc.
    ○ Other
    ○ Don't know
    ○ No investment policy (skip to #20)

16. If you have an investment management policy does it specify objective performance benchmarks such as rate of return, maturities, allowable investments, etc.?
    ○ No
    ○ Yes
    ○ Don't know

17. If you have an investment management policy, how often is it **required** to be reviewed at the staff level?
    ○ Not required
    ○ Annually
    ○ Biannually
    ○ Other
    ○ Don't know

18. If you have an investment management policy, how often is it **required** to be reviewed and/or ratified by the governing body?
    ○ Not required
    ○ Annually
    ○ Biannually
    ○ Other
    ○ Don't know

19. If you have an investment management policy does it allow changes to be made on an interim basis without review/ratification of the governing body?
   ○ No ○ Yes ○ Don't know

Debt Management – Fiscal 2001

20. If you have a debt management policy is it mandated by **(check all that apply)**?
   ○ Not mandated ○ State statute ○ Local ordinance, etc.
   ○ Other ○ Don't know ○ No debt policy (skip to #25)

21. If you have a debt management policy does it specify objective performance benchmarks such as legal debt limit, limits by type of debt, maximum annual debt service, debt per capita, etc.?
   ○ No ○ Yes ○ Don't know

22. If you have a debt management policy, how often is it **required** to be reviewed at the staff level?
   ○ Not required ○ Annually ○ Biannually ○ Other ○ Don't know

23. If you have a debt management policy, how often is it **required** to be reviewed and/or ratified by the governing body?
   ○ Not required ○ Annually ○ Biannually ○ Other ○ Don't know

24. If you have a debt management policy does it allow changes to be made on an interim basis without formal review/ratification of the governing body?
   ○ No ○ Yes ○ Don't know

Strategic Planning and Management – Fiscal 2001

25. If you have a strategic plan is it mandated by **(check all that apply)**?
   ○ Not mandated ○ State statute ○ Local ordinance, etc.
   ○ Other ○ Don't know ○ No strategic plan (skip to #30)

26. If you have a strategic plan, how often is it **required** to be reviewed at the staff level?
   ○ Not required ○ Annually ○ Biannually ○ Other ○ Don't know

27. If you have a strategic plan, how often is it **required** to be reviewed and/or ratified by the governing body?
   ○ Not required ○ Annually ○ Biannually ○ Other ○ Don't know

28. If you have a strategic plan, is it used as the basis to prepare the **(check all that apply)**?
   ○ Annual *operating* budget ○ Annual *capital* budget
   ○ Capital improvement program ○ Other
   ○ Not used ○ Don't know

29. If you have a strategic plan, are **citizens and/or other stakeholders involved** in **(check all that apply)**?
   ○ Initial planning process ○ Periodic review process
   ○ Periodic updating process ○ Other
   ○ Not involved ○ Don't know

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Fiscal Impact Statements – Fiscal 2001

30. If fiscal impact statements are **required** to be provided to the governing body for decision making purposes are they mandated by **(check all that apply)**?
    - ○ Not mandated
    - ○ State statute
    - ○ Local ordinance, etc.
    - ○ Other
    - ○ Don't know
    - ○ No fiscal impact statements (skip to #33)

31. If you provide fiscal impact statements to the governing body for decision making are such statements?
    - ○ Required to be provided
    - ○ Provided when considered necessary
    - ○ Other
    - ○ Don't know

32. If fiscal impact statements are provided to the governing body, which fiscal impacts are **required** to be included **(check all that apply)**?
    - ○ Initial capital cost
    - ○ Periodic maintenance costs
    - ○ First year operating costs
    - ○ Multi-year operating costs
    - ○ First year additional personnel costs
    - ○ Multi-year personnel costs
    - ○ Estimated useful life of capital assets
    - ○ Multi-year additional capital costs
    - ○ Other
    - ○ Don't know

Fall Back Systems: Rainy Day Funds – Fiscal 2001

33. If you have a formal **"rainy day fund"** is it mandated by **(check all that apply)**?
    - ○ Not mandated
    - ○ State statute
    - ○ Local ordinance, etc.
    - ○ Other
    - ○ Don't know
    - ○ No rainy day fund (skip to #36)

34. If you have a formal **"rainy day fund"**, what resources are used to increase or replenish the balance in the **General Fund (check all that apply)**?
    - ○ Statutory formula
    - ○ All excess revenues and other sources/uses
    - ○ Internally determined formula
    - ○ Dedicated funding source
    - ○ Other
    - ○ Don't know

35. If you have a formal **"rainy day fund"**, **when** are resources allocated to increase or replenish the balance in the **General Fund (check all that apply)**?
    - ○ Not required
    - ○ Annually
    - ○ Biannually
    - ○ Other
    - ○ Don't know

    If you have a formal **"rainy day fund"**, for **what** reasons are monies expended from it for **General Fund** purposes **(check all that apply)**?
    - ○ Natural disasters
    - ○ Compensate for revenue shortfalls
    - ○ Avoid tax/fee increases
    - ○ Pension funding requirements
    - ○ *Unanticipated* capital replacement
    - ○ *Unanticipated* operating expenditures
    - ○ *Unforeseen* economic decline
    - ○ Settlement of litigation
    - ○ *Unanticipated* citizen initiatives
    - ○ *Planned* capital acquisitions
    - ○ Other
    - ○ Don't know

Fall Back Systems: Use of Fund Equity – Fiscal 2001

36. If you have a formal **policy for using fund equity** is it mandated by (**check all that apply**)?
    - ○ Not mandated
    - ○ State statute
    - ○ Local ordinance, etc.
    - ○ Other
    - ○ Don't know
    - ○ No policy (skip to #38)

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37. If you have a formal **policy for using fund equity**, for **what** reasons are monies expended from it for **General Fund** purposes **(check all that apply)**?
   - ○ Natural disasters
   - ○ Avoid tax/fee increases
   - ○ *Unanticipated* capital replacement
   - ○ *Unforeseen* economic decline
   - ○ *Unanticipated* citizen initiatives
   - ○ Other
   - ○ Compensate for revenue shortfalls
   - ○ Pension funding requirements
   - ○ *Unanticipated* operating expenditures
   - ○ Settlement of litigation
   - ○ *Planned* capital acquisitions
   - ○ Don't know

Accounting and Reporting System for Situations Existing in Fiscal 2001

38. For which of the following circumstances do you utilize **formal cost accounting** procedures **(check all that apply)**?
   - ○ Fiscal impact statements
   - ○ Determine user fees and charges
   - ○ Analyze service delivery options
   - ○ Do not use formal cost accounting
   - ○ Allocation of indirect costs
   - ○ Activity based costing
   - ○ Functional financial statement allocations
   - ○ Don't know

39. Does your financial management software system have the capability of producing user-defined reports?
   - ○ No
   - ○ Yes
   - ○ Don't know

40. If your financial management software system has the ability to produce user-defined reports are users outside the finance/accounting/budgeting functions allowed access to this feature?
   - ○ No
   - ○ Yes
   - ○ Don't know

41. Which of the following do you maintain on your city and/or department **external website (check all that apply)**?
   - ○ Popular report
   - ○ Annual summary financial data
   - ○ CAFR
   - ○ State of the City report
   - ○ Formal policies (i.e. debt, cash, etc.)
   - ○ No city/department web site in place
   - ○ Budget in Brief or other budget summary
   - ○ Complete budget document
   - ○ Increases in rates, user fees, or charges
   - ○ Current requests for/results of bids/proposals
   - ○ Other
   - ○ Don't know

42. Which of the following do you **directly distribute** to your **citizens** (i.e. mass mailing, etc.) on at least an annual basis **(check all that apply)**?
   - ○ Popular report
   - ○ Annual summary financial data
   - ○ State of the city report
   - ○ Budget in Brief or other budget summary
   - ○ Increases in rates, user fees, or charges
   - ○ Don't know

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43. Which of the following do you **directly distribute** (hard copy or electronic) to your **governing body (check all that apply)**?
   - ○ Budget comparisons
   - ○ CAFR
   - ○ State of the city report
   - ○ Complete budget document
   - ○ Increases in rates, user fees, or charges
   - ○ Investment reports
   - ○ Other
   - ○ GAAP statements
   - ○ Popular report
   - ○ Budget in brief or other budget summary
   - ○ Capital improvement plan
   - ○ Bond disclosure data
   - ○ Pension reports
   - ○ Don't know

44. Which of the following do you **directly distribute** (hard copy or electronic) to your **department/agency heads (check all that apply)**?
   - ○ Budget comparisons
   - ○ CAFR
   - ○ State of the city report
   - ○ Complete budget document
   - ○ Other
   - ○ GAAP statements
   - ○ Popular report
   - ○ Budget in brief or other budget summary
   - ○ Capital improvement plan
   - ○ Don't know

45. Which of the following individuals have on-line real-time access (regardless of access level) to current activity and available funds **for any city department/function (check all that apply)**?
   - ○ Elected officials
   - ○ Department heads
   - ○ Accounting/finance/OMB staff
   - ○ Purchasing staff
   - ○ Do not have on-line real-time capability
   - ○ Chief administrative officer/city manager
   - ○ Managers and supervisors
   - ○ Administrative/line employees
   - ○ Other
   - ○ Don't know

46. Which of the following individuals have on-line real-time access (irrespective of access level) to current activity and available funds for their **respective department/function (check all that apply)**?
   - ○ Elected officials
   - ○ Department heads
   - ○ Accounting/finance/OMB staff
   - ○ Purchasing staff
   - ○ Do not have on-line real-time capability
   - ○ Chief administrative officer/city manager
   - ○ Managers and supervisors
   - ○ Administrative/line employees
   - ○ Other
   - ○ Don't know

Internal Control Systems for Situations Existing in Fiscal 2001

Procurement/Purchasing – Fiscal 2001

47. If you have a procurement/purchasing policy is it mandated by (**check all that apply**)
   - ○ Not mandated
   - ○ Other
   - ○ State statute
   - ○ Don't know
   - ○ Local ordinance, etc.
   - ○ No policy (skip to #52)

48. If you have a procurement/purchasing policy, how often is it **required** to be reviewed at the staff level?
   - ○ Not required   ○ Annually   ○ Biannually   ○ Other   ○ Don't know

49. If you have a procurement/purchasing policy, how often is it **required** to be reviewed and/or ratified by the governing body?
   - ○ Not required   ○ Annually   ○ Biannually   ○ Other   ○ Don't know

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50. If you have a procurement/purchasing policy does it allow changes to be made on an interim basis without review/ratification of the governing body?
   ○ No   ○ Yes   ○ Don't know

51. Which of the following best describes your general procurement/purchasing function and/or environment **(check all that apply)**?
   ○ Centralized - all purchases
   ○ Centralized - all capital items
   ○ Centralized - common use items
   ○ Other
   ○ Centralized – items over threshold
   ○ Centralized – construction contracts
   ○ No centralization
   ○ Don't know

52. Which of the following approvals are **required** for purchases of capital assets **including construction contracts (check all that apply)**?
   ○ Chief elected official or pro tem
   ○ Chief financial officer
   ○ Originating department head
   ○ Entire governing body
   ○ None of these
   ○ Chief administrative officer/city manager
   ○ Chief purchasing officer
   ○ Originating department manager/supervisor
   ○ Other
   ○ Don't know

Budget Process – Fiscal 2001

53. Is your budget preparation process decentralized (i.e. departments prepare their own budget requests following general guidelines from the chief executive, chief financial officer, or chief budget officer)?
   ○ No   ○ Yes   ○ Don't know

54. Do departments/requesting agencies enter their own budget requests into an entity-wide budget preparation software module?
   ○ No   ○ Yes   ○ Don't know

55. Are departmental budget requests prepared based on targeted budget levels (i.e. status quo $\pm$ specific dollar/percentage change) identified by the governing body, chief executive, chief financial officer, or chief budget officer?
   ○ No   ○ Yes   ○ Don't know

56. If budget changes/adjustments are made throughout the fiscal year, are they authorized by **(check all that apply)**?
   ○ No adjustments   ○ Local ordinance, etc.   ○ State statute   ○ Other   ○ Don't know

57. If budget adjustments at the **legal level of control** are made throughout the fiscal year, are they required to be approved by **(check all that apply)**?
   ○ Governing body
   ○ Chief budget officer
   ○ Chief financial officer
   ○ Other
   ○ Chief elected official
   ○ Chief administrative officer/city manager
   ○ Department/agency head
   ○ Don't know

58. If budget adjustments at the **administrative level of control** are made throughout the fiscal year, are they required to be approved by **(check all that apply)**?
   ○ Governing body
   ○ Chief budget officer
   ○ Chief financial officer
   ○ Other
   ○ Chief elected official
   ○ Chief administrative officer/city manager
   ○ Department/agency head
   ○ Don't know

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Financial Leadership for Situations Existing in Fiscal 2001

59. What is the highest level of formal education you have completed? **In the case of graduate work, check all that apply.**
    - ○ High school graduate
    - ○ College graduate – associate degree
    - ○ College graduate – BS/BA, etc.
    - ○ Graduate degree – business MBA
    - ○ Graduate degree – accounting/finance
    - ○ Graduate degree – public administration
    - ○ PhD
    - ○ Post Doctoral

60. What professional certifications do you hold? **Check all that apply**.
    - ○ Certified public accountant
    - ○ Certified financial analyst
    - ○ Certified management accountant
    - ○ Certified government/public finance officer
    - ○ Certified treasury manager/official
    - ○ Other

61. How long have you worked in the **public sector**?
    - ○ 0 – 5 years
    - ○ 6 – 10 years
    - ○ 11 – 15 years
    - ○ More than 15 years

62. How long have you worked for this **city**?
    - ○ 0 – 5 years
    - ○ 6 – 10 years
    - ○ 11 – 15 years
    - ○ More than 15 years

63. How long have you held your **current position**?
    - ○ 0 – 5 years
    - ○ 6 – 10 years
    - ○ 11 – 15 years
    - ○ More than 15 years

64. How many people do you supervise?
    - ○ 0 – 5
    - ○ 6 – 10
    - ○ 11 – 15
    - ○ More than 15

65. Which of the following areas are within your **direct** span of control **(check all that apply)**?
    - ○ Financial accounting
    - ○ Debt management
    - ○ Investment management
    - ○ Payroll
    - ○ Personnel management
    - ○ Risk management
    - ○ Information technology
    - ○ Grants administration
    - ○ Cash management
    - ○ Financial reporting
    - ○ Management and budget
    - ○ Pension administration
    - ○ Procurement/purchasing
    - ○ Utility billing and reporting
    - ○ Property control/accounting
    - ○ Performance measurement & reporting

66. Which of the following best describes the **title** of the person to whom you **directly report**?
    - ○ Strong mayor/other elected official
    - ○ Chief executive officer/city manager
    - ○ Chief financial officer
    - ○ City clerk
    - ○ Treasurer
    - ○ Director of finance
    - ○ Comptroller
    - ○ Other

67. Which of the following best describes your **official job title**?
   - ○ Chief administrator officer
   - ○ Assistant chief administrator
   - ○ City manager
   - ○ Assistant city manager
   - ○ Chief financial officer
   - ○ Treasurer
   - ○ Assistant treasurer
   - ○ Director of finance/administrative services
   - ○ Assistant director of finance/admin services
   - ○ Comptroller
   - ○ Assistant comptroller
   - ○ Accounting/finance manager
   - ○ City clerk
   - ○ Other

Financial Condition for Situations Existing in Fiscal 2001

Please select only one response to the statements in this section.

68. For *fiscal 2001*, our city was able to generate enough cash over 30-60 days to pay its General Fund bills.
   - ○ Strongly disagree
   - ○ Disagree
   - ○ Neither agree or disagree
   - ○ Agree
   - ○ Strongly agree
   - ○ Don't know

69. For *fiscal 2001*, our city was able to generate enough revenues over the normal budget period to meet General Fund expenditures without incurring deficits.
   - ○ Strongly disagree
   - ○ Disagree
   - ○ Neither agree or disagree
   - ○ Agree
   - ○ Strongly agree
   - ○ Don't know

70. At the end of *fiscal 2001*, our city was in a position to pay all costs of doing business in the long run including annual General Fund operating expenditures and long term liabilities such as debt service, pensions, etc.
   - ○ Strongly disagree
   - ○ Disagree
   - ○ Neither agree or disagree
   - ○ Agree
   - ○ Strongly agree
   - ○ Don't know

71. For *fiscal 2001*, our city was able to provide services at the levels and quality required for the health, safety, and welfare of our community and that our citizens desired.
   - ○ Strongly disagree
   - ○ Disagree
   - ○ Neither agree or disagree
   - ○ Agree
   - ○ Strongly agree
   - ○ Don't know

72. At the end of *fiscal 2001*, our city's financial condition would best be described as:
   - ○ Very weak
   - ○ Weak
   - ○ Moderate
   - ○ Strong
   - ○ Very strong
   - ○ Don't know

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Governance for Situations Existing in Fiscal 2001

73. Year of Incorporation _____ MSA (if applicable) _____

74. Number of employees _____ Latest GO Rating (actual or shadow) _____

75. Which of the following best describes the form of government under which your city operates?
    ○ Mayor/council ○ Council/manager ○ Commission ○ Don't know

76. Are elections of council/commission members held at-large?
    ○ No ○ Yes ○ Don't know

77. Are council/commission members elected subject to term limits?
    ○ No ○ Yes ○ Don't know

78. What is the term length for elected council/commission members?
    ○ No elections ○ 1 – 2 years ○ 3 – 4 years ○ 5 or more ○ Don't know

79. Number of elected **voting** council/commission members
    ○ No elections ○ 5 or less ○ 6 - 10 ○ 11 or more ○ Don't know

80. If you have a **legal limit** on your operating millage rate is it mandated by **(check all that apply)**?
    ○ No legal limit ○ Local ordinance, etc ○ State statute ○ Other ○ Don't know

81. If you have a **legal maximum** annual increase in taxable property values for residential and/or not residential properties is it mandated by **(check all that apply)**?
    ○ No maximum ○ Local ordinance, etc. ○ State statute ○ Other ○ Don't know

82. If you have a **legal limit** on long-term debt (bonded or otherwise) is it mandated by **(check all that apply)**?
    ○ No legal limit ○ Local ordinance, etc ○ State statute ○ Other ○ Don't know

Optional Information

83. Name of City, County, State _____

84. Name of person completing survey_____

85. Gender ○ Male ○ Female

86. Official job title of person completing survey _____

87. Please indicate how familiar you are with the issues of financial management capacity in your jurisdiction **(check only one)**.
    ○ Very familiar ○ Familiar ○ Somewhat familiar ○ Not familiar ○ Don't know

Thank you very much for your participation in this survey. *Please note that completion of this survey constitutes your informed consent.* Should you have any comments, questions, or concerns related to this survey, please contact Lynda M. Dennis at (407) 869-9254. If preferred, you may e-mail your

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comments, questions, or concerns or a request for an electronic copy of the survey results to lkmdennis@crl.rr.com.

APPENDIX D

INSTITUTIONAL REVIEW BOARD APPROVAL

University of
Central Florida

Office of Research

August 23, 2004

Lynda Dennis
307 Smokerise Blvd.
Longwood, FL 32779

Dear Ms. Dennis:

With reference to your protocol entitled, "Determinants of Financial Condition: A Study of US Cities," I am enclosing for your records the approved, expedited document of the UCFIRB Form you had submitted to our office.

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur. Further, should there be a need to extend this protocol, a renewal form must be submitted for approval at least one month prior to the anniversary date of the most recent approval and is the responsibility of the investigator (UCF).

Should you have any questions, please do not hesitate to call me at 407-823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

Barbara Ward

Barbara Ward, CIM
Institutional Review Board (IRB)

Copies: IRB office
Dr. XiaoHu Wang, COHPA, Public Administration, HPAII Room 238B

12443 Research Parkway • Suite 302 • Orlando, FL 32826-3252 • 407-823-3778 • Fax 407-823-3299
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THE UNIVERSITY OF CENTRAL FLORIDA
INSTITUTIONAL REVIEW BOARD (IRB)

IRB Committee Approval Form

PRINCIPAL INVESTIGATOR(S): Lynda Dennis

PROJECT TITLE: Determinants of Financial Condition: A Study of US Cities (dissertation).

Committee Members:

Dr. Theodore Angelopoulos: _____
Ms. Sandra Browdy: _____
Dr. Jacqui Byers: _____
Dr. Ratna Chakrabarti: _____
Dr. Karen Dennis: _____
Dr. Barbara Fritzsche: _____
Dr. Robert Kennedy: _____
Dr. Gene Lee: _____
Ms. Gail McKinney: _____
Dr. Debra Reinhart: _____
Dr. Valerie Sims: _____

[ ] Contingent Approval
Dated: _____

[ ] Final Approval
Dated: _____

Reviewed SFD
[x] Expedited 13 Aug 2004
Dated: 18 June 2004 (contingent)

[ ] Exempt
Dated: _____

[x] Expiration
Date: 17 June 2005

Chair, IRB
Signed: _____
Dr. Sophia Dziegielewski

NOTES FROM IRB CHAIR (IF APPLICABLE): _____

_____

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APPENDIX E

SUMMARY AND COMPARISON OF RESPONSE RATES

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Table 8

Comparison of Observations to National Demographics

| | All Cities United States[a] | | Financial Condition GFOA Data Base | | Financial Management Capacity | | | | |
| | | | | | Surveys Sent | | Survey Responses | | |
	n	%	n	%	n	%	n	%	Response Rate
Region									
North East	2,008	27.1%	127	8.1%	20	4.1%	10	4.6%	50.0%
North Central	2,170	29.3%	481	30.5%	116	23.8%	55	25.3%	47.4%
South	2,145	29.0%	565	35.9%	218	44.8%	94	43.3%	43.1%
West	1,078	14.6%	402	25.5%	133	27.3%	58	26.7%	43.6%
Total	7,401	100.0%	1,575	100.0%	487	100.0%	217	100.0%	44.6%
Population									
Less than 10,000	4,539	61.3%	255	16.2%	27	5.5%	11	5.1%	40.7%
10,000 - 49,999	2,317	31.3%	849	53.9%	232	47.6%	103	47.5%	44.4%
50,000 - 99,999	346	4.7%	271	17.2%	111	22.8%	57	26.3%	51.4%
100,000 - 249,999	135	1.8%	138	8.8%	87	17.9%	36	16.6%	41.4%
Over 250,000	64	0.9%	62	3.9%	30	6.2%	10	4.6%	33.3%
Total	7,401	100.0%	1,575	100.0%	487	100.0%	217	100.0%	44.6%

[a]Source: 2002 ICMA Year Book

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APPENDIX F

TABULAR DEFINITION OF VARIABLES

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Table 9

Definition of Variables

Variable	Operational definition	Level of data
<u>Dependent variable</u> Financial condition		
	<u>1. Cash solvency</u> Cash ratio Liabilities ratio	 Ratio Ratio
	<u>2. Budgeting solvency</u> Operating ratio Property tax revenue ratio Intergovernmental revenue ratio	 Ratio Ratio Ratio
	<u>3. Long-run solvency</u> Fund balance ratio Outstanding governmental debt ratio Governmental debt service ratio Unfunded pension liability ratio	 Ratio Ratio Ratio Ratio
	<u>4. Service-level solvency</u> Outstanding general long-term debt per capita General Fund revenues per capita General Fund expenditures per capita Debt Service Fund expenditures per capita Capital Projects Fund expenditures per capita	 Ratio Ratio Ratio Ratio Ratio
<u>Independent variable</u> Financial management capacity		
	<u>1. Budgeting system</u>	

	Multi-year operating budget
	  Two–three years
	  Over three years
	  Don't prepare
	Multi-year capital budget
	  Two–three years
	  Over three years
	  Don't prepare
		
		Nominal
		Nominal
		Nominal
		
		Nominal
		Nominal
		Nominal

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Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	<u>1. Budgeting system</u>	
	Budget format	
	Line item	Nominal
	Performance/program	Nominal
	Other	Nominal
	Balanced budget requirement	
	State statute	Nominal
	City charter	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Requirement to adopt before new year	
	State statute	Nominal
	City charter	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Legal level of control	
	Fund	Nominal
	Department	Nominal
	Program	Nominal
	Other	Nominal
	Administrative level of control	
	Fund	Nominal
	Department	Nominal
	Program	Nominal
	Other	Nominal
	Control vs. operational performance	
	Actual excess revenues	
	Revert in full to fund equity	Nominal
	Share with all departments	Nominal
	Share with responsible departments	Nominal
	Other	Nominal

Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	<u>2. Strategic planning system</u>	
	Policies in place	
	Cash management	Nominal
	Investment management	Nominal
	Debt management	Nominal
	Strategic plan	Nominal
	Cash management policy	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	No policy	Nominal
	Performance measures	Nominal
	Periodic review/ratification	
	Required review—staff	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Required ratification—governing body	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Interim changes without governing body approval	Nominal
	Investment management policy	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	No policy	Nominal

Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	<u>2. Strategic planning system</u>	
	Investment management policy	
	Performance measures	Nominal
	Periodic review/ratification	
	Required review—staff	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Required ratification—governing body	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Interim changes without governing body approval	Nominal
	Debt management policy	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	No policy	Nominal
	Performance measures	Nominal
	Periodic review/ratification	
	Required review—staff	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Required ratification—governing body	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Interim changes without governing body approval	Nominal

Variable	Operational definition	Level of data
Independent variable Financial management capacity		
	2. Strategic planning system	
	Strategic plan	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	No plan	Nominal
	Performance measures	Nominal
	Periodic review/ratification	
	Required review—staff	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Required ratification—governing body	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Extent of integration	
	Annual operating budget	Nominal
	Annual capital budget	Nominal
	Capital improvement plan	Nominal
	Not integrated	Nominal
	Citizen participation	
	Initial planning	Nominal
	Periodic review	Nominal
	Periodic updating	Nominal
	Other	Nominal
	Not involved	Nominal

Variable	Operational definition	Level of data
Independent variable Financial management capacity		
	2. Strategic planning system	
	Fiscal impact statements	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	No fiscal impact statements	Nominal
	When provided	
	Required	Nominal
	When necessary	Nominal
	Other	Nominal
	Data provided	
	Initial capital cost	Nominal
	First year operating costs	Nominal
	First year additional personnel costs	Nominal
	Estimated useful life of assets	Nominal
	Periodic maintenance costs	Nominal
	Multi-year operating costs	Nominal
	Multi-year additional personnel costs	Nominal
	Multi-year additional capital costs	Nominal
	Other	Nominal
	3. Fall back system	
	Rainy day fund	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Do not have rainy day fund	Nominal
	Funding source	
	Statutory formula	Nominal
	Dedicated funding source	Nominal
	Internally determined formula	Nominal
	All excess revenues/other sources	Nominal
	Other	Nominal

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Variable	Operational definition	Level of data
Independent variable Financial management capacity		
	3. Fall back system Rainy day fund	
	Allowable uses	
	Natural disasters	Nominal
	Avoid tax/user fee increases	Nominal
	Unanticipated capital replacement	Nominal
	Unforeseen economic decline	Nominal
	Unanticipated citizen initiatives	Nominal
	Pension funding requirements	Nominal
	Compensate for revenue shortfalls	Nominal
	Unanticipated operating expenditures	Nominal
	Settlement of litigation	Nominal
	Planned capital acquisition	Nominal
	Other	Nominal
	Use of fund equity	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Do not have fund equity policy	Nominal
	Allowable uses	
	Natural disasters	Nominal
	Avoid tax/user fee increases	Nominal
	Unanticipated capital replacement	Nominal
	Unforeseen economic decline	Nominal
	Unanticipated citizen initiatives	Nominal
	Pension funding requirements	Nominal
	Compensate for revenue shortfalls	Nominal
	Unanticipated operating expenditures	Nominal
	Settlement of litigation	Nominal
	Planned capital acquisition	Nominal
	Other	Nominal

Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	<u>4. Accounting and reporting system</u>	
	Cost accounting	
	Utilization	
	Fiscal impact statements	Nominal
	Determine user fees/charges	Nominal
	Determine utility rates	Nominal
	Activity based costing	Nominal
	Analyze service delivery options	Nominal
	Functional financial statement allocations	Nominal
	Other	Nominal
	Flexibility	
	System generated user defined reports	Nominal
	System generated user defined reports—outside access	Nominal
	Communication	
	Web site accessible	
	Popular report	Nominal
	Budget in brief, etc.	Nominal
	Annual financial summary	Nominal
	Complete budget document	Nominal
	CAFR	Nominal
	Increases in rates, fees, etc.	Nominal
	State of the City report	Nominal
	Formal policies	Nominal
	Recent bid/contract awards	Nominal
	Current requests for bids/proposals	Nominal
	Other	Nominal
	Do not have city/department web site	Nominal
	Citizens	
	Popular report	Nominal
	Budget in brief, etc.	Nominal
	Annual financial report/summary	Nominal
	Increases in rates, fees, etc.	Nominal
	State of the City report	Nominal

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Variable	Operational definition	Level of data
Independent variable Financial management capacity		
	4. Accounting and reporting system	
	Communication	
	Governing body	
	Budget comparisons	Nominal
	CAFR	Nominal
	GAAP statements	Nominal
	Complete budget document	Nominal
	Budget in brief, etc.	Nominal
	Capital improvement plan	Nominal
	Bond disclosure data	Nominal
	Periodic investment reports	Nominal
	Popular report	Nominal
	Increases in rates, fees, etc.	Nominal
	State of the City report	Nominal
	Pension reports	Nominal
	Other	Nominal
	Department/agency managers	
	Budget comparisons	Nominal
	CAFR	Nominal
	GAAP statements	Nominal
	Complete budget document	Nominal
	Budget in brief, etc.	Nominal
	Capital improvement plan	Nominal
	Popular report	Nominal
	State of the City report	Nominal
	Other	Nominal
	Timely accessibility	
	Any city department/function	
	Elected officials	Nominal
	Chief administrator/city manager	Nominal
	Department heads	Nominal
	Managers/supervisors	Nominal
	Accounting/finance/OMB staff	Nominal
	Administrative/line employees	Nominal
	Purchasing staff	Nominal
	Other	Nominal
	No on-line real-time capability	Nominal

Variable	Operational definition	Level of data
Independent variable Financial management capacity		
	4. Accounting and reporting system	
	Timely accessibility	
	Respective department/function	
	Elected officials	Nominal
	Chief administrator/city manager	Nominal
	Department heads	Nominal
	Managers/supervisors	Nominal
	Accounting/finance/OMB staff	Nominal
	Administrative/line employees	Nominal
	Purchasing staff	Nominal
	Other	Nominal
	No on-line real-time capability	Nominal
	5. Internal control system	
	Procurement/purchasing	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Do not have purchasing policy	Nominal
	Periodic review/ratification	
	Required review—staff	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Required ratification —governing body	
	Annually	Nominal
	Biannually	Nominal
	Other	Nominal
	Not required	Nominal
	Interim changes without governing body approval	Nominal

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Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	5. Internal control system	
	Procurement/purchasing	
	Centralization	
	Centralized—all purchases	Nominal
	Centralized—all capital items	Nominal
	Centralized—common use items	Nominal
	Centralized—items over threshold	Nominal
	Centralized—construction contracts	Nominal
	No centralization	Nominal
	Other	Nominal
	Flexibility	
	Capital assets approval—all	
	Chief elected official/pro tem	Nominal
	Chief administrator/city manager	Nominal
	Chief financial officer	Nominal
	Chief purchasing officer	Nominal
	Originating department head	Nominal
	Originating department manager/supervisor	Nominal
	Entire governing body	Nominal
	Other	Nominal
	Budget process	
	Centralization	
	Department prepared	Nominal
	Department entered into system	Nominal
	Basis for preparation	
	Requests on target level basis	Nominal

Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	<u>5. Internal control system</u>	
	Budget process	
	Flexibility	
	Adjustments	
	Authority	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Do not make adjustments	Nominal
	Legal level of control	
	Governing body	Nominal
	Chief elected official	Nominal
	Chief administrator/city manager	Nominal
	Chief financial officer	Nominal
	Chief budget officer	Nominal
	Department/agency head	Nominal
	Other	Nominal
	Administrative level of control	
	Governing body	Nominal
	Chief elected official	Nominal
	Chief administrator/city manager	Nominal
	Chief financial officer	Nominal
	Chief budget officer	Nominal
	Department/agency head	Nominal
	Other	Nominal
	<u>6. Financial leadership</u>	
	Level of education	
	High school graduate	Nominal
	College graduate–AA, etc.	Nominal
	College graduate–BA, etc.	Nominal
	Graduate degree–MBA	Nominal
	Graduate degree–MA/Finance	Nominal
	Graduate degree–MPA	Nominal
	PhD	Nominal
	Post doctoral	Nominal

Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	<u>6. Financial leadership</u>	
	Certifications	
	CPA	Nominal
	CGFO	Nominal
	CFA	Nominal
	CTM	Nominal
	CMA	Nominal
	Other	Nominal
	Experience	
	Public sector	
	0–5 years	Nominal
	6–10 years	Nominal
	11–15 years	Nominal
	More than 15 years	Nominal
	Current city	
	0–5 years	Nominal
	6–10 years	Nominal
	11–15 years	Nominal
	More than 15 years	Nominal
	Current position	
	0–5 years	Nominal
	6–10 years	Nominal
	11–15 years	Nominal
	More than 15 years	Nominal
	Span of control	
	Number supervised	
	0–5	Nominal
	6–10	Nominal
	11–15	Nominal
	More than 15	Nominal

Variable	Operational definition	Level of data
<u>Independent variable</u> Financial management capacity		
	<u>6. Financial leadership</u> Span of control	
	Areas under control	
	Financial accounting	Nominal
	Cash management	Nominal
	Debt management	Nominal
	Financial reporting	Nominal
	Investment management	Nominal
	Management and budget	Nominal
	Payroll	Nominal
	Pension administration	Nominal
	Personnel management	Nominal
	Procurement/purchasing	Nominal
	Risk management	Nominal
	Utility billing and accounting	Nominal
	Information technology	Nominal
	Property control/accounting	Nominal
	Grants administration	Nominal
	Performance measurement & reporting	Nominal
	Chain of command	
	Reporting responsibility	
	Strong mayor/other elected official	Nominal
	Chief administrator/city manager	Nominal
	Assistant city manager	Nominal
	Chief financial officer	Nominal
	Treasurer	Nominal
	Director of finance	Nominal
	Comptroller	Nominal
	Other	Nominal

Variable	Operational definition	Level of data
Independent variable Financial management capacity		
	6. Financial leadership Chain of command	
	Job title	
	Chief administrator	Nominal
	Assistant chief administrator	Nominal
	City manager	Nominal
	Assistant city manager	Nominal
	Chief financial officer	Nominal
	Treasurer	Nominal
	Assistant treasurer	Nominal
	Director of finance/administrative services	Nominal
	Assistant director of finance/administrative services	Nominal
	Comptroller	Nominal
	Assistant comptroller	Nominal
	Accounting/finance manager	Nominal
	City clerk	Nominal
	Other	Nominal
Control variables Governance		
	Years incorporated	Ratio
	Number of employees	Ratio
	GO bond rating	Interval
	Form of government	
	Mayor/council	Interval
	Manager/council	Interval
	Mayor/council/administrator	Interval
	At-large form of elections	Nominal
	Term of office	
	Term limits	Nominal
	Term length	
	One–two years	Nominal
	Three–four years	Nominal
	More than four years	Nominal

Variable	Operational definition	Level of data
Control variables Governance		
	Number of voting members in governing body	
	Less than five	Nominal
	Five–ten	Nominal
	More than ten	Nominal
	Legal limit on operating millage rate	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Legal limit on annual change in taxable property values	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
	Legal debt limit—GO debt	
	State statute	Nominal
	Local ordinance, etc.	Nominal
	Other	Nominal
Control variables Demographics		
	Metropolitan statistical area	Nominal
	Population	Ratio
	Per capita income	Ratio
	Percentage high school education	Ratio
	Median age	Ratio
	Employment rate	Ratio

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