Spend, Tax, and Save: The Impact of Public Enterprises on Local Finances in Georgia

by

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Abstract

Although public owned enterprises have rarely received the attention of the American public, their presence across the nation is heavy and their role in governance fundamental. Public enterprises have existed since the founding of this country and can be found in all levels of government. Over time public enterprises have helped federal, state, and local governments in various ways, including building infrastructure, stimulating economic growth, providing public services, and diversifying governmental revenue sources.

The significance of public enterprises in local government financial management and service delivery has greatly increased since the 1970s, mainly due to limitations placed on property taxation. In the 1990s, a decade of heavy administrative reforms inside and outside this nation, public enterprises continued to enlarge their role in government. Governments began seeking alternative ways to finance projects and deliver services without increasing taxes or affecting governmental budgets. At this present time of recurrent fiscal crisis, government must decrease its dependency on traditional revenue sources to finance government operations and services. Public enterprises appear to be an excellent alternative . These business-type activities, which are financed through user charges and fees, represent a great potential revenue source for local governments since they often generate revenues beyond their costs.

This dissertation develops seven comprehensive models that can test longitudinally the impact of net enterprise transfers expressed as a percentage of net enterprise income on Georgia's local finances. The models take into account similar factors previously examined by scholars but they also include a series of other financial, socio-economic, demographic, and governance factors that the author believes are necessary for a deeper understanding of the factors affecting municipal spending, revenue patterns, and general fund balances.

The results suggest that local governments in Georgia utilize their enterprise transfers to increase their own-source revenues (additive effect) and constrain their expenditures (siphoning effect). Further, public utilities play an essential role in boosting general fund balances of Georgia municipalities to much higher levels than the 5-15 percent GFOA recommended benchmark. According to this research, net enterprise transfers could help local governments to establish fiscal reserves as part of general fund balances and protect municipal finances from economic fluctuation under periods of revenue shortfall.

The research presented in this dissertation represents an expansion of the limited knowledge regarding the impact of enterprise transfers on governmental spending, revenue patterns, and local general fund balances. This research also provides several lessons for public officials as it indicates the positive impact of public enterprises on own-source revenues and general fund balances. At the same time though, net enterprise transfers generate false assumptions about the true cost of government operation and public outputs thus raising fiscal illusion concerns.

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List of Abbreviations

TEL	Tax Expenditure Limitations
ACIR	Advisory Commission on Intergovernmental Relations
TQM	Total Quality Management
NPM	New Public Management
CAFR	Comprehensive Annual Financial Report
GDAA	Georgia Department of Audits and Accounts
GSE	Government-Sponsored Enterprises
FDIC	Federal Deposit Insurance Corporation
PBGC	Pension Benefit Guarantee Corporation
TVA	Tennessee Valley Authority
NPR	National Performance Review
ASAP	American States Administrator Project
ICMA	International City/Council Management Association
GAAP	Generally Accepted Accounting Principles
FASB	Financial Accounting Standards Board
GASB	Government Accounting Standards Board
NASBO	National Association of State Budget Officers
NCSL	National Conference of State Legislature
EGLS	Estimated Generalized Least Squares
FGLS	Feasible Generalized Least Squares

GLS	Generalized Least Squares
OLS	Ordinary Least Square
2GSMM	Two-Step General Methods of Moments

CHAPTER 1: INTRODUCTION

Introduction

The fiscal pressure state and local governments have experienced since the late 1970s has generated a growing interest in the accumulation and use of fiscal reserves. Tax revolts and public opinion placed great emphasis on providing more services with fewer resources even in times of tough economic conditions. Satisfying taxpayers' demands becomes even more difficult in periods of economic uncertainty.

Unbalanced budgets, especially for governmental entities, are considered more a natural phenomenon than an abnormality (Vashe & Williams, 1987). Public budgets are formulated well before the start of a fiscal year; hence they are based on projections of revenues and expenditures. Despite the technological advances and the capabilities of state and local budget officials, budgeting is still an imprecise science and forecasts can be far from reality (Vashe & Williams, 1985; Wolkoff, 1987; Joyce, 2001).

When budgets are unbalanced, governments employ certain actions to bridge the gap between revenues and expenditures (Vassche & Williams, 1985; Joyce, 2001). Governments, for instance, can increase their revenues, decrease their expenditures, borrow money, or build fiscal reserves (Vasche & Williams, 1997). Increasing tax rates, accelerating collections (e.g. tax prepayments), and broadening the tax base can generate higher revenues. On the other hand, eliminating services or

programs and delaying obligations such as payments to employees, suppliers, contractors, and creditors, decrease immediate governmental expenditures. Likewise, delaying or even postponing capital projects or infrastructure maintenance boosts government savings. In our post-modern times though, borrowing money through bonds seems the most common practice for shrinking governmental expenditure gaps.

Although the first three options, increasing revenues, decreasing expenditures, and borrowing money, have their unique qualities and should be considered options for bridging expenditure gaps, certain limitations and disadvantages inhibit their use. When tax rates are increased or the tax base broadened, for instance, revenue gains might not be immediately apparent (Vasche & Williams, 1987). In addition, tax increases transfer the financial pressures that governments experience to their citizens (Joyce, 2001), literally “passing the buck”.

Revenue accelerations or delaying obligations increases revenues on a one-time basis (Vasche & Williams, 1987). Such options just postpone budgetary problems since they stretch current revenues and delay spending until the future (Joyce, 2001). Delaying capital projects and infrastructure maintenance are popular strategies among governments experiencing tough financial times, since their impact is not immediately visible (Vasche & Williams, 1987). However, such practices can be detrimental in the long-term due to deteriorating infrastructure and higher costs of future maintenance.

Borrowing from the public or other governmental entities and organizations is politically and economically undesirable (Pollock & Suyderhoud, 1986; Lemov, 1995). Seeking funds in periods of budgetary fluctuations is certainly not the best

options for governments, since bond ratings and other debt securities could be downgraded by credit rating agencies (Marlowe, 2005). Low credit ratings force investors to ask for higher interest rates thus imposing extra costs on the governmental entity and its taxpayers (Porteba, 1995).

The aforementioned scenarios lead governments to show high preference to the fourth option: building fiscal reserves and thereby alleviating budgetary fluctuation (Vasche & Williams, 1987). Governments with troubled finances may use their fiscal reserves instead of cutting spending by providing fewer services or increasing revenues by elevating tax rates. Further, such reserves can stimulate governmental finances by transferring the need of borrowing to the future. Reserves also buy more time for government negotiations and achieve more favorable borrowing terms (Poterba, 1995). Although cushioning fiscal shock is one of the primary reasons state and local governments build reserves, studies show that reserves can also add flexibility to the budget process and facilitate strategic management (Tyer, 1993; Marlow, 2005).

At this time, the vast majority of state governments have established separate fiscal reserves in the form of rainy day or contingency funds to stabilize revenues and guarantee the provision of services during periods of fiscal stress (Wolkoff, 1987; Hou, 2003; Marlowe, 2005). Like states, local governments also build and use fiscal reserves. However, local governments prefer building fiscal reserves into different portions of their fund balances and not as separate contingency or rainy day funds (Tyer, 1993; Marlowe, 2005; Hendrick, 2006).

One way governments could generate fiscal reserves is through their public enterprises (Hendrick, 2006). Local governments offer certain services to their citizens through municipal owned enterprises that are financed with user charges and fees (Rubin, 1988; Tyer 1993). Such business-type activities often generate revenues beyond their costs (Rubin, 1988; Tyer, 1993). Therefore, utilities owned by local governments represent a significant potential revenue source (Deno & Mehay, 1988).

Previous studies indicated that public utilities through interfund transfers influence governmental spending and revenue patterns (DeHoog & Swanson, 1988; Tyer, 1989). DiLorenzo (1982), Deno and Mehay (1988), Tyer (1989), and Hembree, Shelton and Tyer (2000) found that public utilities boost governmental spending (expenditure effect). Strauss and Wertz (1976), Vogt (1978), DiLorenzo (1982), and Tyer (1989), on the other hand, found that cities with internal subsidization substitute for their own-source revenues (substitution effect). However, the methods and variables used by previous scholars open their conclusions up to scrutiny. The conclusions of these early studies derived from simple T-test comparisons or cross-sectional OLS regression models. Additionally, these early studies attempted to examine the effects of public enterprises on local finances using dummy variables indicating whether a city has utilities or not or whether a city has an interfund policy or not.

Although numerous local governments have been affected by the current economic recession, few studies have examined how these governments generate reserves as part of their general fund balances. Even fewer studies have focused on the factors affecting the level of fiscal reserves in local governments (Stewart, 2009).

In addition, the vast majority of existing studies have limited their examination and conclusions to the total general fund balance or unreserved fund balance. By continuously focusing on general or unreserved fund balance, researchers "neglect a host of potential trends and differences among less visible funds" (Marlowe, 2004; 143). Since different general fund balance portions (reserved, unreserved designated/undesignated) have different purposes and uses for local governments, a systematic investigation of all fund balance components is an imminent necessity for filling the literature gaps.

This study develops seven comprehensive models using similar organizational and financial factors previously examined by scholars. However, this study's models focus on net enterprise fund transfers expressed as a percentage of net enterprise income. This research examines longitudinal factors affecting governmental spending, revenue patterns, and general fund balances of 100 Georgia local governments. All financial information stems from Comprehensive Annual Financial Reports (CAFR) of all the examined local governments. The U.S. Census Bureau is utilized to gather all demographic and socio-economic data.

Background of Problem

From the colonial times in America, property taxation represented the most useful revenue source for both state and local governments (Lowery, 1985). During the Great Depression though, increases in property tax delinquencies, (Fisher, 1997), declines in property values, and decreased property tax revenues (Ulbrich, 1991) pushed state governments into adopting new methods of taxation thus diminishing their dependency on property taxes. During this era, sales and income taxes offered new revenue sources for state governments (Fisher, 1997).

Although state governments began moving away from property taxation, local governments remained heavily dependent on revenues generated from property taxes (Institute of Property Taxation, 1993). Within a few years after the Great Depression, the property tax became the only tax used by many local governments to finance education and municipal services (Cantrell, 1954; Fisher, 1997). According to Cantrell (1954), local governments were so dependent on property taxation that the property tax base determined the magnitude of municipal services.

Limitations on the use of property taxes and other local taxes were established after the tax revolt of 1978 and California's Proposition 13. Since the passage of California's Proposition 13, elected officials from all over the country became extremely skeptical of governmental reliance on property taxation. Similar measures of fiscal limitations (TEL) were adopted all over the nation (Lowery, Singleman, and Smith, 1983), placing a great financial burden on local governments (Lowery, 1985; Carroll, 2009). At this time, local governments had faced not only extreme tax limitations but an economic recession as well. The fiscal limitations and economic

uncertainty of that period resulted in slow revenue growth, which placed high levels of financial stress on local governments (Rubin, 1992; Stumm, 1996).

All these fiscal challenges prompted local governments to seek ways to stabilize their revenues and sustain their service provision levels. In the late 1970s and early 1980s, the United States Advisory Commission on Intergovernmental Relations (ACIR), in an effort to balance local governments' revenue structures, issued a series of reports promoting the use of local income and sales taxes and user charges and fees. ACIR, an advocate of strong local governments, justified its recommendations on the basis of revenue diversification (Caroll, 2009). By then it was believed that revenue diversification would decrease revenue volatility, increase financial flexibility, and lead to improved fiscal performance (White, 1983; Gentry, and Ladd, 1994; Harmon, and Mallick, 1994; Hendrick, 2002; Jonshon, Kioko, Shanon, and Stone, 2005). Soon thereafter, local governments began diversifying their revenue structures away from property taxation to other tax and non-tax revenue sources (Lowery 1985; Carroll, 2009).

The 1980s were a period of tough economic conditions but were also known for the public management reforms that were observed inside and outside this nation (Deleon and Denhardt, 2000; Denhardt and Denhardt, 2000; Box, Marshall, and Reed, 2001). These reforms, variously referred to as New Public Management, TQM, Re-engineering, or Reinventing Government, are based on market principles (Denhardt and Denhardt, 2000) promoting government efficiency, effectiveness, and improved performance (Box, Marshall, and Reed, 2001). Overall, post 1980s reforms

have attempted to make government run better and cost less (Box, Marshall, and Reed, 2001).

Under New Public Management (hereafter NPM), governments have become entrepreneurial, seeking alternative ways to deliver services (Brudney and Wright, 2002). Today, reinvention for local governments is synonymous with reduced dependency on tax revenues and increased levels of non-tax revenue sources (Stumm, 1996; 2001). Public enterprises fit well into this paradigm (Khan and Stumm, 1994; Moon and deLeon, 2001). These business-type activities, financed through user charges and fees, represent a great potential revenue source for local governments (Deno & Mehay, 1988) since they often generate revenues beyond their costs (Rubin, 1988; Tyer, 1993). However, the literature in municipal finances provides very little information regarding the impact of public enterprises on local finances. This study is expected to shed new methodological insight in the field and fill some of the literature gaps.

Purpose and Significance of the Research Questions

The literature indicated that most studies focused on the ways states built and utilized fiscal reserves (Marlowe, 2005). In the last three decades, unstable economic conditions, such as the tax revolt of 1978 and the recessions of the 1980s and 2000s, have affected numerous local governments. However, few studies have examined factors affecting municipal finances (governmental spending, revenue patterns, and general fund balances) or the level of fiscal reserves in local governments (Stewart, 2009).

This research increases knowledge of the impact of public enterprises on local finances. Several studies noted that enterprise transfers impact governmental spending (expenditure effect) and revenue patterns (substitution effect). However, the methods and variables used by previous scholars opened their conclusions to scrutiny. For example, Coldberg (1955), Straus and Wertz (1976), DiLorenzo (1982), DeHoog and Swanson (1988), and Deno and Mehay (1988) attempted to capture expenditure and substitution effects of public enterprises by examining utility profits. Only Tyer (1989) used interfund transfers as a percent of locally raised revenues, but he never defined interfund transfers or the source of the data.

The conclusions of these early studies derive from simple T-test comparisons or simplified single year OLS regression models. Straus and Wertz (1976), DeHoog and Swanson (1988), and Tyer (1989) for instance, employed T-test comparisons between property taxes, own-source revenues, and expenditures per capita in cities with enterprise activities and cities with no such activities. Strauss and Wertz (1976), DiLorenzo (1982), Deno and Mehay (1988), and Tyer (1989) used single year OLS

regression models to control for demographic and fiscal factors. However, it is questionable whether the variables used in these models captured the effects of enterprise transfers in government spending and revenue patterns. For example, to measure the effect of enterprise transfers on local finances some models used a dummy variable coded 1 for cities with utilities and 0 for cities with no utilities, while others coded 1 for cities using internal subsidization and 0 for cities with no such practice.

None of these early studies has examined the expenditure or substitution effect of public enterprises across time. In fact, none of the above studies can claim that they have captured any of the effects of public enterprises on local finances since, in their regression models, this was attempted with dummy variables showing whether a city has utilities or not or whether a city has interfund policy or not. These studies are inconclusive, and it would be erroneous to base our knowledge of the effects of public enterprises on local finances on their findings.

In addition, the vast majority of existing studies exploring factors affecting municipal fiscal reserves have limited their examination and conclusions on the total general fund balance or unreserved fund balance. By continuously focusing on the general fund balance or the unreserved undesignated fund balance, researchers "neglect a host of potential trends and differences among less visible funds" (Marlowe, 2004; 143). Since different general fund balances (total general, reserved, unreserved designated/undesignated) have different purposes and uses for local governments, a systematic investigation of all general fund balances is an imminent necessity to fill the literature gaps.

This dissertation longitudinally examines factors affecting public finances of 100 Georgia local governments. The focus is on how enterprise funds affect: a) spending behavior, b) revenue patterns, and c) different portions of general fund balances of local governments in Georgia. To achieve a thorough understanding of Georgia's local finances, all general fund balances (total general fund balance, unreserved undesignated, unreserved designated, and reserved portions) are examined in this research.

Research Questions

The gaps in the literature generated the following three research questions and hypotheses:

Q1. Do net enterprise fund transfers have any impact on spending by Georgia's local governments?

H1a: Net enterprise fund transfers increase the spending level of Georgia's local governments.

Q2. Do net enterprise fund transfers have any impact on revenue patterns of Georgia's local governments?

H2a: Net enterprise fund transfers substitute for locally raised revenues of Georgia's local governments.

Q3. Do net enterprise fund transfers affect Georgia's local governments' fund balance?

H3a: Net enterprise fund transfers increase the level of total general fund balance in Georgia's local governments.

H3b: Net enterprise fund transfers increase the level of reserved fund balance in Georgia's local governments.

H3c: Net enterprise fund transfers increase the level of unreserved designated fund balance in Georgia's local governments.

H3d: Net enterprise fund transfers increase the level of unreserved undesignated fund balance in Georgia's local governments.

H3e: Net enterprise fund transfers increase the level of total unreserved fund balance in Georgia's local governments.

Methodology

For the purpose of this study, a five-year panel dataset stretching from 2005 to 2009 has been created. All financial information stems from Comprehensive Annual Financial Reports (CAFR) of 100 Georgia city governments with a population greater than 5,000. CAFRs were obtained from the Georgia Department of Audits and Accounts (GDAA), which requires all Georgia local governments to submit their annual financial reports. Unfortunately, not all Georgia local governments have uploaded their 2009 CAFRs on GDAA; this constitutes the reason for excluding these cities from the analysis. The U.S. Census Bureau is utilized to gather all demographic and socio-economic data.

Data Analysis

The primary statistical methodology employed to examine the impact of total net enterprise fund transfers on Georgia's local finances was two-step general methods of moments (2SGMM) with robust standard errors. This regression technique is the most efficient measure as it produces robust estimations even though the models of this study suffer from heteroskedasticity, autocorrelation, and non-normality. Estimating the model with robust standard errors tackled heteroskedasticity while autocorrelation was addressed through lagging all variables by one year, a key feature of 2SGMM. Further, the two-step estimator increased asymptotic efficiency and better accommodated non-normality.

Overview of Chapters

This chapter has provided the foundation for the rest of the dissertation. A broad discussion of the literature and theoretical background that guided this research as well as a brief discussion surrounding research questions, their purpose and significance, and this study's methodology and data sources should enable a better understanding of the remainder of this text. The next chapter will provide a detailed discussion and review of the existing literature. Additionally, it will clarify the gaps in the research that this dissertation fills. Chapter 3 provides details of the study's methodology, including descriptions of the data, research models, dependent and independent variables, and statistical methods while chapter 4 presents the results of the analyses performed using the data. Finally, chapter 5 discusses the findings of this research as well as the strengths and limitations of the research in this dissertation and provides guidance for future areas of research.

CHAPTER 2: BACKGROUND/LITERATURE REVIEW

Introduction

This chapter focuses on what is generally known, or has been studied in the literature, about the variables that are utilized in this dissertation. The literature review has been organized into five sections: I. Historical Background of Public Enterprises; II. Reforms Promoting Public Enterprises; III. Public Enterprises and Local Finances; IV. From Working Capital to Fund Balance; and V. Building Fiscal Reserves.

The first section, Historical Background of Public Enterprises, offers definitions of public enterprises as well as historical information regarding their different forms and contributions in this country. The second section of this literature review, Reforms Promoting Public Enterprises, describes administrative reforms and constructs the theoretical basis under which public enterprises have become a vital part of American local governments.

Section three, Public Enterprises and Local Finances, provides rich information regarding previous studies, variables, and methodologies used to examine the effects of public enterprises on local finances with a special attention paid to the effects of public enterprises on governmental spending (expenditure effect) and revenue patterns (substitution effect). Before examining the effects of American public enterprises on general fund balance, it is essential to review the public

accounting fund system and some of its core principles. This is done in section four, From Working Capital to Fund Balance.

Finally, section five, Fiscal Reserves and Contingency Funds, explains why cyclical smoothing is necessary not only for state but for local governments as well. This section presents most of the previous studies examining fiscal reserve building behavior. It also indicates the dependent and independent variables used by the models of this research to further examine factors affecting fiscal reserves in local governments.

I. Historical Background of Public Enterprises

Although public owned enterprises have rarely received the attention of the American public, they are present across the nation and their role in governance fundamental (Friedman and Garber, 1971; Seidman, 1983). Public enterprises have existed in the United States since the nation's founding in forms very similar to today's (Mitchell, 1996). The fact that public enterprises are extremely popular in socialistic regimes perhaps explains why Americans have ignored their existence (Friedman and Garber, 1971; Seidman, 1983).

The literature indicates a wide variety of definitions concerning public enterprises. Public enterprises are "a set of quasi-governmental organizations that independently provide services and finance projects" (Mitchell, 1996). Rubin (1988), Tyer (1989), and Bunch (2000) view public enterprises as business-type activities owned by government that generate revenue through user charges and fees. Public enterprises include three broad categories: special districts, public authorities, and government-sponsored enterprises (GSE) (Seidman, 1983; Mitchell, 1996).

The exact number of public enterprises in the US is unknown (Leigland, 1994), mainly due to the wide variety of definitions and classifications (Seidman, 1983). It is estimated that more than 29,000 special districts, and 6,000 state and local public authorities exist (Mitchell, 1992). Pennsylvania, New York, Georgia, New Jersey, California, and Texas are the states with the highest public enterprise activity (Mitchell, 1996). These states have enabled legislation empowering their localities to establish quasi-governmental agencies and finance their projects and services (Mitchell, 1996).

One can find public enterprises in any level of government – federal, regional, state, county, and city (Seidman, 1983). Enterprises established by the Federal government provide a variety of services: insure bank deposits (FDIC), housing loans (Freddie Mac), private pensions (PBGC), agricultural corps (Federal Agricultural Mortgage corp.), markets for mortgage (Fannie Mae), student loans (Sallie Mae), distribution of electric power (TVA), passenger train services (AMTRAK, Conrail) and others. At state and local levels, public enterprises:

> "…construct and operate bridges, tunnels, parkways, dams, airports, public buildings, housing, sports stadiums, civic centers, and industrial parks and provide a wide variety of services including water, gas, electric power, transportation, training, insurance, and various types of financial assistance to business and industry" (Seidman, 1983).

At the local level, public authorities are the most commonly viewed enterprises (Seidman, 1983). Public authorities operate independently from elected

officials and do not comply with statutory rules applied to government agencies (Mitchell, 1996). In Walsh's words, authorities:

> "…generally lack the power to tax, they do have the ability to raise money from private money markets, the right to sue and be sued, the power of eminent domain, the discretion to establish rates and charges, an exemption from property taxation, and the freedom to establish their own personnel systems" (Walsh, 1978).

Further, public authorities are not constrained by tax and expenditure limitations like state and local governments; they can augment their revenues by receiving intergovernmental aid (Mitchel, 1996).

When public enterprises first appeared in the United States, they were mainly used for state infrastructure projects stimulating economic growth (Friedman and Garner, 1970; Mitchell 1996; Whincop, 2005). In the late 1700s and early 1800s, several states established companies with a focus on constructing canals, bridges, roads, and public buildings (Gun, 1988). The largest project carried at this time was the construction of the Erie Canal. The Erie Canal Commission, established in 1816 by the New York State legislature, was responsible for this project (Miller, 1962).

Until the 1840s, public enterprises gained popularity in the United States. In Georgia, for instance, from 1790 to 1840 the annual ratio was four new public enterprise establishments to one business corporation (Heath, 1954). For the next two decades though, these numbers were reversed as many public enterprises defaulted on their bonds. Between 1840 and 1860, the tide turned and for every new public enterprise, four business corporations popped up (Heath, 1954).

Following the Civil War, new technologies resulted into the formation of giant firms reducing market competition (Wincop, 2005). The passage of the Sherman Act in 1890, although its purpose was to prohibit anticompetitive practices, did not bring the anticipated results (Schnitzer, 1987). At this time, nothing seemed to impede the development of public enterprises and their expansion to different economic areas including public utilities (Wincop, 2005).

With the turn of the century, public enterprises were more popular than ever. In the 1900s though, the role of public enterprises changed. They were now part of the Progressive Reform Movement and were spurred by promoters of neutral competence in government. Public authorities and special districts were used during the Progressive Era to reduce patronage and the influence of political machines in the public sector. The focus of public enterprises was on making government operate in more efficient and effective ways. During this era the ideal public enterprise represented financial self-sufficiency, independent decision-making, self-management, and neutral competence (Doig and Mitchell, 1992). One such public enterprise was the Port of New York Authority – today known as the Port Authority of New York and New Jersey – which was established in 1921 (Mitchell, 1996).

When Franklin Roosevelt was elected President of the United States, public enterprises escalated on the government's agenda. Roosevelt promoted the use of public enterprises to reach many public goals. On May 18, 1933, President Roosevelt signed the Tennessee Valley Authority (TVA) Act and encouraged all forty-eight states to establish similar authorities. During the New Deal Era, water and sewer districts and local housing authorities sprouted around the nation (Mitchell, 1996).

Post-World War II, public enterprises found ground to expand their role in the national economy. Public enterprises established transit systems, hospitals, convention centers, airports, recreation facilities, highways, schools, and several other government projects. One figure that exemplifies this period was Robert Moses. He employed public authorities to construct a series of infrastructure projects in the state of New York, such as the United Nations Building, Lincoln Center, and several major bridges, tunnels, and recreation areas in metropolitan New York City (Caro, 1974).

The role of public enterprises shifted once more in the 1960s. At this time, public enterprises went from strictly building infrastructure to supporting economic development efforts. Public enterprises promoted economic development through the use of eminent domain, the issuance of tax-exempt revenue bonds, and the overriding of local zoning ordinances (Brilliant, 1975). Public enterprises of that period were developing properties and then selling them to private companies, reducing the risk associated with investing in areas such as health, real estate, and manufacturing (Mitchell, 1996).

The significance of public enterprises in local government financial management and service delivery again expanded after the 1970s, mainly due to the limitations placed on property taxation. From the colonial times in America, property taxation represented the most reliable revenue source for both state and local governments (Lowery, 1985). During the Great Depression though, increases in property tax delinquencies, (Fisher, 1997), declines in property values, and decreased property tax revenues (Ulbrich, 1991) pushed state governments into adopting new methods of taxation to reduce their dependency on property taxation. During this era,

sales and income taxes offered a revenue diversification for state revenue sources (Fisher, 1997).

Although state governments began moving away from property taxation, local governments remained heavily dependent on revenues generated from property taxes (Institute of Property Taxation, 1993). Within a few years after the Great Depression, the property tax was used primarily by local governments to finance education and municipal services (Cantrell, 1954; Fisher, 1997). According to Cantrell (1954), local governments were so dependent on property taxation that the property tax base determined the magnitude of municipal services delivered to local citizens.

During the 1970s, local governments all around the nation began exploring new methods to increase property revenues and protect themselves from property tax revenue fluctuation due to macroeconomic conditions. While property tax analysts and elected officials were busy debating new valuation standards and the adoption of new assessment technologies, the American public took this opportunity for intervention through the great tax revolt of 1978 (Lowery, 1985). This movement led to California's Proposition 13, which constrained local governments' use of the property tax (Caroll, 2009). Proposition 13 impacted property taxation not only within California but outside as well. Since the passage of California's Proposition 13, local officials from all over the country became extremely skeptical in regards to property taxation. Similar measures of fiscal limitations (TEL) were adopted across the nation (Lowery, Singleman, and Smith, 1983).

Soon after California's Proposition 13, the United States Advisory Commission on Intergovernmental Relations (ACIR), in an effort to balance local

governments' revenue structures, issued a report promoting the use of local income and sales taxes. ACIR, an advocate of strong local governments, urged the states to authorize the use of local income and sales taxes. The commission's new stance was justified on the basis of tax diversification (Caroll, 2009). By then it was believed that revenue diversification would decrease revenue volatility, increase financial flexibility, and lead to improved fiscal performance (White, 1983; Gentry, and Ladd, 1994; Harmon, and Mallick, 1994; Hendrick, 2002; Jonshon, Kioko, Shanon, and Stone, 2005).

In addition to the introduction of income and sales taxes at the local level, the commission also advocated adoption of user charges and fees. These local non-tax revenue sources were to be imposed in cases where "(1) beneficiaries of a service could be readily identified, (2) fees could reduce waste, (3) the service would benefit individuals more than the community as a whole, (4) fees could be easily collected, and (5) the fee seemed generally equitable" (ACIR). Soon thereafter, local governments began diversifying their revenue structures away from property taxation into other tax and non-tax revenue sources (Lowery 1985; Carroll, 2009).

In the 1990s, public enterprises continued to enlarge their role in governance (Mitchell, 1996). Under the concept of New Public Management (NPM) and other reforms, public enterprises became a powerful tool to achieve a smaller, more efficient, and more effective government. During the last two decades, public officials viewed public enterprises "as a practical way to finance projects and services off budget, without affecting balanced budget requirements or voter outrage" (Mitchell,

1996). Public enterprises have helped cities provide municipal services while subsidizing their tax revenues (Stumm, 1996).

II. Reforms Promoting Public Enterprises

Over the past three decades, severe administrative reforms have appeared in most industrialized countries and all levels of government – national, state, and local (Hood, 1995; Kettl, 1997; Kamboolian, 1998; Peters and Pierre, 1998; Brudnney, Hebert, and Wright, 1999; Deleon and Denhardt, 2000; Denhardt and Denhardt, 2000; Box, Marshall, and Reed, 2001). All these reforms share common market-based principles (Denhardt and Denhardt, 2000) seeking government efficiency, effectiveness, and improved performance (Box, Marshall, and Reed, 2001). Today, public managers under the reinvention movement are urged to "steer and not row" their organizations (Osborne and Gaebler, 1992). At the same time, they seek non-traditional ways to accomplish government goals (Denhardt and Denhardt, 2000).

Managerial reform is not a recent phenomenon in American public administration (Brudney, Hebert, and Wright, 1999; DeLeon and Moon, 2001). Since the very early days of public administration there has been a desire to improve government and governance. The Progressive Reform Movement, for instance, was a reaction to the decadence of political machines and patronage systems determining elections and public sector employment (Stumm, 1996; 2001; Box, Marshall, and Reed, 2001). Progressive Reform focused on increasing democratic accountability and reducing waste and incompetence in the public sector (Karl, 1963). Management reformers of this era focused their attention on democratizing politics and promoting the significance of a good government (Judd, 1988). Perhaps the most important

innovation of the Progressive Movement was the council manager form of local government, which was designed to promote a democratic government of high responsiveness eager to serve the people diligently (Childs, 1952).

The administrative reform literature states that three commissions - Taft, Brownlow, and Hoover – influenced the breakthrough of pubic management thinking in the American federal government (Brudney, Hebert, and Wright, 1999; Box, Marshall, and Reed, 2001). All three commissions focused on connecting democratic leadership with government accountability (Wamsley and Dudley, 1998). According to the Brownlow commission, "the efficiency of government rests upon two factors: the consent of the governed and good management. In a democracy, consent may be achieved readily, though not without some effort as it is the cornerstone of the Constitution. Efficient management in a democracy is a factor of peculiar significance" (Presidents Committee 1937). Likewise, the Hoover Commission "framed its recommendations primarily in terms of the executive branch's accountability to Congress and the need to fix responsibility to people" (Box, Marshall, and Reed, 2001).

The "golden age" of administrative reform in the industrialized world occurred in the 1980s and 1990s. While pre 1980s management reforms aimed at democratizing the political process and increasing government accountability, post 1980s reforms focused on running government like a business. Since the 1980s, New Public Management (NPM) has revolutionized public administration not only in this nation, but around the globe as well (Denhardt and Denhardt, 2000). NPM focuses on

improved management efficiency, effectiveness, and performance in government through market-based thinking (Box, Marshall, and Reed, 2001).

NPM is a mingling of new institutional economics and business type "managerialism" in the public sector. According to Lynn (1996), NPM came from "public policy schools" of the 1970s and the global "managerialist" movement (Pollitt, 1990). Kaboolian (1998) noted that NPM is based on

> "…market-like arrangements such as competition within the units of government and across government boundaries to the non-profit and for-profit sectors, performance bonuses, and penalties (to) loosen the inefficient monopoly franchise of public agencies and public employees."

Professor Hood (1995) viewed NPM as a getaway from traditional bureaucracy in favor of "trust in the market and private business methods…ideas…couched in the language of economic rationalism."

NPM and public choice theory are strongly interrelated. Both attempt to constrain government size and cost through market and customer oriented principles (Orchard, 1998; Denhardt and Denhardt, 2000). NPM's global rise is linked with various "megatrends," including a) slowing government growth (Dunsire and Hood, 1989), and b) delivering services through private or quasi-private sectors (Hood and Schuppert, 1988; Dunleavy, 1989).

Key features of NPM were promoted in the United States with Osborne and Gaebler's "Reinventing Government" book (1992). Osborne and Gaebler intended to establish a new normative framework for American public administration based on core principles of NPM (Denhardt and Denhardt, 2000). During the Clinton years a

variety of reforms occurred on the national level under National Performance Review (NPR) (DeLeon and Moon, 2001). NPR, according to Rosenbloom (1993) is a "neo-populist approach that advocates decentralization, competition, deregulation, load-shedding, privatization, user fees, and enterprise culture."

The Reinvention of Government carries the heritage of past intellectual traditions, including public choice theory (Olson, 1971; Ostrom, 1973), privatization (Savas, 1987), reengineering (Hammer and Champy, 1993), total quality management (Carr and Littman, 1990; Cohen and Brand, 1993), and new organizational economics (Barney and Ouchi, 1986). A survey conducted in 1992 by Kravchuk and Leighton (1993) indicated that thirty-one states were implementing total quality management in their programs. According to the Council of State Governments, twenty-seven states had established steering committees to promote total quality management inside the state while seventeen were using public-private partnerships to reach similar goals (Chi, 1994). When Berman (1994) surveyed state department heads, he found that fifty-eight percent of health, welfare, education, transportation, and corrections departments were already applying total quality management.

By the mid-1990s a number of states were reinventing themselves (Brudney, Herbet, Wright, 1999). In Florida, reinvention aligned with modernizing the state's old personnel management system (Wechsker, 1994; Durning, 1995). Oregon was reinventing itself through the introduction of performance measures (Walters, 1994). Texas developed a performance review system that later became the cornerstone of NPR (Kamensky, 1996). Other states, Massachusetts for instance, moved toward

privatizing services (Wallin, 1997), especially health and mental services (Brudney, Herbet, Wright, 1999).

The reinvention movement at the state level during the 1990s attracted academic interest generating several empirical studies. Brudney and others (1999; 2002) for instance, empirically examined reinvention in the American states using data from the American States Administrators Project (ASAP). Perhaps the single most difficult concern for Brudney and his colleagues (1999) was the conceptualization of indicators capturing reinvention across the states and their agencies. The eleven indicators they used in their research to assess reinvention in state agencies included:

1. Training programs to improve client or customer service
2. Quality improvement programs to encourage team problem solving and empower employees
3. Benchmarks for measuring programs outcomes or results
4. Strategic planning that produces clear agency mission statements
5. Systems for measuring client or customer satisfaction
6. Simplification and relaxation of human resource rules
7. Increasing managers' discretion to transfer funds or carry over year-end funds
8. Privatization of major programs
9. Reduction in the number of levels in the agency hierarchy
10. Decentralization of decision making to lower organizational levels
11. Greater discretion in procurement of goods and supplies

Brudney and his colleagues (1999) asked 3,365 state agency heads to indicate which of the above reinvention reforms they had applied in their organizations. According to the 1,229 respondents the top two implemented reforms in state agencies were “training programs to improve customer service” and “strategic planning to produce clear mission statements.” Further, a considerable percent of state agency administrators (21.3%) indicated that they have applied “discretion to transfer funds or carry over year-end funds.” In brief, Brudney and his colleagues (1999) found that state administrators preferred applying a combination of reinvention reforms.

NPM and reinventing government principles also are applicable to American local governments (Peters and Piere, 1998). Osborne and Gaebler, overall, developed their ideas based on lessons from California local governments, and perhaps this explains why reinvention is more appealing at the local level (Peters and Pierre, 1998). Certain events in the past, such as the tax revolt of 1978, California’s Proposition 13, and Idaho’s Proposition 1, indicated the hostility of taxpayers toward higher taxes for financing municipal services (Eribes and Hall, 1981; Zorn, 1991). Since the 1980s, local governments are seeking ways to decrease the cost of tax-supported services and increase non-tax revenues (Stumm, 1996).

Evidence for “tax-minimalist” behaviors in local governments was found in the “Reinventing Government Survey” conducted by ICMA in 1997 and 1998. The main purpose of this survey was to examine the level of reinvention in municipal governments. The survey was distributed to 2,858 chief administrative officers (city

managers and administrators) of cities with a population greater than ten thousand with a response rate of forty five percent.

Table 2.1 illustrates the summary results of chief administrators' perceptions on reinvention and traditional administrative values, and outcomes of reinvention. A mean value closer to four indicates a very favorable view, while a mean value closer to zero shows a non-favorable view. The level of reinvention was measured in terms of customer orientation, competition, contracting, entrepreneurship, direct competition, and other managerial values. Traditional administrational values examined the preference of city managers or administrators on the traditional government model (bureaucratic control and service provision).

Regarding reinvention values, the city managers/administrators favored mostly the view that "taxpayers are customers and should be treated as such" (Mean = 3.75). They also emphasized the views that "local government should develop non-tax revenue sources" (Mean = 3.37), "it is accepted to use third-party contractors to offer municipal services" (Mean = 3.29), and "local government should be entrepreneurial" (Mean = 3.20). The mean scores for traditional values suggested that chief administrators showed low preference for the traditional government style. Regarding the presence and effectiveness of reinvention in local governments, city managers/administrators were less skeptical.

Table 2.1
Chief Administrators Perception of Various Managerial Values

	Values	Items	Means	Respon.
Reinvention Values	Customer Orientation	Taxpayers are customers and should be treated as such	3.75	1062
	Competition	Competition should be introduced into the delivery of public services	3.13	1051
	Contracting	It is accepted to use third-party contractors to provide municipal services	3.29	1057
	Entrepreneur-ship	Local government should be entrepreneurial	3.2	1055
		Local government should develop non-tax revenue sources	3.37	1055
		There should be financial incentives to make public employees more entrepreneurial	2.86	1054
	Direct Competition	Direct competition between the government and a third-party contractor	2.55	1047
	Other Managerial Values	Local government should steer but not necessarily row the boat	2.8	1047
		Community groups should be empowered to make decisions that affect their neighborhood	2.72	1047
		It is important to have a mission statement for local government	3.2	1059
Traditional Administrat. Values	Traditional Administrat. Values	City government employees should be the only providers of service offered by local government	1.77	1059
		Traditional administrative model with appropriate control is preferable to a less structured model	2.18	1047
Reinvention Effectiveness	Government Distinctive-ness	The aims, structure, activities, and responsibilities of government are unlike those of business	2.64	1043
	Accountabil.	There can be accountability problems with privatization	2.64	1056
	Competition Effectiveness	Competition moderates cost of public services	2.77	1050

Source: ICMA Reinventing Government Survey Data

Table 2.2
Adoption of Reinvention in Local Governments

Reinvention Items	No Adoption	Partial adoption	Full Adoption
Customer service training for municipal employees	24.20%	21.20%	54.60%
Training neighborhood organization in decision-making	81.70%	6.50%	11.70%
Training employees in developing better decision-making skills	26.10%	22.30%	51.50%
Contracting-out municipal services	20.90%	27.70%	52.40%
Increasing fees instead of increasing taxes	15.80%	31.30%	52.90%
Outcome-based funding	66.90%	NA	33.10%
Use of enterprise funds	25.70%	14.30%	60%
Partnering with a private business or nonprofit agency	28.70%	22.50%	48.80%
Funds for implementing incentive system	58.90%	12.10%	29%
Establishing programs to make the municipal government more entrepreneurial and funding those programs	54.10%	19.60%	26.30%
Anticipating non-tax revenues derived from entrepreneurial efforts of the municipality	47.30%	NA	52.70%
Citizen survey to determine expectations and levels of satisfaction	44.10%	12.50%	43.30%

Source: Moon and deLeon, 2001

Another survey by Moon and deLeon (2001) was designed to explore the perceptions of chief administrators concerning different reinvention values, traditional administrative values, and outcomes of reinvention. The authors created eleven indicators, summarized in Table 2.2, after combining Brudney's et al's (1999) state reinvention survey and and ICMA's local government reinvention survey (1997 and 1998) . Moon and deLeon examined the reinvention indicators' adoption status (no adoption, partial adoption, full adoption) in 1,276 local governments all over the nation. No adoption refers to no funding for the specific reinvention indicator, partial adoption suggests partial implementation, and full adoption indicates full implementation.

It is quite obvious from Table 2.1 and 2.2 that local governments showed high preference for reducing their dependency on tax revenues while increasing non-tax funding. In fact, the examined local governments preferred a) increasing fees and charges instead of taxes (No adoption = 15.8%, Partial adoption = 31.3%, and Full adoption = 52.9%) and b) using their enterprise funds (No adoption = 25.7%, Partial Adoption = 14.3%, Full adoption = 60%). High preference was also placed on customer service training for municipal employees (Full adoption = 54.6%), anticipating non-tax revenues derived from entrepreneurial efforts of the municipality (Full Adoption = 52.7%), training employees in developing better decision-making skills (51.5%), and partnering with a private business or nonprofit agency to provide a program or service (48.8%).

The desire to run government like a business has a long history, beginning from the very first days of public administration (Denhardt and Denhardt, 2000;

DeLeon and Denhardt, 2000). The market-based principles of NPM, including NPR and reinventing government, have attempted to make government run better and cost less (Box, Marshall, and Reed, 2001). Under NPM, government has acquired the flexibility to find the most efficient ways to respond to citizen requests (Brundney and Wright, 2002).

NPM's ideology seems to be more appealing to local than to state and federal governments. Local governments since the 1980s have experienced increased levels of fiscal stress mainly due to the recessions of the 1980s (Rubin, 1992) and later in the 2000s, and the 1978 tax revolts (Eribes and Hall, 1981; and Zorn, 1991). This troubled fiscal environment has prompted local governments to find ways of decreasing their dependency on tax revenue sources (Stumm, 1996; 2001). Public enterprises have shown promise in assisting local governments to reduce their dependency on tax-revenue sources (Khan and Stumm, 1994; Moon and deLeon, 2001). These business-type activities, which are financed through user charges and fees, often generate revenues beyond their costs (Rubin, 1988; Tyer, 1993), representing a significant potential revenue source for local governments (Deno & Mehay, 1988). Further, enterprise funds operate under Osborne and Gaebler's "Reinventing Government" manifesto, promoting business-like principles in local governments (Bunch, 2000).

Today, NPM has become a normative model, which influences public administration and management (Denhardt and Denhardt, 2000). Post 1980s managerial reforms, whether we call them NPM, NPR, Reinventing Government, or New Managerialism are focused on promoting fairness, avoiding tax increases, being

sensitive to customer needs, allowing managers more discretion but more accountability, and running government like a business (Bunch, 2000). The increased use of enterprise funds satisfies taxpayers who prefer paying for services on a voluntary exchange basis (user charges and fees) rather than through increased levels of taxation (Stumm, 1996). The use of enterprise funds from local governments as a means to finance their activities is certainly consistent with the major themes as promoted by NPM (Bunch, 2000).

III. Public Enterprises and Local Finances

Underestimation of revenues, overestimation of expenditures, budgeting for reserves, or a combination of one or more of the above constitute the four primary methods local governments employ to establish fiscal reserves (Tyer, 1993). Budgeting for reserves is the most obvious and simplest way governments may build slack (Tyer, 1993). However, saving money to create a separate reserve fund might be politically costly, since such behavior can raise frustration among taxpayers and spending advocates (Tyer, 1993).

Enterprise funds (e.g. electric utilities, water, sewage, and solid waste) constitute another source of slack (Hendrick, 2006). Local governments offer certain services to their citizens through public enterprises, which are financed with user charges and fees (Rubin, 1988; Tyer 1993). Public enterprises are considered to be self-supporting without putting a strain on local taxes (Strumm, 1996). According to Bunch (2000), enterprise funds promote Osborne and Gaebler's "Reinventing Government" manifesto making local governments operate more like a business with sensitivity for "customer" needs. It is also believed that public enterprises promote

fairness since they charge only users and stabilize tax rates (Bunch, 2000). Further, public enterprises through revenue bonds may provide local governments with capital necessary to enhance and maintain local infrastructure. Revenue bonds, unlike general obligation bonds, are based on public enterprises' revenues, placing no burden on tax revenues (Gitajin, 1984; Pierce & Rust, 1991; Zorn, 1991).

Business-type activities often generate revenues beyond their costs (Rubin, 1988; Tyer, 1993). Therefore, utilities owned and run by local governments represent a significant potential revenue source (Deno & Mehay, 1988). Some local governments require public enterprises to transfer their profits to their general fund (Deno & Mehay, 1988; Tyer, 1993). Although legal restrictions complicate transfers from enterprise funds, such practices are very common among local governments (Tyer, 1989; Petersen, 2003).

Enterprise funds have received academic attention for about four decades now. At this time most studies were focused on specific enterprise funds, mainly electric and water utilities. For example, Strauss and Wertz (1976), and Vogt (1978) examined the impact of electric utilities on local finances of North Carolina cities. Di Lorenzo (1982) focused on electric utilities and their effects on the finances of New York municipalities. Rubin (1988) explored the impact of various enterprise funds on Illinois cities. Deno and Mehay (1988) looked at the effects of water utilities on local finances. Tyer (1989) studied the profitability of electric utilities and local finances of South Carolina cities. DeHoog and Swanson (1988) examined public enterprises and their effect on Florida's local governments. Stumm (1996) explored the impact of enterprise revenues on local finances. Hembree, Shelton and Tyer (1999) looked

again at the impact of electric enterprises on municipalities in South and North Carolina.

The literature on municipal enterprise fund transfers suggests that such practices have either an expenditure or substitution effect (DeHoog & Swanson, 1988; Tyer, 1989). Cities with enterprise funds may engage in higher spending due to extra funds appropriated from utility profits (expenditure effect). Evidence for the expenditure effect was found in the studies of DiLorenzo (1982), Deno and Mehay (1988), Tyer (1989), and Hembree, Shelton and Tyer (2000). DiLorenzo (1982) found that municipality owned utilities allowed New York cities to increase their spending. Deno and Mehay (1988) found that water utilities allowed cities to spend more, while Tyer (1989) showed that South Carolina electric cities spent more than non-electric cities. The profitability of electric enterprise funds was once more confirmed by the study of Hembree, Shelton, and Tyer (2000) in South and North Carolina cities for fiscal year 1997.

Strauss and Wertz (1976), on the other hand, found that North Carolina municipalities with electric utilities had higher per capita own-source revenues than municipalities with no electric utilities. Vogt (1978) also found evidence of substitution effect, since North Carolina cities used their electric profits to keep property taxes low. Likewise, DiLorenzo (1982) and Tyer (1989), when they studied the impact of utilities in New York cities and South Carolina cities respectively, concluded that cities with internal subsidization substitute for their own-source revenues.

DeHoog's and Swanson's concerns were also centered around the expenditure and subsidization effects of enterprise funds on local finances. Their study of Florida cities produced assumptions contrary to Dilorenzo's and Vogt's. Although, DeHoog and Swanson (1988) found that electric cities transferred their utility profits to the general fund, there was no further evidence of expenditure or substitution effect.

The literature indicated that most of the conclusions regarding the expenditure and substitution effects of public enterprises derived from T-test comparisons and single year OLS regressions. The regression estimates, besides indicating whether public enterprises were used to support government spending or own-source revenues, also revealed a series of other associations. In fact, Straus and Wertz (1976) found positive relationships between per capita income, population and own-source revenues. DiLorenzo (1982) found positive relationships between average monthly public wage, population, intergovernmental revenues per capita and own-source revenues and negative associations between per capita income and own-source revenues. Deno and Mehay (1988) concluded that the city's fiscal capacity, poverty rate, and whether the city made bond payments or not had a negative effect on own-source revenues.

Regarding government spending, DiLorenzo (1982) indicated positive relationships with population and intergovernmental aid and negative with per capita income. Deno and Mehay (1988) found that population change was negatively associated with government expenditures. On the contrary, income per capita, intergovernmental aid, median age, average municipal wage, and poverty rate developed positive associations with government spending.

Rubin (1988) examined whether enterprise funds can help Illinois cities to expand their services. Public enterprises, she argued, can help officials to expand services regardless of economic conditions and with tax rates remaining stable (Rubin, 1988). However, the findings did not support the aforementioned. At the time of her study, Illinois cities established enterprises not to expand services when tax revenues declined, but to guarantee the provision of traditional services. In addition, the data suggested that enterprise funds, like other governmental funds, were apt to run deficits and were often part of the interfund transfer "game." The enterprise fund type was also correlated with the needs or demands of the cities. For example, cities with large commercial economies ran parking enterprise funds; affluent communities ran golf enterprise funds; tax revenue challenged communities promoted economic development authorities.

Although public enterprises usually operate under monopolistic conditions, they are not always profitable. An examination of all different enterprise funds indicated that not all public enterprises ran like successful businesses generating large profits, but often ran on deficits (Rubin, 1988). Research thus far indicates that electric utilities were the most profitable kind of enterprise funds. Water and sewer activities tend to be less profitable, allowing for fewer interfund transfers, while activities such as garbage pick up, airport, parking, and mass transit often yield insufficient revenues.

Rubin (1988), when examining Illinois cities, concluded that funds like water, sewer, and garbage experienced periodic problems, since their costs raised faster than their fee rates. Further, the same study indicated that parking, airport, and mass transit

operations did not balance revenues with expenditures. In fact, in 1988 parking fees raised only 72 percent of the total parking revenues, airport fees covered 70 percent of their costs, and transportation fees only 44 percent. Cities with such funds engaged in "unrecorded interfund borrowing or in-kind subsidies" to balance out the deficits (Rubin, 1988).

Tyer (1989) found that the most profitable types of enterprise for South Carolina cities were the electric ones. His findings further suggested that water and sewer utilities constituted the second most profitable type of municipal enterprise. These assumptions were also validated by the interfund transfer behavior of the selected cities. When he compared cities with electric utilities and cities with water and sewer utilities, he found that the former transfer more money than the latter to their general fund balance.

IV. From Working Capital to Fund Balance

Before investigating the impact of public enterprises on Georgia's local finances, it is essential to understand the accounting and reporting framework under which local governments operate today. Financial accounting and reporting provides the most critical information about an organization's financial condition. Therefore, the accounting and reporting methods organizations use are considered the most significant organizational activities (Jones, 2010).

In the United States, Generally Accepted Accounting Principles (GAAP) has regulated financial reporting. Standards established by GAAP facilitate organizations' reports of their financial results in methods ensuring that economic reality is reflected (Jones, 2010). These standards are regulated by the Financial Accounting Standards

Board (FASB) and the Government Accounting Standards Board (GASB). FASB, created in 1973, determines financial accounting standards for public companies (Facts about FASB). GASB, on the other hand, was founded in 1984 and it is responsible for fulfilling GAAP financial principles at the state and local government levels (Crawford & Loyd, 2008).

In June 1999, GASB issued Statement No. 34, Basic Financial Statements – and Management's Discussion and Analysis – for State and Local Governments. Statement No. 34 promoted significant changes in state and local governments' accounting and reporting methods increasing financial accountability (Governmental Accounting Standards Board). Under GASB's Statement No. 34, state and local governments should report a variety of financial statements along with traditional financial statements (Kravchuk & Voorhees, 2001). The multitude of financial statements distinguish between governmental and business-type activities (Kravchuk & Voorhees, 2001).

The concept and practice of governmental accounting is based on funds-financial resources allocated to meet specific goals and objectives (Marlowe, 2006). Almost all governments maintain different types of funds representing a particular government activity. Statement No. 34, although changing state and local government accounting and reporting methods dramatically, still depends on traditional fund accounting (Kravchuk & Voorhees, 2001). The fund structure provides viable information for both governmental and business-type activities. Government funds include the general fund, special revenue fund, capital projects fund, debt service fund, and permanent fund. Proprietary funds include enterprise and internal service

funds. Lastly, fiduciary funds include pension trust fund, other employee benefits trust funds, investment trust funds, private-purpose trust funds, and agency funds.

Table 2.3
Fund Structure under GASB Statement No. 34

Government Funds	Proprietary Funds	Fiduciary Funds
General Fund	Enterprise Funds	Pension Trust Fund
Special Revenue Funds	Internal Service Funds	Other Employee Benefits Trust Funds
Capital Project Funds		Investment Trust Funds
Debt Service Funds		Private-Purpose Trust Funds
Permanent Funds		Agency Funds

Source: GASB Statement No. 34, para. 405, p.148

Public enterprises, because of their business-like nature and the new accounting standards, report their financial activities in separate funds (Freeman, Shoulders, & Lynn, 1988; Ingram, Petersen, & Martin, 1991). According to GASB Statement No. 34 enterprise funds should be reported as proprietary funds. The differentiation between enterprise and governmental funds means that revenues received by public enterprises should only be used to cover their business-like activities (Stumm, 2001). However, it is observed that other parts of enterprise revenues are used by cities for non-enterprise activities. In other words, user charges and fees paid by consumers for specific services are transferred to other government funds, mainly the general fund, and utilized to finance various government activities (Stumm, 2001). Although legal restrictions complicate transfers from enterprise funds, such practices are very common among local governments (Tyer, 1989; Petersen, 2003).

According to Stumm (2001) “revenues must be moved between municipal funds primarily because revenues are not always received in the same fund that is to

expend them." General fund tax revenues for instance, may be transferred to debt service fund for debt payment purposes. Likewise, enterprise revenues can be moved to other funds depending the needs of the government (Freeman, Shoulders & Lynn, 1988;Tyer, 1989; Stumm, 2001; Petersen, 2003). Enterprise funds for instance, can be transferred to the general fund for general fund expenditures financing (Freeman, Shoulders, & Lynn, 1988).

Four types of interfund transfers exist: operating transfers, quasi-external transactions, reimbursements, and residual equity transfers (Stumm, 1996). The most common type of interfund transfers, and the only ones shown in CAFRs, are the operating transfers. These transfers, although they do not alter total government resources, increase governmental flexibility in spending its resources (Stumm, 2001). Operating transfers may occur between enterprise funds and other government funds and vice versa. Whenever enterprise funds are transferred to the general fund, the government subsidizes its activities (Stumm, 1996).

The general fund attracts the most attention from both public officials and the public at large as the largest fund in governmental accounting, which encompasses a majority of government activities (Marlowe, 2006). Finance experts also focus on the general fund balance as it indicates how wise a locality has spent its revenues (Hembree, Shelton, and Tyer, 1999). Many misconceptions exist around the fund balance. For example, fund balance is mistakenly conceived of as a savings account or a slush fund (Shelton & Tyer, 2000).

According to GFOA, fund balance is "the cumulative difference of all revenues and expenditures from the government's creation. It can also be considered

the difference between fund assets and fund liabilities, known as fund equity" (Allan, 1990). In simpler words, fund balance is the difference between current assets and liabilities (Tyer, 1993; Shelton & Tyer, 2000; Marlowe, 2006). Need to introduce this quote I think: "Current assets include cash, short-term investments, inventories, receivables, and other unrestricted assets available to finance governmental operations in the immediate future" (Shelton & Tyer, 2000). Therefore, the fund balance indicates the available resources for financing current operations.

In the private sector, the difference between current assets and current liabilities equals working capital, while in the public sector it is called fund balance (Shelton & Tyer, 2000). Therefore, many consider a fund balance synonymous with working capital (Granof, 2001). Working capital is usually expressed as a percentage of current operating expenditures indicating an organization's ability to react to unexpected events (Marlowe, 2006). Marlowe (2006) suggests that maximizing working capital will also yield fund balance utility maximization. Thus, a working capital reserve can be of great value to governmental entities. Such a reserve gives governments the option "to take advantage of discounts and other short-term procurement opportunities, to prevent fees resulting from late payment of liabilities, and to protect against catastrophic losses resulting from natural disasters and other unforeseeable events" (Marlowe, 2006). Proponents of working capital reserves also view them as beneficial to debt service and credit ratings.

According to Shelton and Tyer (2003), governmental entities should maintain four different types of working capital reserves. First, transaction balances enable organizations to pay their obligations faster while building a strong credit history

(Marlowe, 2006). Second, compensating balances increase the available funds for lending by decreasing the organizational cost of providing services to third parties (Marlowe, 2006). Third, speculative balances allow organizations to benefit from financial opportunities (e.g. investments). Finally, precautionary balances protect organizations against tough financial times or periods of revenue shortfalls. In the public sector, financial managers are mostly interested in retaining speculative and precautionary balances (Shelton & Tyer, 2000). Speculative balances are often maintained as reserved and designated fund balances, while precautionary balances are kept as unreserved undesignated fund balance (Marlowe, 2006).

The different portions of fund balance are certainly not extra available money. In fact, they reduce the resources available for current operations from the total general fund balance. For example, reserved fund balance carries certain legal restrictions, which confine its use (Tyer, 1993; Marlowe, 2006). Reserved fund balance may be used for purposes such as debt service, pre-paid items, capital asset resale, and others (Marlowe, 2006). In addition, many governments use reserved fund balance as a "rainy day fund," providing resources in tough financial times without cutting services or increasing taxes (Marlowe, 2006).

Unreserved fund balance refers to the portion of the general fund balance not legally restricted to specific uses or future liabilities (Tyer, 1993; Hendrick, 2006; Marlowe, 2006). The unreserved fund balance may be divided into designated and undesignated fund balance. Designations are similar to reservations, since they are restricted for future use (Gauthier, 2001). Designations though, do not carry legal restrictions like reservations. Rather they merely refer to intentions of elected officials

or managerial commitments (Marlowe, 2006). Evidence suggests that designations are rarely used for their predetermined purposes (Marlowe, 2006).

The remaining portion of the fund balance, which is neither reserved nor designated, is known as "unreserved undesignated fund balance." This fund balance includes portions that are free of any restriction. Unreserved undesignated fund balances can be used for any purpose government desires (Tyer, 1993).

V. Building Fiscal Reserves

Most state governments have established rainy day or contingency funds to stabilize revenues and guarantee the provision of services during periods of fiscal stress (Wolkoff, 1987; Hou, 2003; Marlowe, 2005; Giannakis and Snow, 2007; Stewart, 2009). According to Hou (2004), in 1999 only 11 states had not developed budget stabilization funds. The vast majority of states are required to balance their budgets (Douglas & Gaddie, 2002) indicating their financial health (Briffault, 1996). In periods of fiscal stress, state governments might decrease their spending and increase their taxes to satisfy the requirement of maintaining balanced budgets (Rubin, 1990). Establishing rainy day funds is a counter-cyclical tool useful to cover expenses when revenues are short (Stewart, 2009). In addition, governments that use rainy day funds free elected officials from making unpopular decisions such as increasing taxes and cutting spending while guarding taxpayers from "revenue ratchet" (Douglas & Gaddie, 2009).

The sensitivity of state economies to budgetary cycles has raised a lot of support towards the establishment of rainy day funds as a tool to smooth budgetary fluctuations (Gold, 1983). Cyclical smoothing is necessary not only at the state but at

the local level as well (Wolkoff, 1987). Some believe that local economies, which are smaller when compared to state economies, are more sensitive to cyclical fluctuations mostly due to their less heterogeneous economic bases (Puryear, 1975; Bahl, 1984). Amid uncertain economic conditions the requirement of balancing the budgets annually can attribute to major changes on local governments' budgetary policies (Wolkoff, 1987). Therefore, local governments also build and use fiscal reserves. However, local governments prefer building fiscal reserves into different portions of their fund balance and not as a separate contingency or rainy day fund (Tyer, 1993; Marlowe, 2005; Hendrick, 2006). Even when local governments establish a separate rainy day fund or stabilization fund, it is usually reported under their unreserved fund balance (Tyer, 1993).

While there is abundant literature on contingency funds, there is little attention paid to reserve funds (Tyer, 1993). Gosling (1992) described budget surplus as a contingency against revenue shortfalls. Wolkoff (1987) in his seminal work, although he did not find many local governments maintaining separate contingency funds, assumed that surpluses in the general fund balance could illustrate this role. Allan (1990) clearly described unreserved fund balance as contingency funds that local governments used when they were in financial trouble. Further, when Rubin (1990) talked about contingency funds she also included annual general fund surpluses. Last, in "Reinventing Government" Osborne and Gaebler labeled contingency funds the most popular strategy for successful future planning (Gaebler & Osborne, 1992).

A thorough examination of the literature indicates that authors either confuse reserve, rainy day, and contingency funds or they just fail to understand the

differences among them (Tyer, 1993). It is important to note that these three terms are not necessarily the same. Contingency and rainy day funds are types of reserve funds, and they usually have the same meaning. However, this does not mean that reserve funds are contingency or rainy day funds. Whereas contingency or rainy day funds can be used only for unexpected contingencies such as natural disasters, reserve funds seem to serve more purposes. These include protection from economic downturns, providing consistent cash flow maintenance, stable tax rates, capital projects funding, improving bond ratings, lowering procurement costs, satisfying public and other stakeholder demands, and facilitating strategic management and financial planning (Tyer, 1993; Marlowe 2005). Thus, reserve funds are more than contingency or rainy day funds, and this is the main reason this term is preferred in this dissertation.

Determining the level of fiscal reserves has also been vague. Building small fiscal reserves may prove inadequate to deal with cyclical revenue changes, while retaining too large of a balance might not sound pleasant to taxpayers' ears (Shelton & Tyer, 2000). The "rule of thumb" suggests that a fiscal reserve between 5 and 15 percent of annual operating expenditures is enough to deal with cyclical fluctuations and contingencies (Shelton & Tyer, 1997; Marlowe, 2004; Stewart, 2009). The 5 to 15 percent "rule of thumb" is supported by bond raters and professional associations such as the National Association of State Budget Officers (NASBO), the National Conference of State Legislature (NCSL), and the Government Finance Officers Association (GFOA) (Stewart, 2009).

Prior research indicated that the optimal size of fiscal reserves depended on the governments' fiscal structure, and financial and economic conditions (Hendrick,

2006). Vasche and Williams (1987) for instance, suggested that in California a 10 percent fiscal reserve would be sufficient to stabilize expenditures during periods of revenue shortfall. In the case of Ohio, Navin and Navin (1997) suggested that the optimal size of fiscal reserves should be about 13 percent. Sjoquist (1998) stated that Georgia's reserves should climb up to 27 percent to face periods of revenue shortfall without an impact on state services.

Similar variations are observed in local governments as well. For example, in North Carolina the state suggests that local governments maintain unreserved fund balances not less than 8 percent. GFOA suggests that local governments should maintain 5 to 15 percent of their expenditures as an unreserved fund balance (Stewart, 2009). Marlowe (2006) illustrated that municipalities in Michigan and Minnesota maintained general fund balances over 50 percent of their annual expenditures.

Wolkoff's study (1987) is amongst the first examining the reasons cities build fiscal reserves. In his 1986 survey of the 50 largest U.S. cities, Wolkoff (1987) found that only six cities run separate contingency funds. He assumed that contingency funds are not popular at the local level because: 1) there was no political support, 2) the decision making had a short-term time horizon, 3) rarely was there anything left to save, and 4) local governments experienced great revenue fluctuations due to capital projects. Although contingency funds seemed politically unattractive at that time, Wolkoff believed that they could smooth the impact of economic fluctuations, increase budgetary flexibility, provide autonomy, and protect taxpayers from politicians with large appetites.

Shelton and Tyer (2000) examined the unreserved fund balance expressed as a percentage of general fund expenditures of selected cities and counties in North and South Carolina for two fiscal years: 1987 and 1997. The data suggested that in 1997 the vast majority of the examined local governments held larger fund balances than a decade ago. Further, an inverse relationship existed between the size of cities and counties and their unreserved fund balance. That is, the larger the city or county, the smaller their unreserved fund balance. Last, their findings suggested that the selected local governments held fund balances much larger than the 5 to 15 percent rule of thumb. In fact, the general fund balance in South Carolina cities and counties ranged between 20 and 50 percent and much higher in North Carolina. North and South Carolina cities and counties held such great levels of fund balance to accumulate funds for: 1) construction of municipal facilities, 2) capital replacement, and 3) self-insurance. Thus, it seems that legitimate public policy concerns underline the excessive fund balances in these localities.

A recent study by Marlowe (2004) of more than 250 municipalities in Minnesota and Michigan is among the most comprehensive and systematic studies investigating fund balance policies and practices in local governments. His findings indicated that fewer than half of the responding municipalities had adopted a general fund balance policy. Cities with a fund balance policy maintained fund balance between 31 and 39 percent of current operating expenditures, a range much higher than the 5-15 percent "rule of thumb." Fund balances of the examined cities were used for purposes beyond fiscal stabilization, including contingencies, maintenance of tax rates and cash flows, capital projects, and citizens' or business' demands. Thus,

increased fund balance may add budget flexibility and improve financial planning and strategic management (Marlowe, 2004).

In another study, Marlowe (2005) found that fiscal reserves played an essential role in balancing expenditure gaps in Minnesota cities. His findings indicated that municipalities stabilized their general fund balance during downturn years using reserves built in unreserved and reserved fund balance. On the contrary, during booming years, reserves built in unreserved and reserved fund balance were stimulating expenditures. Designated fund balance, no matter economic conditions, had a negative significant association with general fund balance. These findings suggested that different portions of fund balance play different roles in local finances. The regression results also indicated positive significant associations between population, council-manager form of government and general fund balance. Enterprise transfers had also a positive association with general fund balance during the economic downturn but this result was insignificant.

Hendrick (2006) examined factors influencing the level of unreserved fund balance for Chicago suburban municipalities. The findings indicated an inverse relationship between debt per capita, expenditures and the unreserved fund balance. Further, government size and slack resources followed a positive relationship; the larger the government the more slack resources accumulate. Whether municipalities had home rule or not seemed like another significant variable that affected the level of unreserved fund balance. In fact, municipalities with home rule accumulated more slack than non-home rule governments.

Surprisingly, Hendrick (2006) found out that municipalities relying heavily on intergovernmental revenues retained smaller fund balances, contradicting previous findings. The explanation for this unusual behavior was that these municipalities might not fully be aware of the risk involved in elastic types of income such as income and sales taxes and intergovernmental revenues. Hendrick (2006) assumed that if municipalities were aware of this risk the relationship between intergovernmental revenues and unreserved fund balance would turn positive. Further, Hendrick (2006) found that more professional governments retained higher unreserved fund balance than less sophisticated governments, confirming Marlowe's assumptions. Last, wealthier municipalities with lower spending needs accumulated more reserves than poor municipalities with higher spending needs.

In another study, Giannakis and Snow (2007) reviewed 227 municipalities in Massachusetts to identify determinant factors of their stabilization funds. The findings validated Marlowe's assumptions regarding the reasons for adoption of stabilization funds. Cities in Massachusetts built reserves to maintain service levels during economic downturns. However, the regression indicated weak relationships between stabilization funds and the following variables: population change, expenditure level, and state aid. Interestingly, the authors concluded that wealthier municipalities "develop financial management strategies rooted in political support for high quality services" (Giannakis & Snow, 2007). On the contrary, less affluent municipalities with declining populations and great reliance on state aid were more likely not to have slack resources, which would protect them from budgetary fluctuations.

Stewart's (2009) study is among the few that examined factors influencing the level of unreserved fund balances in Mississippi counties. The main purpose of this study was to determine whether findings from previous research hold true for less affluent local governments. The findings suggested that fiscal factors (property tax revenues, other revenues, and per capita income) were positively related with the unreserved fund balance. Further, debt per capita had an inverse relationship with the unreserved fund balance, which confirmed Marlowe's and Hendrick's previous findings. Additional factors that influenced the level of unreserved fund balance in Mississippi counties included form of government, nonwhite residents and population change.

Conclusion

This chapter has provided a review of the literature leading to the research questions, hypotheses, models, variables, and statistical methods of this dissertation. The chapter began with an introduction that laid the basic foundation for the remaining sections as well as discussing the structure of the chapter that followed it.

In brief, public enterprises have existed since the foundation of this country and can be found in all levels of government. Over time, public enterprises have helped the federal, state, and local governments in various ways including building infrastructure, stimulating economic growth, providing public services, diversifying governmental revenue sources, and increasing government efficiency and effectiveness.

Since the 1980s, aggressive administrative reforms have reshaped governmental thinking and operation. All these reforms are based on business-like principles aiming to ameliorate government performance. Today, local governments under the reinvention movement seek ways to decrease their dependency on traditional revenue sources to finance their operation and services. Under this "minimalist" tax behavior, public enterprises, which are financed with user charges and fees, seem to offer a great alternative for local governments to raise revenues.

The major actors regulating the American accounting system include Generally Accepted Accounting Principles (GAAP), Financial Accounting Standards Board (FASB), and Government Accounting Standards Board (GASB). Since 1999, state and local governments must comply with GASB's Statement No. 34, which distinguishes in financial statements governmental and business-type activities.

Although governmental accounting is based on funds differentiated from each other (e.g. Government Funds, Proprietary Funds, Fiduciary Funds), resources can be moved from one fund to another through interfund transfers. Public enterprises, because of their business-like nature, report their funds under Proprietary Funds. Although enterprise funds should only be used by public enterprises to cover their activities, local governments using interfund transfer policies could move resources out of enterprise funds to finance their operation and provide services to the public.

Previous studies have illustrated that government owned utilities, through interfund transfers, affect governmental spending and revenue patterns. However, looking at the methodology and research models of these studies one can say that they are, at the very least, poorly constructed. For example, the conclusions of these early studies derived from simple T-test comparisons or cross-sectional OLS regression models. Additionally, it is questionable whether the variables used in these early studies captured the full-effect of enterprise transfers in local finances.

Most states have established budget stabilization or rainy day funds as a counter-cyclical tool useful to cover expenses when revenues are short and guarantee the provision of services during tough economic periods. Like states, local governments also build and use fiscal reserves. However, local governments rarely establish separate contingency funds such as rainy day or budget stabilization funds. Rather, they build reserves into their general fund balances, and these are used to manage cash flow during the fiscal year.

Although reserve, contingency, and rainy day funds have been used in the literature as if they are synonymous, they serve different purposes. Reserve funds

have the broadest meaning and this constitutes the main reason this term is preferred in this dissertation. The “rule of thumb” suggests that a fiscal reserve between 5 and 15 percent of annual operating expenditures is enough to deal with cyclical fluctuations and contingencies. Regarding building fiscal reserves, a myriad of factors could be essential. Drawing on existing studies, fiscal, socio-economic, demographic, and governance factors could affect fiscal reserves levels. Another way local governments could generate fiscal reserves is through their public enterprises.

CHAPTER 3: METHODS AND RESEARCH DESIGN

Introduction

This chapter provides information regarding this dissertation's research questions, variables, research models, data collection, and analysis. The organization of this chapter is as follows. The chapter begins with a summary of the literature review, which leads to the research questions and hypotheses of this dissertation. Then, a discussion of data collection, variables, and research models follows. Finally, the methods used to analyze the data and methodological concerns conclude this chapter.

Literature Summary

As discussed in the previous chapter, the current literature has mostly focused on state government finances. Although local governments operate in smaller and less versatile economies than state governments, few studies have examined municipal financial management. This study attempts to fill in a few gaps in the literature associated with the impact of public enterprises on local government's spending, revenue patterns, and general fund balances. This section provides a review of the key literature discussed in chapter 2 and how it generated the research questions, data, variables, and research models that drove this dissertation.

In this nation, public enterprises have played a significant role in the development of both infrastructure and economy. The significance of public enterprises in local government financial management and service delivery has been greatly increased since the 1970s, mainly due to the tax revolt of 1978 and California's proposition 13 (Lowery, 1985; Giannakis and Snow, 2007; Carroll, 2009). Since then, local officials from all over the country have been very skeptical regarding the use of property taxation (Lowery, Singleman, and Smith, 1983).

The tax limitations applied to property taxation and other local taxes (the most major revenue source for localities) urged local governments to seek alternative methods of financing their activities. Revenue diversification, an idea promoted by the United States Advisory Commission on Intergovernmental Relations (ACIR), seemed to be the solution to local governments financial stress. Under the concept of revenue diversification, local governments adopted local income and sales taxes and began utilizing non-tax revenues (user charges and fees) to decrease revenue volatility, increase financial flexibility, and lead to improved fiscal performance (White, 1983; Gentry, and Ladd, 1994; Harmon, and Mallick, 1994; Hendrick, 2002; Johnshon, Kioko, Shanon, and Stone, 2005).

The use of non-tax revenues was also supported by a series of management reforms since the 1980s. Although one can find various names for these reforms such as NPM, NPR, Reinventing Government, and New Managerialism, they all share a common theme; the application of market-based principles (Denhardt and Denhardt, 2000) to improve government efficiency, effectiveness, and performance (Box, Marshall, and Reed, 2001). All these management reforms were generated due to a

global desire for slowing government growth (Dunsire and Hood, 1989), and providing services through private or quasi-private sectors (Hood and Schuppert, 1988; Dunleavy, 1989).

These managerial reforms have attempted to make government to run better and cost less (Box, Marshall, and Reed, 2001). Further, under these reform movements government has acquired flexibility to find the most efficient ways to respond to citizen requests (Brundney and Wright, 2002). ICMA's (1997 and 1998), and Moon and deLeon's (2001) surveys indicated that local governments are reinventing themselves through heavier use of their non-tax revenues (user charges and fees) mostly generated from their public enterprises (Moon and deLeon, 2001).

According to Bunch (2000), the use of government owned enterprises satisfies most of the principles promoted by the public management reforms observed since the 1980s. The non-tax revenues (user charges and fees) generated from public enterprises promote fairness as beneficiaries of a service could be easily identified and charged. Further, governments can avoid tax increases as they can increase their revenues through user charges and fees. It is also believed that public enterprises and quasi-market corporations introduce customer-based service in government and give more discretion to managers in terms of how to use the funds. In general, public enterprises resemble private businesses, which assist governments to run like a business and managers to "steer and not row the boat."

Several studies noted that enterprise transfers impacted governmental spending (expenditure effect) and revenue patterns (substitution effect) (DeHoog & Swanson, 1988; Tyer, 1989). The studies of Deno and Mehay (1988) found evidence

of expenditure effect, while Strauss and Wertz (1976) and Vogt (1978) found evidence of substitution effect. DiLorenzo (1982) and Tyer (1989), when studying the impact of utilities in New York cities and South Carolina cities respectively, concluded that cities with internal subsidization substitute for their own-revenues sources and spend more. Two other studies, Rubin's (1988) and DeHoog and Swanson's (1988), did not offer further support for the expenditure or substitution effect of enterprise transfers.

Looking at the methodology and research models of these previous studies one can say that they are at least very poorly constructed. There are several reasons to believe that previous scholars have not captured the full-effect of enterprise transfers in local finances. For example, Coldberg (1955), Straus and Wertz (1976), DiLorenzo (1982), DeHoog and Swanson (1988), and Deno and Mehay (1988) attempted to capture expenditure and substitution effects of public enterprises by examining utility profits. Only Tyer (1989) used interfund transfers as a percent of locally raised revenues, but he never defined interfund transfers or where the source the data came from. In addition, the conclusions of these early studies derive from simple T-test comparisons or single year OLS regression models. Further, most of the models can be characterized as overly simplistic.

The aforementioned suggest that it would be erroneous to base our knowledge regarding the impact of public enterprises on municipal government spending and revenue patterns on earlier studies. Therefore, this dissertation asks whether net enterprise transfers have any impact on government spending and revenue patterns of Georgia's local governments. Following the literature, it is hypothesized that net

enterprise transfers increase the spending level (expenditure effect) of Georgia's municipalities. In addition, municipalities with enterprise transfers are expected to substitute for their own-source revenues (substitution effect).

After examining the impact of enterprise transfers on government spending and revenue patterns, the focus will shift to general fund balances and fiscal reserve building behavior. Although local economies are more sensitive to cyclical fluctuation than state and national economies (Puryear, 1975; Bahl, 1984), few studies have examined fiscal reserve building behavior at the municipal level. Instead, the vast majority of studies have focused on state governments.

According to Wolkoff (1987), local governments' need for cyclical smoothing is greater than state governments'. Further, uncertain economic conditions combined with the requirement of balancing the budgets annually can attribute to major changes in local governments' budgetary policies (Wolkoff, 1987). Therefore, local governments also build and use fiscal reserves. However, local governments prefer building fiscal reserves into different portions of their fund balance and not as separate contingency or rainy day funds (Tyer, 1993; Marlowe, 2005; Hendrick, 2006).

Wolkoff (1987) assumed that fiscal reserves could smooth the impact of economic fluctuation, increase budgetary flexibility, provide autonomy, and protect taxpayers from politicians with large appetites. However, his 1987 national study did not confirm his hypotheses. A little over a decade after Wolkoff's study, fiscal reserves seemed to gain popularity among local governments. When, in 1997, Shelton and Tyer (2000) examined unreserved fund balance expressed as a percentage of total

expenditures of selected cities and counties in North and South Carolina, they found that local governments built larger fund balances to facilitate infrastructure improvement, capital replacement, and self-insurance.

A few years later, Marlowe (2004) found that Minnesota and Michigan cities built reserves in their fund balance for purposes beyond fiscal stabilization, including contingencies, maintenance of tax rates and cash flows, capital projects, and citizens' or business demands. Marlowe (2005) also found that different portions of fund balance were serving different purposes in Minnesota municipalities. Similar conclusions were reached when Giannakis and Snow (2007) reviewed 227 municipalities in Massachusetts to identify determinant factors of their stabilization funds.

Underestimation of revenues, overestimation of expenditures, budgeting for reserves, or a combination of one or more of the above are some of the most popular methods governments apply to generate fiscal reserves (Tyer, 1993). An alternative way governments could generate slack is through public enterprises (Hendrick, 2006), which are financed with user charges and fees (Rubin, 1988; Tyer 1993). Such business-type activities represent significant potential revenue for local governments (Deno & Mehay, 1988), since they often generate revenues beyond their costs (Rubin, 1988; Tyer, 1993).

Although numerous local governments have been affected by the current economic recession, few studies have explored how municipalities generate reserves. Even fewer studies have examined the impact of enterprise transfers on the level of fiscal reserves in local governments. In addition, the vast majority of existing studies

have limited their examination and conclusions to total general fund balance or unreserved fund balance. By continuously focusing on general or unreserved fund balance, researchers "neglect a host of potential trends and differences among less visible funds" (Marlowe, 2004; 143).

The literature cites that cities operating certain public enterprises (e.g. electric utilities, water utilities) keep lower fund balance due to their ability to transfer funds into their general fund whenever they need to (Strauss and Wertz 1976; Vogt 1978; Tyer 1989; Stumm and Khan 1996). In other words, individual enterprise transfers have a positive relationship with fund balance. The effects of enterprise transfers as an aggregate (net enterprise transfers) on general fund balances are yet to be studied. Therefore, the last research question of this dissertation explores the effects of net enterprise transfers on Georgia's local governments fund balance.

According to Marlowe (2004) different general fund balance portions (total general, reserved, unreserved designated, unreserved undesignated, and total unreserved funds) have different purposes and uses for local governments. To fill in the literature gaps regarding the impact of net enterprise transfers on the general fund, a systematic investigation of all fund balance components is necessary. Thus, five different hypotheses have been established in this dissertation, one for each fund balance. It is expected that a positive relationship is developed between net enterprise transfers and all general fund balances: total general, reserved, unreserved designated, unreserved undesignated, and total unreserved fund balance.

Research Questions and Hypotheses

The gaps in the literature generated the following three research questions:

1) Do net enterprise fund transfers have any impact on spending of Georgia's local governments?
2) Do net enterprise fund transfers have any impact on revenue patterns of Georgia's local governments?
3) Do net enterprise fund transfers affect Georgia's local governments fund balance?

The research questions were recast into research hypotheses as follows.

H1a: Net enterprise fund transfers increase the spending level of Georgia's local governments.

H2a: Net enterprise fund transfers substitute for locally raised revenues of Georgia's local governments.

H3a: Net enterprise fund transfers increase the level of total general fund balance in Georgia's local governments.

H3b: Net enterprise fund transfers increase the level of reserved fund balance in Georgia's local governments.

H3c: Net enterprise fund transfers increase the level of unreserved designated fund balance in Georgia's local governments.

H3d: Net enterprise fund transfers increase the level of unreserved undesignated fund balance in Georgia's local governments.

H3e: Net enterprise fund transfers increase the level of total unreserved fund balance in Georgia's local governments.

Research Methods

Data

For the purpose of this study, a five-year panel dataset (from 2005 to 2009) has been created. All financial information stems from Comprehensive Annual Financial Reports (CAFR) of 100 Georgia city governments with population greater than 5,000. CAFRs were obtained from the Georgia Department of Audits and Accounts (GDAA), which requires all Georgia local governments to submit their annual financial reports. Unfortunately, not all Georgia local governments have uploaded their 2009 CAFRs on GDAA, which constitutes the reason for excluding these cities from the analysis.

CAFRs are preferred over budget documents since they are audited and provide rich information for all the dependent and part of the independent variables of this study. First, these financial reports provide information on general fund balance and its different portions (reserved, unreserved designated, undesignated). Second, they include all necessary information related to total and individual enterprise funds and interfund transfers, which constitute the major independent variables of this research. Third, CAFRs are utilized to gather information regarding revenue structure (property and sales tax, intergovernmental aid), debt, and governance structure.

The U.S. Census Bureau is utilized to gather all demographic and socio-economic data. Demographic data include population expressed in thousands, percentages of populations under age 18 and over 65, and percent of nonwhite population. For this study the socio-economic factors include education level, per capita income, and unemployment rate.

Dependent Variables

To test the expenditure or substitution effect of net enterprise transfers on Georgia's local governments this study uses two dependent variables. First, per capita total expenditures (*Texp. per capita*) is employed to test the effect. Second, per capital own-source revenues (*ORev. per capita*) is employed to explore the substitution effects. According to DiLorenzo (1982), excluding total utility expenditures and revenues from total expenditures and own-source revenues respectively, provides information only for governmental activities.

To examine the effects of total net enterprise fund transfers on local fund balance, the proposed model focused on five dependent variables representing different portions of fund balance. Following Marlowe (2004; 2005), all different portions of fund balance should be examined to achieve a thorough understanding of municipal finances. Since total current expenditures capture the broad concept of spending, several studies use fund balance as a percentage of total current expenditure to measure the fund balance level (Tyer, 1993). Therefore, total general fund balance (*Fbln_tex*), reserved (*Rbl_tex*), unreserved designated (*UnDbl_tex*), unreserved undesignated (*UnUnbl_tex*), and total unreserved fund balance (*Un_tex*) are expressed as a percentage of total expenditures.

Independent Variables

Previous research on state and local finances has illustrated that the fiscal characteristics of governments constitute a significant factor affecting government spending, revenue patterns, and fund balance. Wolkoff (1987), for instance, indicated that jurisdictions built reserves based on the composition of their revenue sources. That is, governments with more elastic revenues (e.g. income and sales tax) are likely to keep higher fund balance levels than governments with inelastic revenue sources (e.g. property tax).

According to DiLorenzo (1982), intergovernmental revenues per capita had a positive effect on both government expenditures per capita and own-source revenues. The positive impact of intergovernmental revenues per capita on government spending was also confirmed by Deno and Mehay (1988). In addition, the volatility of intergovernmental revenues, which are based on the discretion of state and federal officials, makes governments keep high fund balances (Marlowe, 2005). However, the literature indicated that negative associations between intergovernmental revenues per capita and fund balance could also exist (Marlowe, 2005; Hendrick, 2006).

Evidence about the association of debt per capita and government expenditures and own-source revenues per capita does not exist from previous studies as none of these studies controlled for this variable. Thus, the author is making his own speculations. Regarding the association between debt per capita and fund balance, Marlowe (2004) and Hendrick (2006) found a negative relationship. It seems that high levels of debt decrease the available resources for current operations, resulting in lower general fund balance.

Sales (*SalesTax_pc*), property (*PropTax_pc*), and intergovernmental revenue per capita (*IntgvtRev_pc*) are expected to positively influence total expenditure, while negative association is anticipated between debt per capita (*Debt_pc*), total expenditures, and own-source revenues per capita. It is also speculated that sales, property, and intergovernmental revenue per capita will positively influence own-source revenue per capita. Positive relationships are expected between sales taxes per capita, intergovernmental revenues per capita and fund balance. On the contrary, it is speculated that property taxes per capita and debt per capita are negatively associated with fund balance.

The literature also cites that cities operating certain public enterprises (e.g. electric utilities) keep lower fund balance due to their ability to transfer funds into their general fund whenever they need to (Strauss and Wertz 1976; Vogt 1978; Tyer 1989; Stumm and Khan 1996). However, since cities can operate more than electric utilities (e.g., gas, transit, water), this research employs net enterprise transfers expressed as percentage of net enterprise income (*Nent.Trns_Nent. Income*) to capture the potential impact of public enterprises on governmental spending, own-source revenue patterns, and fund balance.

It is hypothesized that total net enterprise fund transfers are positively associated with all dependent variables: total expenditures per capita, own-source revenues per capita, and general fund balances. Positive impact of enterprise transfers on government spending and own-source revenues may be found in the studies of Strauss and Wertz (1976), DiLorenzo (1982), Deno and Mehay (1988), Tyer (1989),

and Hembree, Shelton and Tyer (2000). Marlowe (2005) and Hendrick (2006) confirmed the positive association of enterprise transfers with fund balance.

To understand the impact of socio-economic factors on the demands and needs of local services, a series of variables are utilized. All models employ level of education (*Education*), unemployment rate (*Unemprate*), and income per capita *(Income_pc).* Level of education is expected to have positive correlations with governmental spending, own-source revenues, and fund balance. On the contrary, negative associations should develop between unemployment rate, fund balance, governmental spending, and own-source revenues.

Regarding the associations between income per capita, governmental spending, and own-source revenues, the literature indicated mixed directions. For example, Strauss and Wertz (1976) found positive associations between income per capita and own-source revenues, while Deno and Mehay (1988) found negative associations of income per capita with government spending. DiLorenzo (1982) on the other hand, found negative associations between income per capita and government spending and own-source revenues. Income per capita and fund balance are expected to have a positive association. Hendrick (2006) and Stewart (2009) found positive associations between income per capita and fund balance.

To capture the demographic influence on the size of governmental spending, revenue patterns, and fund balance the models employ population expressed per 1,000 (*Population*), percentages of population under 18 (*Undeighteen*) and over 65 (*Ovsixtyfive),* and percent of nonwhite population (*Nonwhite*). Population, according to previous studies (Strauss and Wertz, 1976; DiLorenzo, 1982; Deno and Mehay,

1988), is expected to positively impact government expenditures and own-source revenues per capita. Several studies also cite that smaller cities keep higher percentages of fund balance as a share of either general fund expenditure or total governmental expenditure (Hembree, Shelton, and Tyer, 2000; Hendrick, 2006; Giannakis and Snow, 2007; Stewart 2009). Therefore, it is expected that population and fund balance will be negatively associated.

Marlowe (2004) argued that the retirement of baby boomers would place a great financial burden on local governments. Therefore, the percent of population over age 65 is an essential variable when trying to understand the fiscal limitations local governments face. Due to high service needs and income capacity of population groups under 18 and over 65, the author expects negative associations between these population groups and fund balance and own-source revenues, while the direction should turn positive when total governmental expenditures come into play.

Marlowe (2004) found a negative relationship between the level of fund balance and ethnic diversity. In fact, he observed an inverse relationship between nonwhites and savings. It seems that communities with large percentages of nonwhite population focus more on short-term rather than long-term planning (Stewart, 2009). Therefore, it is hypothesized that the percent of nonwhite population will negatively affect fund balance levels of Georgia's local governments. Likewise, it is speculated that the percent of nonwhite population is negatively associated with total governmental expenditures and own-source revenues.

Several pieces of literature cite that governance structure can affect financial management practices. Svara (1990), for example, suggested that cities with strong

mayors governed by conflict, while cities with council-managers by cooperation. Marlowe (2004) suggested that governments governed by conflict do not keep high fund balance levels since they are not engaged in strategic planning like more professional governments do. Hendrick (2006) added to the above assumptions by finding that in Illinois more sophisticated local governments generated more slack than less sophisticated ones. Therefore, it is expected that Georgia local governments with professional governance structures (council-managers form) are more likely to plan long-term and rationally. A positive relationship should be developed between council-manager cities (*Gvt_Form*) and the level of fund balance. Likewise, positive relationships are expected between council-manager cities, governmental spending, and own-source revenue.

Marlowe (2004) also suggested that metropolitan status of local governments could affect the financial management practices. Therefore, this study has included a metropolitan dummy variable (*Metro*). It is expected that rural local governments are more likely to keep higher percentages of fund balance than metropolitan ones. Further, metropolitan governments are expected to engage in higher spending, since metropolitan areas have higher demand of services. Greater population level of metro areas is speculated to positively influence own-source revenues. Last, to capture time effects in Georgia's local finances dummy variables for years (*Year*) 2006, 2007, and 2008 were established.

Research Models and Variables

Drawing on extant studies, this study utilizes similar organizational and financial factors examined by previous scholars. However, the model focuses on total net enterprise fund transfers. This study empirically examines the impact of net enterprise fund transfers on 1) local spending behavior, 2) locally raised revenues, and 3) local fund balance level.

To examine the expenditure effect of enterprise fund net transfer the following model is utilized:

$$\textit{(1) Log(Texp. per capita)}_{(t-1)} = a + b_1\,ntrans\_pc_{i,t-1} + b_2\,intergvt\_pc_{i,t-1} + b_3\,proptx\_pc_{i,t-1} + b_4\,salestx\_pc_{i,t-1} + b_5\,debt\_pc_{i,t-1} + b_6\,log\,(population)_{i,t-1} + b_7\,nonwhite_{i,t-1} + b_8\,education_{i,t-1} + b_9\,income\_pc_{i,t-1} + b10\,unemprate_{i,t-1} + b11\,under18_{i,t-1} + b12\,over65_{i,t-1} + b13\,msa_{i,t=2006,2007,2008} + b14\,\text{gform}_{i,t=2006,2007,2008} + \eta_{t-1} + u_{i,t-1}$$

Further, the following model is used when examining the substitution effect of enterprise fund net transfers:

$$\textit{(2) Log(ORev. per capita)}_{(t-1)} = a + b_1\,ntrans\_pc_{i,t-1} + b_2\,intergvt\_pc_{i,t-1} + b_3\,proptx\_pc_{i,t-1} + b_4\,salestx\_pc_{i,t-1} + b_5\,debt\_pc_{i,t-1} + b_6\,log\,(population)_{i,t-1} + b_7\,nonwhite_{i,t-1} + b_8\,education_{i,t-1} + b_9\,income\_pc_{i,t-1} + b10\,unemprate_{i,t-1} + b11\,under18_{i,t-1} + b12\,over65_{i,t-1} + b13\,msa_{i,t=2006,2007,2008} + b14\,\text{gform}_{i,t=2006,2007,2008} + \eta_{t-1} + u_{i,t-1},$$

Regarding the impacts of enterprise fund transfers on the local fund balance level, this study uses the following models:

(3)

$$\textit{a) Log(fbln\_tex)}_{(t-1)} = a + b_1\,ntrans\_pc_{i,t-1} + b_2\,intergvt\_pc_{i,t-1} + b_3\,proptx\_pc_{i,t-1} + b_4\,salestx\_pc_{i,t-1} + b_5\,debt\_pc_{i,t-1} + b_6\,log\,(population)_{i,t-1} + b_7\,nonwhite_{i,t-1} + b_8\,education_{i,t-1} + b_9\,income\_pc_{i,t-1} + b10\,unemprate_{i,t-1} + b11\,under18_{i,t-1} + b12\,over65_{i,t-1} + b13\,msa_{i,t=2006,2007,2008} + b14\,\text{gform}_{i,t=2006,2007,2008} + \eta_{t-1} + u_{i,t-1}$$

$$\textit{b)Log(rbl\_tex))}_{(t-1)} = a + b_1\,ntrans\_pc_{i,t-1} + b_2\,intergvt\_pc_{i,t-1} + b_3\,proptx\_pc_{i,t-1} + b_4\,salestx\_pc_{i,t-1} + b_5\,debt\_pc_{i,t-1} + b_6\,log\,(population)_{i,t-1} + b_7\,nonwhite_{i,t-1} + b_8\,education_{i,t-1} + b_9\,income\_pc_{i,t-1} + b10\,unemprate_{i,t-1} + b11\,under18_{i,t-1} + b12\,over65_{i,t-1} + b13\,msa_{i,t=2006,2007,2008} + b14\,\text{gform}_{i,t=2006,2007,2008} + \eta_{t-1} + u_{i,t-1}$$

$$c)\ Log(undbl\_tex)_{(t-1)} = a + b_1 ntrans\_pc_{i,t-1} + b_2\ intergvt\_pc_{i,t-1} + b_3 proptx\_pc_{i,t-1} + b_4 salestx\_pc_{i,t-1} + b_5 debt\_pc_{i,t-1} + b_6 log\ (population)_{i,t-1} + b_7 nonwhite_{i,t-1} + b_8 education_{i,t-1} + b_9\ income\_pc_{i,t-1} + b10\ unemprate_{i,t-1} + b11\ under18_{i,t-1} + b12\ over65_{i,t-1} + b13\ msa_{i,t=2006,2007,2008} + b14 \text{gform}_{i,t=2006,2007,2008} + \eta_{t-1} + u_{i,t-1}$$

$$d)\ Log(ununbl\_tex)_{(t-1)} = a + b_1 ntrans\_pc_{i,t-1} + b_2\ intergvt\_pc_{i,t-1} + b_3 proptx\_pc_{i,t-1} + b_4 salestx\_pc_{i,t-1} + b_5 debt\_pc_{i,t-1} + b_6 log\ (population)_{i,t-1} + b_7 nonwhite_{i,t-1} + b_8 education_{i,t-1} + b_9\ income\_pc_{i,t-1} + b10\ unemprate_{i,t-1} + b11\ under18_{i,t-1} + b12\ over65_{i,t-1} + b13\ msa_{i,t=2006,2007,2008} + b14 \text{gform}_{i,t=2006,2007,2008} + \eta_{t-1} + u_{i,t-1}$$

$$e)\ Log(un\_tex)_{(t-1)} = a + b_1 ntrans\_pc_{i,t-1} + b_2\ intergvt\_pc_{i,t-1} + b_3 proptx\_pc_{i,t-1} + b_4 salestx\_pc_{i,t-1} + b_5 debt\_pc_{i,t-1} + b_6 log\ (population)_{i,t-1} + b_7 nonwhite_{i,t-1} + b_8 education_{i,t-1} + b_9\ income\_pc_{i,t-1} + b10\ unemprate_{i,t-1} + b11\ under18_{i,t-1} + b12\ over65_{i,t-1} + b13\ msa_{i,t=2006,2007,2008} + b14 \text{gform}_{i,t=2006,2007,2008} + \eta_{t-1} + u_{i,t-1}$$

where *i* represents each city and *(t-1)* represents each time period (with t = 2005, 2006, 2007, 2008, 2009), η_{t-1} are year dummies, and $u_{i,t-1}$ is the error term.

Table 3.1
Variables, Definitions, and Sources

Variables	Definitions	Sources
Texp_ pc	Total Expenditures per capita (Total Expenditures/Population) x 100	Comprehensive Annual Financial Report (CAFR)
Orev_pc	Own-Source Revenues per capita [(Total Revenues-Intergovernmental Revenues)/Population] x 100	Comprehensive Annual Financial Report (CAFR)
Fbln_tex	Total General Fund Balance as a share of Total Expenditures [(Reserved + Unreserved Fund Balance in the General Fund)/ Total Expenditure)] x 100	Comprehensive Annual Financial Report (CAFR)
Rbl_tex	Reserved Fund Balance as a share of Total Expenditure in the General Fund (Reserved Fund Balance in the General Fund /Total Expenditure) x 100	Comprehensive Annual Financial Report (CAFR)
UnDbl_tex	Unreserved Designated Fund Balance as a share of Total Expenditures (Unreserved Designated Fund Balance in the General Fund/ Total Expenditure) x 100	Comprehensive Annual Financial Report (CAFR)
UnUnbl_tex	Unreserved Undesignated Fund Balance as a share of Total Expenditures (Unreserved Undesignated Fund Balance in the General Fund Balance / Total Expenditure) x 100	Comprehensive Annual Financial Report (CAFR)
Un_tex	Unreserved Fund Balance as a share of Total Expenditures [(Unreserved Designated + Unreserved Undesignated Fund Balance in the General Fund)/ Total Expenditures] x 100	Comprehensive Annual Financial Report (CAFR)

Table 3.1
(Continued)

Variables	Definitions	Sources
Nent.Trns_Nent. Income	Net Enterprise Transfers as a share of Net Enterprise Income [(Transfers In - Transfers Out)/Net Enterprise Income] x 100	Comprehensive Annual Financial Report (CAFR)
IntgvtRev_pc	Intergovernmental Revenues per capita (Intergovernmental Revenues/Population) x 100	Comprehensive Annual Financial Report (CAFR)
PropTax_pc	Property Taxes per capita (Property Taxes/Population) x 100	Comprehensive Annual Financial Report (CAFR)
SalesTax_pc	Sales Taxes per capita (Sales Taxes/Population) x 100	Comprehensive Annual Financial Report (CAFR)
Debt_pc	Debt per capita (Debt/Population) x 100	Comprehensive Annual Financial Report (CAFR)
Population (log)	Number of population Log(Population)	U.S. Census Bureau
Nonwhite	Percent of Nonwhite population	U.S. Census Bureau
Education	Level of Education	U.S. Census Bureau
Income_pc	Income per capita (Income/Population) x 100	U.S. Census Bureau
Unemprate	Unemployment Rate	U.S. Census Bureau
Undeighteen	Percent of population under age 18	U.S. Census Bureau
Ovsixtyfive	Percent of population over 65	U.S. Census Bureau

Table 3.1
(Continued)

Variables	Definitions	Sources
Metro_2006	Dummy for Metropolitan status for year 2006 If city inside the metropolitan area coded 1, others 0	U.S. Census Bureau
Metro_2007	Dummy for Metropolitan status for year 2007 If city inside the metropolitan area coded 1, others 0	U.S. Census Bureau
Metro_2008	Dummy for Metropolitan status for year 2008 If city inside the metropolitan area coded 1, others 0	U.S. Census Bureau
Gvt_Form_2006	Dummy for Government Form for year 2006 If council-manager city coded 1, others 0	Comprehensive Annual Financial Report (CAFR)
Gvt_Form_2007	Dummy for Government Form for year 2007 If council-manager city coded 1, others 0	Comprehensive Annual Financial Report (CAFR)
Gvt_Form_2008	Dummy for Government Form for year 2008 If council-manager city coded 1, others 0	Comprehensive Annual Financial Report (CAFR)
Year_2006	Dummy Year 2006 If year 2006 coded 1, others 0	
Year_2007	Dummy Year 2007 If year 2007 coded 1, others 0	
Year_2008	Dummy Year 2008 If year 2008 coded 1, others 0	

Table 3.1 presents definitions for each of the variables included in this study as well as the variables' source. To test the effects of net enterprise transfers expressed as a share of net enterprise income on Georgia's local governments this study used two dependent variables: per capita total expenditures and per capita own-source revenues. To examine the effects of total net enterprise fund transfers on local fund balance, the proposed model focused on five dependent variables representing different portions of fund balance: total general fund balance, reserved, unreserved designated, unreserved undesignated, and total unreserved fund balance expressed as a percentage of total governmental expenditures. All the dependent variables were collected from Comprehensive Annual Financial Reports (CAFR) of the examined local governments.

The independent variables of this dissertation, following previous studies, include fiscal factors, socio-economic factors, demographics, and governance structure characteristics. Net enterprise transfers expressed as a percentage of net enterprise income, intergovernmental revenues, property taxes, sales taxes, and debt per capita represent fiscal factors and were collected from Comprehensive Annual Financial Reports (CAFR). Income per capita and unemployment rate describe socio-economic factors and were collected from U.S. Census Bureau. Likewise demographic variables including population, ethnic diversity, percent of teen population, percent of senior population, and education level were collected from U.S. Census Bureau.

Part of the dummy variables used in this study represents government structure characteristics. This includes form of government and metropolitan status.

Two major forms were observed among Georgia local governments: council-manager and council-mayor. The government form dummy variable was coded 1 if council-manager form was observed and 0 otherwise. Regarding the metropolitan status dummy variable, if a local government was inside the metropolitan area it was coded 1 and 0 otherwise. To capture time effects year dummies have been employed for 2006, 2007, and 2008.

Statistical Methods

To examine the impact of total net enterprise fund transfers on total expenditures and own-source revenues per capita, and on different portions of general fund balance, a panel dataset stretching from 2005 until 2009 for all Georgia cities with population greater than 5,000 has been developed. Although the initial sample included 110 Georgia city governments with population over 5,000, ten cities were removed since they did not offer a CAFR for one or more of the examined years. A variety of different techniques may be used to estimate this study's equations. However, the selected technique should be able to handle any problems afflicting the models of this study (Yaffee, 2003). The statistical method used to estimate the proposed models should take into account three key considerations. First, the White's test indicated that the models of this study suffer from heteroskedasticity. Second, the Durbin-Watson d statistics indicated the existence of positive serial correlation.

Third, the financial data used in this study included several outliers. Identifying the reasons outliers exist in the data is important since it determines the preferred action (Osborne & Overbay, 2004). "Where outliers are illegitimately included in the data, it is only common sense that those data points should be

removed" (Barnett & Lewis, 1994). In this study outliers were legitimate since they occurred due to the inherent variability of the data. When outliers are legitimate, the data would be more representative if outliers are not excluded from the analysis (Orr, Sackett, & Dubois, 1991). However, the non-normal data have been transformed into logarithmic values after normality tests (histograms, skewness and kurtosis tests, Kolmogorov-Smirnov test, and Shapiro-Wilk test) indicated a moderate positive skew.

Heteroskedasticity and autocorrelation are very common in economic, financial, and accounting studies (Froot, 1989). Such studies require sophisticated estimation techniques especially when they employ panel data with a large number of cases but few time-series observations; a small number of cross-sections will produce inefficient estimates (Froot, 1989; Yaffee, 2003; Greenberg, 2003). With datasets of these dimensions and with homoskedastic and dependent errors it is impractical to implement standard techniques (Froot, 1989). Therefore, a simple OLS regression seems not to be the most efficient technique as it requires independent and homoskedastic errors (Sefcik & Thompson, 1986; Bernard, 1986; Froot, 1989; Yaffee, 2003).

The difficulty addressing the above issues has led scholars to use techniques that ignore autocorrelation or heteroskedasticity (Brown and Warner, 1980; Shipper and Thompson, 1982; 1983; Collins and Dent, 1984; Christie, 1985; Maladesta and Thompson, 1985; Maladesta, 1986). For example many studies employ feasible generalized least squares (EGLS or FGLS) addressing heteroskedasticity (Froot,

1989), while others utilize GLS with robust error estimation or first differences, which deal with autocorrelation (Wooldridge, 2002).

The preferred method for this study is two-step general methods of moments (2SGMM) with robust standard errors. Arellano, Bond, and Bover have developed one and two step general methods of moments (GMM) estimators for panel data analysis, which produces robust estimations even when heteroskedasticity, autocorrelation, and non-normality coexist (Froot, 1989; Wooldridge, 2002; Yaffee, 2003). Heteroskedasticity was addressed by estimating the model with robust standard errors. Although five years of actual data exist, the models are estimated using four years because all dependent variables were lagged by one year (t-1). Lagging variables is a feature of general methods of moments and is believed to accommodate autocorrelation.

The two-step estimator is preferred over the one step due to its ability to increase asymptotic efficiency, better accommodate outliers, and reduce their impact on the analysis (Froot, 1989). While the one step-estimator gives equal weight to each data point, the two-step estimator weighs data according to their precision; “an observation with a relatively small squared residual gets greater than equal weight” (Froot, 1989).

Finally, the statistical methods used for this study required all time-constant variables to be transformed. Therefore, governance structure and metropolitan status were expressed as interactions with year dummies for 2006, 2007, and 2008. This transformation enables the model to examine whether returns of governance structure and metropolitan status were constant over time (Wooldridge, 2006). Last, to capture

time effects in Georgia's local finances dummy variables for years 2006, 2007, and 2008 were established.

Summary

This chapter provided a discussion regarding this dissertation's research questions, hypotheses, research models, variables, data collection, and analysis. To test the effect of net enterprise transfers on government spending and revenue patterns of Georgia's local governments, this study uses two dependent variables: total expenditures and own-source revenues per capita. To examine the effects of total net enterprise fund transfers to local fund balance, the proposed model focused on five dependent variables representing different portions of fund balance expressed as percentages of total expenditures. Regarding the independent variables of this dissertation, previous research on state and local finances has illustrated that fiscal characteristics of governments, socio-economic factors, demographics, and governance structure constitute significant factors affecting fund balance, government spending, and revenue patterns.

Although several regression techniques could estimate this study's equations, the existence of heteroskedasticity, autocorrelation, and non-normality required the use of more sophisticated statistical methods. The selected technique employed to examine the impact of total net enterprise fund transfers on Georgia's local finances was two-step general methods of moments (2SGMM) with robust standard errors. According to the relevant statistical literature this technique produces the most efficient estimates. This background provides a solid foundation for future

researchers to duplicate and critique the methods used in this research. The following chapter presents a series of descriptive statistics as well as the findings as derived from the 2SGMM regressions.

CHAPTER 4: RESULTS

Introduction

This study examines the impact of net enterprise transfers on Georgia's local finances. In particular, the effect of net enterprise transfers on governmental spending, revenue patterns, and different general fund balances of 100 Georgia local governments with population greater than 5,000 were explored. The time-period of this study stretches from 2005 to 2009. This chapter reports the findings of this study.

Georgia is among the states with high public enterprise activity as legislation promotes the establishment of municipal enterprises to finance local projects and services (Mitchell, 1996). With the help of descriptive statistics the author attempts to capture the enterprise activity of Georgia municipalities as well as the dependency of these municipalities on public enterprise revenue. Table 4.1 indicates the type and number of enterprise funds that the examined Georgia local governments have reported during the time-period of this study. To better understand enterprise activity in Georgia municipalities Table 4.2 illustrates enterprise funds grouped by city size. Following Rubin (1988), Table 4.3 illustrates enterprise revenue as a percentage of governmental revenue, which could help us examine the level of dependence on enterprise funds.

Once enterprise activity of Georgia municipalities is explored the focus shifts to local fiscal reserve building behavior. Table 4.4 presents average fund balance as a percentage of total expenditures indicating the level of reserves that Georgia

municipalities maintain as part of their fund balance. The examined municipalities are grouped based on population to illustrate differences in fiscal reserve building behavior between small, medium, and large municipalities. Table 4.5 describes the central range of fund balance as a percentage of total expenditures sorted based on population groupings. This measure of central tendency "can be used as a rough guide to establish a target fund balance level based on benchmarks" (Shelton and Tyer, 1999).

Following that, Table 4.6 provides a description of all dependent and independent variables used in this study including definitions, arithmetic means, standard deviation, and minimum and maximum values. The dependent variables of this study include total expenditures per capita, own-source revenues per capita, and all general fund balances (total general, reserved, unreserved designated, unreserved undesignated, total unreserved) expressed as a percentage of total expenditures. Independent variables include fiscal and socio-economic factors, demographics, and governance characteristics.

Tables 4.7 through 4.11 report the regression results of this study. For the purpose of this study, a five-year panel dataset stretching from 2005 to 2009 has been created. The primary statistic employed to examine the impact of total net enterprise fund transfers on Georgia's local finances was two-step general methods of moments (2SGMM) with robust standard errors. The effects of net enterprise transfers on governmental spending and revenue patterns are presented at Tables 4.7 and 4.8 respectively.

Tables 4.9, 4.10, and 4.11 illustrate the models developed to explore the effects of net enterprise transfers on general fund balances (total fund balance, reserved, unreserved, unreserved designated-undesignated). Table 4.9 focuses on total general fund balance, Table 4.10 on reserved and unreserved designated fund balances (restricted fund balances), and Table 4.11 on unreserved undesignated and total unreserved fund balance (unrestricted fund balances).

I. Enterprise Funds of Georgia Municipalities

Table 4.1 identifies all different enterprise funds that Georgia local governments operated from 2005 until 2009. The data indicated that Water and Sewage Enterprises are the most popular among Georgia municipalities. Other common enterprises for Georgia cities include Solid Waste Management, Gas System, Electric Utilities, and Sanitation. Among all different enterprise funds, the aggregate number for Solid Waste Management, Sanitation, Conference Center/Museum Buildings, and Storm Water Management has increased since 2005. Further, the total number of enterprise funds has also increased since 2005 by six percent. In 2009, a period of great financial uncertainty, enterprise funds reached their highest number emphasizing their significance for municipal finances.

Table 4.1
Number of Enterprise Funds for Fiscal Years 2005 through 2009

Enterprise Funds/Year	**2005**	**2006**	**2007**	**2008**	**2009**
Water & Sewage	71	77	63	68	62
Solid Waste	28	28	29	32	32
Gas System	22	25	19	23	20
Electric Utilities	20	18	18	19	17
Sanitation	17	18	17	20	23
Network Communication/Cable	8	7	4	6	7
Conference Center/Museum/Buildings	8	8	8	6	10
Airport/Marina	7	7	6	8	5
Storm Water Management	7	8	11	10	12
Utilities	6	6	6	5	6
Golf Course	4	4	4	2	6
Other	8	11	8	18	18
Total	**206**	**217**	**193**	**217**	**218**

Source: Comprehensive Annual Financial Reports (CAFR)

To better examine the trend of enterprise funds, all types of enterprises were grouped based on city population for each year of this study. The data from Table 4.2 shows that all cities with population greater than 10,000 have more enterprise funds in 2009 than in 2005. Totals of Electric Utilities, Sanitation, Conference Center/Museum/Buildings, Airport/Marina, and Storm Water Management Funds have reached their highest number in 2009 since 2005. In 2009, there was an increase in both Electric Utilities and Conference Center /Museum/ Buildings in all city groupings. Regarding Sanitation Funds, an increase is observed for all city population groupings but the first one: cities with populations between 5,000 and 9,999. In 2009, cities with populations greater than 25,000 operate more Airport/Marina Funds than in 2005. Finally, in 2009 all cities besides the ones with population between 10,000 and 24,999 operate more Storm Water Management Utilities than in 2005.

Table 4.2
Enterprise Funds Grouped by City Size for Fiscal Years 2005 through 2009

Year	Population	Water & Sewage	Solid Waste	Gas System	Electric Utilities	Sanitation	Network Com./ Cable
	5,000 to 9,999	26	8	8	1	10	3
2005	10,000 to 24,999	31	11	9	10	12	4
	25,000 to 49,999	7	1	2	3	4	1
	50,000 or more	7	2	1	3	2	0
	5,000 to 9,999	28	9	7	3	8	3
2006	10,000 to 24,999	31	12	8	9	13	4
	25,000 to 49,999	7	2	2	3	4	0
	50,000 or more	11	2	1	3	3	0
	5,000 to 9,999	23	6	7	2	8	3
2007	10,000 to 24,999	27	9	8	8	14	1
	25,000 to 49,999	6	2	2	3	4	0
	50,000 or more	7	2	1	4	3	0
	5,000 to 9,999	25	8	7	4	10	2
2008	10,000 to 24,999	30	12	9	9	14	4
	25,000 to 49,999	6	1	2	3	4	0
	50,000 or more	7	2	1	4	4	0
	5,000 to 9,999	21	5	7	5	8	3
2009	10,000 to 24,999	29	12	7	10	15	3
	25,000 to 49,999	6	1	2	4	5	0
	50,000 or more	6	2	1	4	4	1

Table 4.2
(continued)

Year	Population	Conf. Center/ Museum/Build.	Airport/ Marina	Storm Water Mngt.	Public Utilit.	Golf Course	Other	Total
	5,000 to 9,999	2	1	1	3	3	3	69
2005	10,000 to 24,999	5	4	2	1	2	3	94
	25,000 to 49,999	0	1	0	0	1	0	20
	50,000 or more	0	2	1	3	0	2	23
	5,000 to 9,999	3	1	1	3	3	4	73
2006	10,000 to 24,999	4	3	1	1	2	4	92
	25,000 to 49,999	1	2	0	0	1	1	23
	50,000 or more	0	2	2	3	0	2	29
	5,000 to 9,999	3	1	1	1	2	2	59
2007	10,000 to 24,999	5	3	1	2	3	2	83
	25,000 to 49,999	2	2	0	0	1	2	24
	50,000 or more	1	2	2	3	0	2	27
	5,000 to 9,999	2	0	1	2	2	3	66
2008	10,000 to 24,999	4	2	1	2	2	5	94
	25,000 to 49,999	3	2	0	0	1	3	25
	50,000 or more	1	2	0	4	0	7	32
	5,000 to 9,999	3	1	2	1	3	2	61
2009	10,000 to 24,999	6	3	1	2	3	8	99
	25,000 to 49,999	2	3	1	1	0	4	29
	50,000 or more	1	3	2	1	0	4	29

Source: Comprehensive Annual Financial Reports (CAFR)

Tables 4.1 and 4.2 illustrate a great variation in the number and types of enterprises that are operated by Georgia municipalities. However, to better understand the level of dependence on enterprise funds, one needs to observe the ratio between enterprise and governmental revenue (Rubin, 1988). A ratio greater than one indicates higher dependence on enterprise revenues while a ratio less than one shows greater reliance on governmental revenues.

According to Table 4.3, in 2009 less populated cities depended more on enterprise revenues than larger municipalities. Although for years 2005 and 2006 the ratios for smaller municipalities are stable, for years 2006 through 2009 a dramatic change is observed. This constant increase of the ratio between enterprise revenue and governmental revenue for smaller municipalities could indicate a decrease in traditional government revenues (e.g. sales and property taxes) and an increase in non-traditional revenues (e.g. user charges and fees). It seems that the economic recession has hurt traditional revenue sources.

Table 4.3
Enterprise Revenues Expressed as a Percent of Governmental Revenue

Population Size	2005	2006	2007	2008	2009
5,000 to 9,999	1.58	1.59	1.68	1.81	1.95
10,000 to 24,999	1.45	1.47	1.23	1.24	1.27
25,000 to 49,999	0.95	0.89	0.85	1.06	1.25
50,000 or more	0.89	1.02	0.77	0.8	0.7

Source: Comprehensive Annual Financial Reports (CAFR)

II. General Fund Balance of Georgia Municipalities

Table 4.4 provides information on all different portions of general fund balance expressed as percentages of total expenditures for all the examined local governments for fiscal year 2005 through 2009. The data in Table 4.4 shows that Georgia cities maintained much higher levels of total general, unreserved undesignated, and total unreserved fund balance as a percentage of total expenditures than the 5% rule of thumb. This finding suggests that Georgia municipalities keep large pools of slack resources as part of their unrestricted general fund balances. Further, the averages indicate that size matters. Cities with population greater than 50,000 retain smaller total general, unreserved undesignated, and total unreserved fund balances thus validating previous findings (see Shelton and Tyer, 1999).

On the contrary, when examining reserved and unreserved designated fund balances, Table 4.4 indicates that cities with population over 50,000 reserve more funds for specific purposes. Last, Table 4.4 illustrates that all Georgia local governments, except the ones with population greater than 50,000, have decreased their levels of reserved and unreserved designated fund balances since 2005. The economic uncertainty of our present era has urged local governments to keep higher unrestricted fund balances (total general, unreserved undesignated, and total unreserved). Funds with no legal or political restrictions add financial flexibility as they enable municipalities to use them according to their needs.

Table 4.4
Average General Fund Balances as a Percent of Total Expenditures

Average for	Population Size/Year	2005	2006	2007	2008	2009
Total General Fund Balance	5,000 to 9,999	46%	51%	58%	53%	59%
	10,000 to 24,999	55%	69%	57%	58%	48%
	25,000 to 49,999	54%	48%	51%	48%	49%
	50,000 or more	31%	29%	36%	34%	32%
Reserved Fund Balance	5,000 to 9,999	2%	3%	2%	3%	3%
	10,000 to 24,999	8%	8%	10%	6%	6%
	25,000 to 49,999	12%	8%	7%	7%	7%
	50,000 or more	3%	3%	2%	2%	11%
Unreserved Designated Fund Balance	5,000 to 9,999	0%	2%	0%	0%	0%
	10,000 to 24,999	4%	5%	2%	3%	2%
	25,000 to 49,999	7%	7%	4%	4%	1%
	50,000 or more	4%	3%	6%	6%	7%
Unreserved Undes. Fund Balance	5,000 to 9,999	44%	46%	56%	50%	54%
	10,000 to 24,999	43%	56%	44%	50%	40%
	25,000 to 49,999	35%	33%	41%	37%	41%
	50,000 or more	25%	23%	28%	26%	20%
Total Unreserved Fund Balance	5,000 to 9,999	44%	48%	56%	50%	54%
	10,000 to 24,999	47%	61%	47%	52%	42%
	25,000 to 49,999	42%	40%	44%	41%	43%
	50,000 or more	29%	26%	34%	32%	26%

Source: Comprehensive Annual Financial Reports (CAFR)

Another way to analyze the results is using a measure of central tendency called “the central range” (Shelton and Tyer, 1999). To calculate the central range shown in Table 4.5, the average fund balance as a percentage of total expenditures was sorted based on population so that half of each grouping falls between the 25th and 75th percentiles. In other words, the central range identifies which groups fall inside and outside of a range. In 2005, for instance, half of the cities in this population group maintained a fund balance between 16 and 67 percent.

One interpretation of the data is that certain city groupings are more fiscally sound in 2005, while others in 2009. For example, central ranges for cities with populations greater than 50,000 have increased since 2005 indicating better financial condition. On the contrary, the fiscal condition of cities with populations between 10,000 and 24,999 has declined in 2009 as their central ranges have decreased. Cities with populations less than 10,000 have higher central ranges in 2009 for total general and reserved fund balances, while cities with populations between 25,000 and 49,999 have higher central ranges for unreserved undesignated and total unreserved fund balances.

Table 4.5
General Fund Balances Central Range as a Percent of Total Expenditures

Central Range for	Population Size/Year	2005	2006	2007	2008	2009
Total General Fund Balance	5,000 to 9,999	16-67%	20-79%	27-71%	27-75%	28-89%
	10,000 to 24,999	20-77%	19-92%	19-80%	18-71%	18-66%
	25,000 to 49,999	22-76%	25-70%	30-70%	18-68%	20-72%
	50,000 or more	14-42%	14-52%	16-53%	9-50%	13-47%
Reserved Fund Balance	5,000 to 9,999	0-2%	0-3%	0-3%	0-3%	0-3%
	10,000 to 24,999	0-4%	0-4%	0-6%	0-4%	0-3%
	25,000 to 49,999	1-5%	1-4%	1-5%	1-4%	0-1%
	50,000 or more	1-5%	1-4%	1-3%	1-5%	1-14%
Unreserved Designated Fund Balance	5,000 to 9,999	0%	0%	0%	0%	0%
	10,000 to 24,999	0%	0%	0%	0%	0%
	25,000 to 49,999	0-1%	0-7%	0-2%	0-6%	0-2%
	50,000 or more	0%	0-0.5%	0-3%	0-3%	0-8%
Unreserved Undes. Fund Balance	5,000 to 9,999	15-64%	19-67%	27-64%	26-72%	27-75%
	10,000 to 24,999	13-53%	16-71%	10-53%	13-62%	14-53%
	25,000 to 49,999	14-55%	19-46%	19-65%	9-67%	8-70%
	50,000 or more	14-38%	13-45%	15-49%	8-40%	6-33%
Total Unreserved Fund Balance	5,000 to 9,999	15-64%	20-67%	27-64%	26-72%	27-75%
	10,000 to 24,999	14-64%	17-87%	10-57%	13-63%	15-59%
	25,000 to 49,999	21-65%	20-60%	20-65%	14-67%	10-70%
	50,000 or more	14-39%	13-51%	15-52%	9-50%	13-40%

Table 4.6 presents descriptive statistics for each one of the variables included in this study. Although the initial sample included 110 Georgia city governments with population over 5,000, ten cities were removed since they did not offer a CAFR for one or more of the examined years. To test the expenditure or substitution effect of net enterprise transfers on Georgia's local governments this study used two dependent variables: per capita total expenditures and per capita own-source revenues. To examine the effects of total net enterprise fund transfers to local fund balance, the proposed model focused on five dependent variables representing different portions of fund balance: total general fund balance, reserved, unreserved designated, unreserved undesignated, and total unreserved fund balance expressed as a percentage of total governmental expenditures.

The independent variables of this dissertation, following previous studies, include fiscal and socio-economic factors, demographics, and governance structure characteristics. Net enterprise transfers expressed as a percentage of net enterprise income, intergovernmental revenues, property taxes, sales taxes, and debt per capita represent fiscal factors; income per capita and unemployment rate socio-economic factors; and population, ethnic diversity, percent of teen population, percent of senior population, and education level describe demographics. Part of the dummy variables used in this study represents government structure characteristics. This includes form of government and metropolitan status. To capture time effects, year dummy variables have been employed.

According to Table 4.6, environments vary from city to city. For example, the total fund balance as a share of total governmental expenditures vary from –14.5 to 273 percent, the reserved general fund balance from 0 to 111 percent, the unreserved designated fund balance from 0 to 88 percent, and the unreserved undesignated fund balance from –18.5 to 273 percent. Negative fund balances in these funds are possible since fiscally stressed municipalities employ deficit spending to restore their fiscal health (Marlowe, 2004).

Table 4.6
Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min.	Max.
Total Expenditures per capita	500	904.94	387.33	15.57	2927.13
Own-Source Revenues per capita	500	755.64	386.51	9.37	4723.72
Total General Fund Balance/ Total Expenditures	500	39.36	36.55	-14.49	273.05
Reserved Fund Balance/ Total Expenditures	500	4.38	11.87	0.00	111.12
Unreserved Designated Fund Balance/Total Expenditures	500	1.79	7.58	0.00	88.38
Unreserved Undesignated Fund Balance/Total Expenditures	500	33.23	34.98	-18.55	273.05
Total Unreserved Fund Balance/ Total Expenditures	500	35.02	35.41	-18.55	273.05
Net Enterprise Transfers/ Net Enterprise Income	500	-53.30	1158.46	-23520.02	4872.02
Intergovernmental Revenues per capita	500	79.97	99.92	0.00	891.39
Property Taxes per capita	500	202.39	153.89	0.00	927.54
Sales Taxes per capita	500	174.57	120.14	0.00	871.26
Debt per capita	500	41.20	56.71	0.00	527.89
Population	500	29108.03	53463.63	5031.00	477300.00
Percent of Nonwhite population	500	46.20	18.58	7.40	90.10
Level of Education	500	76.99	9.54	53.70	96.90
Income per capita	500	21927.03	7529.51	12012.00	47198.00
Unemployment Rate	500	6.94	3.11	0.90	17.50
Population Under 18	500	26.95	3.51	14.25	34.81
Population Over 65	500	11.43	4.28	3.10	20.69
Dummy MSA 2006	500	0.14	0.34	0.00	1.00
Dummy MSA 2007	500	0.14	0.34	0.00	1.00
Dummy MSA 2008	500	0.14	0.34	0.00	1.00
Dummy Government Form 2006	500	0.16	0.37	0.00	1.00
Dummy Government Form 2007	500	0.16	0.37	0.00	1.00
Dummy Government Form 2008	500	0.16	0.37	0.00	1.00
Dummy Year 2006	500	0.20	0.40	0.00	1.00
Dummy Year 2007	500	0.20	0.40	0.00	1.00
Dummy Year 2008	500	0.20	0.40	0.00	1.00

III. The Impact of Net Enterprise Transfers on Governmental Spending and Revenue Patterns

Several studies on municipal finances noted that enterprise transfers impacted governmental spending (expenditure effect) and revenue patterns (substitution effect) (DeHoog & Swanson, 1988; Tyer, 1989). For example, when DiLorenzo (1982) and Tyer (1989) studied the impact of public enterprises in New York cities and South Carolina cities respectively, they concluded that municipalities transfer resources from their enterprise funds to substitute for their own-source revenues and boost governmental spending. It would be erroneous though, to base our knowledge regarding the impact of public enterprises on local finances on previous studies as their methodology and research models are poorly constructed. The conclusions of these early studies derive from simple T-test comparisons or single year OLS regression models. Further, it is questionable whether the variables used in the research models have captured the full effect of enterprise transfers on municipal finances.

Therefore, this dissertation explores the impact of net enterprise transfers on spending behaviors and revenue patterns of Georgia's local governments using a panel dataset stretching from 2005 to 2009. This study used two-step GMM regression (2SGMM) and robust standard errors to estimate the relationship between dependent and independent variables. To examine the effects of net enterprise transfers on governmental spending and revenue patterns two dependent variables were used; total governmental expenditures per capita and own-source revenues per capita. Following the literature, it is hypothesized that net enterprise transfers increase the spending level (expenditure

effect) of Georgia's municipalities. In addition, municipalities with enterprise transfers are expected to substitute for their own-source revenues (substitution effect).

Tables 4.7 and 4.8 reveal that net enterprise transfers have developed significant associations with both total expenditures and own-source revenues per capita. The literature indicated that enterprise transfers caused an increase in governmental spending (expenditure effect). Following this literature, it is hypothesized that net enterprise transfers would cause an expenditure effect. Surprisingly, the association between net enterprise transfers and total expenditures has negative direction contradicting the findings of earlier studies. Although small in magnitude, total net enterprise fund transfers have an inverse statistically significant association with total governmental expenditures. This finding suggests a "siphoning effect" of enterprise transfers on governmental spending; the higher the enterprise transfers the lower the governmental spending.

The regression estimates also reveal a positive statistical significant association between intergovernmental revenues per capita and governmental expenditures per capita. This finding is consistent with the argument that as intergovernmental revenues increase, governmental spending increases thus validating DiLorenzo's (1982), and Deno and Mehay's (1988) previous findings. The findings further suggest that for every 1 percent increase in intergovernmental revenues total governmental expenditures increase by 0.19 percent.

Both property taxes and sales taxes per capita have developed statistically significant associations with governmental expenditures per capita. As expected, property taxes per capita developed positive associations with governmental expenditures per

capita. For every 1 percent increase in property taxes per capita governmental spending increases by 0.17 percent. On the other hand, sales taxes per capita developed a negative statistically significant association with governmental expenditures per capita. In fact, for every 1 percent increase in sales taxes per capita total governmental spending decreases by 0.033 percent.

Debt per capita, income per capita, and unemployment rate developed negative associations with governmental expenditures per capita. However, statistical significance exists only between income per capita, unemployment rate, and total governmental expenditures per capita. Income per capita has a negative effect on both total governmental expenditures and own-source revenues per capita confirming DiLorenzo's previous findings. In fact, for every 1 percent increase of income per capita total governmental expenditures per capita decrease by 0.085 percent. Further, the results indicate that for every 1 percent increase of unemployment rate total governmental expenditures per capita decrease by 0.012 percent.

Other variables of significant interest include metropolitan status and year dummies. The regression estimates indicate that metropolitan municipalities have higher spending needs than non-metropolitan. However, this finding is statistically significant only for year 2008. Last, the year dummies indicate negative associations with governmental spending for years 2006 and 2008.

Table 4.7
Arellano, Bond, and Bover Two-Step General Methods of Moments

	Total Expenditures per capita	
Variable	**Coef**	**z-Stat**
Net Enterprise Transfers/ Net Enterprise Income	-5.46e-06*	-1.82
Intergovernmental Revenues per capita	0.0198**	-2.26
Property Taxes per capita	0.1718***	4.46
Sales Taxes per capita	-0.0333*	-1.66
Debt per capita	-0.0063	-0.6
Population	-0.3354	-1.06
Percent of Nonwhite population	-0.0028	-1.22
Level of Education	0.0066	-0.89
Income per capita	-0.0853*	-1.62
Unemployment Rate	-0.0126**	-2.57
Population Under 18	0.0127	-0.11
Population Over 65	0.0119	-0.29

Table 4.7
(continued)

	Total Expenditures per capita	
Variable	**Coef**	**z-Stat**
MSA 2006	0.0385	-1.19
MSA 2007	0.0062	-0.17
MSA 2008	0.044*	-1.55
Gov. Form 2006	0.0287	-0.72
Gov. Form 2007	-0.0585	-1.28
Gov. Form 2008	0.0344	-0.95
Year 2006	-0.0809	-1.31
Year 2007	0.0319	-0.49
Year 2008	-0.0812*	-1.55
Constant	1.2134	
St. Error	3.6766	
N	264	
Wald χ^2	299.70	
P > χ^2	0.0000	

Regarding the impact of net enterprise transfers on own-source revenues of Georgia municipalities, Table 4.8 indicates a positive statistically significant association contradicting previous findings and the author's expectations. Although the literature on public enterprises indicated that enterprise transfers substitute for own-source revenues (substitution effect), the regression estimates reveal an additive effect. Georgia local governments utilize their enterprise transfers to boost their own-source revenues; the higher the enterprise transfers are, the higher the own-source revenues.

A strong negative statistically significant association is identified between intergovernmental revenues and own-source revenues per capita. Specifically, the results indicate that for every 1 percent increase in intergovernmental revenues per capita a 0.15 percent decrease in own-source revenues follows. In addition, both property taxes and sales taxes per capita developed statistically significant associations with own-source revenues per capita. As expected, property taxes per capita developed positive associations with own-source revenue per capita. For every 1 percent increase in property taxes per capita total own-source revenues increase by 0.14 percent. Likewise, sales taxes per capita developed a positive statistically significant association with own-source revenues. The regression estimates reveal that for every 1 percent increase in sales taxes per capita own-source revenues increase by 0.07 percent.

Debt per capita, income per capita, and unemployment rate developed negative associations with own-source revenues per capita validating previous findings. However, statistical significance exists only between income per capita and own-source revenues. Income per capita has a negative effect on own-source revenues per capita confirming

DiLorenzo's previous findings. In fact, for every 1 percent increase of income per capita own-source revenues decrease by 0.039 percent.

Other variables of significant interest include ethnic diversity, education level, metropolitan status, and year dummies. Ethnic diversity has negative associations with both governmental expenditures and own-source revenues. However, only the association between ethnic diversity and own source revenues is statistically significant. Likewise, education level developed a negative statistically significant association with own-source revenues per capita. According to Table 4.8, a 1 percent increase in education level resulted in 0.015 decrease in own-source revenues.

Regarding the association between metropolitan status and own source revenues, the regression estimates revealed both negative and positive directions. For years 2006 and 2007, metropolitan status of the examined local governments has a positive impact with own source revenues, while opposite results appear for year 2008. Last, the year dummy variables indicate negative associations with own-source revenues for years 2006 and 2007.

Table 4.8
Arellano, Bond, and Bover Two-Step General Methods of Moments

	Own Source Revenues per capita	
Variable	**Coef**	**z-Stat**
Net Enterprise Transfers/ Net Enterprise Income	4.14e-06*	-1.72
Intergovernmental Revenues per capita	-0.0154***	-3.28
Property Taxes per capita	0.1397***	-3.42
Sales Taxes per capita	0.0709***	-4.26
Debt per capita	-0.0052	-0.79
Population	-0.2576	-1.42
Percent of Nonwhite population	-0.0035**	-2.53
Level of Education	-0.0152**	-2.57
Income per capita	-0.0391*	-1.86
Unemployment Rate	-0.0032	-1.37
Population Under 18	-0.1914	-0.88
Population Over 65	-0.0586	-0.22

Table 4.8
(continued)

	Own Source Revenues per capita	
Variable	**Coef**	**z-Stat**
MSA 2006	0.0011	-0.04
MSA 2007	0.0078	-0.45
MSA 2008	-0.0068	-0.51
Gov. Form 2006	0.0227	-0.55
Gov. Form 2007	0.0137	-0.76
Gov. Form 2008	0.0049	-0.34
Year 2006	-0.1179**	-2.21
Year 2007	-0.061**	-1.98
Year 2008	-0.0261	-1.04
Constant	10.9373	
St. Error	5.761783	
N	264	
Wald χ^2	1464.14	
$P > \chi^2$	0.0000	

IV. The Impact of Net Enterprise Transfers on General Fund Balances

The impact of public enterprises on total expenditures and own-source revenues also indicates effects on general fund balance. Since enterprise transfers constrain total expenditures and boost own-source revenues, a positive relationship is expected to develop between enterprise transfers and general fund balance enabling Georgia municipalities to establish fiscal reserves. Therefore, the focus now shifts to the impact of net enterprise transfers on general fund balance.

General fund balances have a different purpose; hence it is important to examine all general fund balances to better understand fiscal reserve building behavior. For example, reserved fund balance may be used for purposes such as debt service, pre-paid items, capital asset resale or even as a "rainy day fund" providing resources in tough financial times. Likewise, the unreserved designated fund balance carries some restrictions, which confine its use. Designations though, are not legal restrictions but elected officials' promises or managerial commitments. The remaining fund balance, which is neither reserved nor designated, is known as "unreserved undesignated fund balance." This fund balance includes portions that are free of any restrictions and can be used for any purpose government desires.

To examine the impact of total net enterprise fund transfers on different portions of general fund balance, a panel dataset stretching from 2005 until 2009 for all Georgia cities with population greater than 5,000 has been developed. The preferred statistical method is two-step general methods of moments (2SGMM) with robust standard errors. Five different hypotheses have been established, one for each fund balance. It is expected that a positive relationship is developed between net enterprise transfers and all general

fund balances: total general, reserved, unreserved designated, unreserved undesignated, and total unreserved fund balance.

Tables 4.9, 4.10, and 4.11 illustrate the models developed to explore the effects of net enterprise transfers on general fund balances (total fund balance, reserved, unreserved, unreserved designated-undesignated). Table 4.9 focuses on total general fund balance, Table 4.10 on reserved and unreserved designated fund balances (restricted fund balances), and Table 4.11 on unreserved undesignated and total unreserved fund balance (unrestricted fund balances). Although different portions of fund balance show different directions and statistical magnitude, more emphasis is placed on total general fund balance as the fund financing government general activities.

Table 4.9 indicates a positive statistically significant relationship between total general fund balance and net enterprise transfers. Although small in magnitude, net enterprise transfers boost total general fund balance confirming the author's hypothesis; as net enterprise transfers increase, total general fund balance increases. Georgia municipalities use their enterprises to increase their total general fund balance and establish fiscal reserves as part of this fund balance.

Other fiscal variables of significant interest are intergovernmental revenues and property taxes per capita. The volatility of intergovernmental revenues, which are based on the discretion of state and federal officials, causes governments to keep high fund balances (Marlowe, 2005). Surprisingly, intergovernmental revenues per capita developed a negative association with total general fund balance, contradicting the author's expectations. However, this finding is consistent with Hendrick's (2006) study, according to which Chicago municipalities relying heavily on intergovernmental

revenues retained smaller fund balances. An explanation for this unusual behavior could be that Georgia municipalities are not fully aware of the risk involved in elastic types of income such as income and sales taxes and intergovernmental revenues. According to Hendrick, if municipalities were aware of this risk the relationship between intergovernmental revenues and fund balance would be positive.

Previous research on state and local finances has illustrated that fiscal characteristics of governments constitute a significant factor affecting fund balance. Wolkoff (1987), for instance, indicated that jurisdictions built reserves based on the composition of their revenue sources. That is, governments with more elastic revenues (e.g. income and sales tax) are likely to keep higher fund balance levels than governments with inelastic revenue sources (e.g. property tax). Following this literature, property taxes per capita in this dissertation have a negative statistically significant association with total general fund balance. The findings further suggest that for every 1 percent increase in property taxes total general fund balance decreases by approximately 1 percent.

Regarding demographic variables, population and percent of nonwhite population have developed significant associations with total general fund balance. According to Table 4.9, population has negative associations with total general fund balance validating the author's expectations and previous findings. Specifically, the results indicated that for every 1 percent increase in population, the total general fund balance decreased by 1.4 percent. Surprisingly, the regression estimates reveal that ethnic diversity affects positively total general fund balance. This finding contradicts Marlowe (2004) who found a negative relationship between the level of fund balance and ethnic diversity. While Marlowe (2004) assumed that communities with large percentages of nonwhite

population focus more on short-term rather than long-term planning, this dissertation suggests the opposite; communities with high ethic populations focus on long-term planning by saving resources in their total general fund balance.

Last, the only dummy variable with significant effects on total general fund balance is governance structure. The findings suggest that professional local governments (council-manager form) keep higher levels of total general fund balances. Specifically, in 2006 and 2007, professional governments increased their total general fund balance. This finding is consistent with the author's hypothesis and previous literature. Hendrick (2006), for example, found in her study that in Illinois, more sophisticated local governments generated more slack than less sophisticated ones.

Table 4.9
Arellano, Bond, and Bover Two-Step General Methods of Moments

	Tot. Gen. Fund Balance/ Total Expenditures	
Variable	**Coef**	**z-Stat**
Net Enterprise Transfers/ Net Enterprise Income	8.42e-06**	2.3
Intergovernmental Revenues per capita	-0.04**	-2.45
Property Taxes per capita	-0.0921***	-4.48
Sales Taxes per capita	0.0448	1.17
Debt per capita	-0.0123	-0.82
Population	-1.4013***	-3.66
Percent of Nonwhite population	0.0075*	1.64
Level of Education	0.0092	0.87
Income per capita	-0.0970	-1.16
Unemployment Rate	0.0121	1.33
Population Under 18	-0.1152	-0.25
Population Over 65	0.0176	0.11

Table 4.9
(continued)

	Total Fund Balance/ Total Expenditures	
Variable	**Coef**	**z-Stat**
MSA 2006	-0.0431	-0.42
MSA 2007	0.0488	0.61
MSA 2008	0.0224	0.32
Gov. Form 2006	0.2988**	2.14
Gov. Form 2007	0.3032**	2.57
Gov. Form 2008	0.0281	0.4
Year 2006	-0.1797	-1.02
Year 2007	-0.2226	-1.61
Year 2008	-0.0090	-0.08
Constant	10.42	
St. Error	10.90	
N	264	
Wald χ^2	131.53	
$P > \chi^2$	0.0000	

Regarding the restricted general fund balances (reserved and unreserved designated), Table 4.10 indicates some interesting results. The regression estimates reveal that net enterprise transfers develop positive statistical significant association with the most restricted general fund balance: reserved fund balance. This finding is consistent with the argument that as net enterprise transfers increase, reserved fund balance increases. Georgia municipalities seem to prefer boosting reserved fund balances constraining the use of fiscal reserves, instead of unreserved designated fund balances.

On the contrary, intergovernmental revenues per capita developed an inverse relationship with the less restricted fund balance: unreserved designated balance. The negative coefficient of intergovernmental revenue per capita suggests that an increase in intergovernmental revenues resulted in smaller unreserved designated balance contradicting the author's expectations. This was also the case with total general fund balance thus indicating that Georgia municipalities ignore the volatility of intergovernmental funding and become victims of the flypaper effect.

Debt per capita and unemployment rate established positive statistically significant associations with both restricted general fund balances: unreserved designated and reserved fund balance. The positive association between debt per capita and unreserved designated fund balance suggested that the examined Georgia local governments reserved funds for debt repayment under their less restricted fund balance. On the other hand, the positive association between unemployment rate and reserved fund balance indicated a preference of Georgia municipalities with high unemployment rates to build fiscal reserves into their most restricted fund balance.

Several demographic variables developed statistically significant associations with the restricted general fund balances. Specifically, the regression estimates reveal significant associations between ethnic diversity and reserved fund balance. Although small in magnitude, an increase in the percent of nonwhite population decreases reserved fund balance. Further, the findings suggest that increases in the composition of population under 18 increase unreserved designated fund balance. According to Table 4.10, for every 1 percent increase in the percent of teen population (under 18) the unreserved designated fund balance increases by 0.215 percent. Likewise, senior population (over 65) positively affect the less restricted fund balance; unreserved designated fund balance. For every 1 percent increase of senior population, unreserved designated fund balance increased by 0.14 percent. It is clear from the results that Georgia municipalities prefer building reserves for teen and senior populations under less restricted fund balances.

Among all socio-economic variables, the only one of significant interest is level of education. Specifically, level of education is statistically significant with the most restricted fund balance: reserved fund balance. Although small in magnitude, municipalities with high-educated residents were able to build reserves into their reserved fund balances.

Governance structure, metropolitan status, and time also appeared to impact restricted fund balances. The findings suggested that professional local governments (council-manager form) keep lower levels of unreserved designated fund balance for year 2007 and lower reserved fund balance for year 2008. Whether a municipality is inside or outside the metropolitan area seems to have a significant effect only with reserved fund

balance. Perhaps, the greater service needs of metropolitan areas push metropolitan governments into maintaining lower reserved fund balances. The year dummy variables indicated negative associations with all different general fund balances except the more restricted fund balances: reserved and unreserved designated fund balance. In fact, time developed statistically significant associations only with restricted fund balances. Specifically, municipalities kept higher reserved fund balances for 2006, 2007, and 2008 and higher unreserved designated fund balance for year 2007.

Table 4.10
Arellano, Bond, and Bover Two-Step General Methods of Moments

	Reserved Fund Balance/ Total Expenditures		Unres. Des. Fund Balance/ Total Expenditures	
Variable	**Coef**	**z-Stat**	**Coef**	**z-Stat**
Net Enterprise Transfers/ Net Enterprise Income	1.8e-05**	2.48	2.10E-06	0.91
Intergovernmental Revenues per capita	-0.0334	-0.95	-0.0211*	-1.64
Property Taxes per capita	-0.0015	-0.01	-0.01	-0.52
Sales Taxes per capita	0.1483	1.12	-0.0336	-0.97
Debt per capita	-0.0151	-0.41	0.0162*	1.6
Population	-0.3763	-0.42	0.4642	0.99
Percent of Nonwhite population	-0.0127*	-1.61	-0.0007	-0.26
Level of Education	0.0367*	1.59	0.0157	0.81
Income per capita	-0.1554	-0.9	0.0506	0.72
Unemployment Rate	0.0331*	1.86	-0.0027	-0.57
Population Under 18	-0.2577	-0.74	0.2159**	2.23
Population Over 65	0.2267	0.41	0.1408*	1.67

Table 4.10
Arellano, Bond, and Bover Two-Step General Methods of Moments

	Reserved Fund Balance/ Total Expenditures		Unr. Des. Fund Balance/ Total Expenditures	
Variable	**Coef**	**z-Stat**	**Coef**	**z-Stat**
MSA 2006	-0.3194**	-2.1	-0.1968	-0.32
MSA 2007	-0.2795**	-2.06	-0.0247	-0.65
MSA 2008	-0.2768**	-0.012	-0.0247	-0.81
Gov. Form 2006	-0.2113	-1.24	0.0491	0.51
Gov. Form 2007	-0.0569	-0.52	-0.0927*	-1.92
Gov. Form 2008	-0.2268**	-2.33	-0.0366	-1.02
Year 2006	0.4861**	2.51	0.0139	0.1
Year 2007	0.2657*	1.69	0.1108*	1.79
Year 2008	0.3440**	2.64	0.0407	0.95
Constant	4.43		-11.04	
St. Error	12.72		3.37	
N	264		264	
Wald χ^2	85.71		2604.74	
$P > \chi^2$	0		0	

In addition to the effects of net enterprise transfers on total general fund balance and reserved fund balance, they also impact total unreserved fund balance. Specifically, net enterprise transfers developed positive statistically significant associations with total unreserved fund balance. This finding is consistent with the argument that as net enterprise transfers increase total unreserved fund balance increases. Total unreserved fund balance has no restrictions on its use; hence building fiscal reserves as part of this fund balance increases budgetary flexibility of Georgia municipalities.

Intergovernmental revenues per capita have the same association with unrestricted fund balances, as they did with restricted fund balances and total general fund balance. The negative coefficients of intergovernmental revenue per capita suggest that an increase in intergovernmental revenues result in smaller unrestricted general fund balances contradicting the author's expectations. However, intergovernmental revenues developed statistically significant association only with total unreserved fund balance.

Tables 4.9 and 4.10 indicate that property taxes per capita have a negative association with total general fund balance and both restricted fund balances. According to Table 4.11 the direction between property taxes per capita and general fund balances remains negative for both unrestricted fund balances. A statistical significant association is observed between property taxes per capita and both unrestricted fund balances; unreserved undesignated and total unreserved fund balance. The findings further suggest that for every 1 percent increase in property taxes unreserved undesignated, and total unreserved fund balance decrease by approximately 1 percent. These findings confirm the author's hypothesis as well as previous findings. Following the literature, Georgia

municipalities with inelastic revenues sources (e.g. property taxes) are more likely to maintain lower general fund balances.

Population, percent of nonwhite population, and population over 65, and education level are also of significant interest. Table 4.11 presents a statistically significant association between population and total unreserved fund balance. The results indicate that for every 1 percent increase in population, total unreserved fund balance increased by 1.6 percent. Further, the regression estimates also reveal a significant association between ethnic diversity and total unreserved fund balance. Although small in magnitude, an increase in ethnic diversity of Georgia municipalities increases total unreserved fund balance.

Regarding senior population (over 65), the regression estimates reveal statistical significance between this population group and unreserved undesignated fund balance. In fact, for every 1 percent increase of senior population unreserved undesignated fund balance increases by 0.296 percent. Further, positive associations are developed between education level of Georgia residents and all different portions of general fund balance. Although small in magnitude, municipalities with high-educated residents are able to build reserves into their unreserved undesignated fund balances.

Last, the only dummy variable that developed statistically significant associations with unrestricted fund balances is metropolitan status of Georgia local governments. Whether a municipality is metropolitan or not seems to influence unrestricted fund balances for year 2007. Specifically, for year 2007 metropolitan municipalities keep higher unreserved undesignated and total unreserved fund balances.

Table 4.11
Arellano, Bond, and Bover Two-Step General Methods of Moments

	Unres. Und. Fund Balance/ Total Expenditures		Total Unr. Fund Balance/ Total Expenditures	
Variable	**Coef**	**z-Stat**	**Coef**	**z-Stat**
Net Enterprise Transfers/ Net Enterprise Income	-2.40E-07	-0.04	7.50E-06*	1.72
Intergovernmental Revenues per capita	-0.0154	-0.62	-0.0569**	-2.3
Property Taxes per capita	-0.0794**	-2.74	-0.0928***	-3.83
Sales Taxes per capita	0.0408	0.67	0.0428	1.34
Debt per capita	-0.0338	-1.09	-0.021	-0.84
Population	-1.4055	-1.11	-1.6041*	-2.35
Percent of Nonwhite population	0.0012	0.14	0.01*	1.83
Level of Education	0.0564**	1.98	0.0226	1.4
Income per capita	-0.1708	-0.98	-0.1052	-0.89
Unemployment Rate	0.0214	1.42	0.0121	1.27
Population Under 18	-0.2531	-1.12	-0.0121	-0.01
Population Over 65	0.2968**	2.43	0.0935	0.31

Table 4.11
(continued)

	Unres. Und. Fund Balance/ Total Expenditures		Total Unr. Fund Balance/ Total Expenditures	
Variable	**Coef**	**z-Stat**	**Coef**	**z-Stat**
MSA 2006	-0.033	-0.25	-0.0709	-0.84
MSA 2007	0.0601	0.44	0.0473	0.53
MSA 2008	-0.004	-0.04	-0.0187	-0.32
Gov. Form 2006	0.3372	1.57	0.2411	1.35
Gov. Form 2007	0.3503**	2.13	0.2207*	1.69
Gov. Form 2008	0.0859	0.35	0.0004	0.01
Year 2006	-0.0158	-0.06	-0.0254	-0.14
Year 2007	-0.1251	-0.59	-0.0638	-0.46
Year 2008	0.0853	0.29	0.0894	1.01
Constant	8.41		5.83	
St. Error	8.91		18.55	
N	264		264	
Wald χ^2	76.24		58.53	
$P > \chi^2$	0.0000		0.0000	

Summary

The main purpose of this study has been to examine, theoretically and empirically, the effects of total net enterprise fund transfers on governmental spending, revenue patterns, and different portions of general fund balance of 100 Georgia municipalities during the time period 2005-2009. The regression analysis confirmed most of the previous findings concerning fiscal, demographic, and socio-economic factors and governance structure characteristics affecting municipal finances.

The findings indicated that net enterprise transfers impacted total expenditures and own-source revenues per capita. Surprisingly, net enterprise transfers had a "siphoning" effect on total expenditures per capita since governmental spending decreased as enterprise transfers increased. On the contrary, a positive association developed between net enterprise transfers and own-source revenues per capita implying the existence of an additive effect. In other words, Georgia local governments used their enterprise transfers to stimulate their own-source revenues and not their expenditures. Consequently, net enterprise transfers have marginal but, nonetheless, important boosting effects on different portions of general fund balance. In fact, net enterprise transfers developed positive statistically significant associations with total general, reserved, and total unreserved fund balance.

The results suggest that Georgia municipalities keep large pools of slack resources as part of their unrestricted general fund balances (total general, unreserved undesignated, and total unreserved fund balance) indicating their ability to maintain general fund spending levels during severe revenue shortfalls. These fund balances are

much higher than the recommended GFOA 5 to 15 percent benchmark. In 2009, for instance, an average municipality included in this sample maintained a general fund balance three times more than its current annual expenditures, while some others maintained as much as six times more than their annual expenditures.

CHAPTER 5: DISCUSSION

Introduction

This dissertation used secondary data collected from Comprehensive Annual Financial Reports (CAFR) of 100 Georgia city governments with population greater than 5,000. CAFRs were obtained from the Georgia Department of Audits and Accounts (GDAA). CAFRs are preferred over budget documents since they are audited and provide rich information for all of the dependent and part of the independent variables of this study. Further, the U.S. Census Bureau was utilized to gather all demographic and socio-economic data.

This dissertation began with a background discussion of the relevant theory and hypothesis associated with this research. The literature review on municipal finances presented the factors influencing governmental spending, revenue patterns, and general fund balance. Statistical methods, data sources, dependent and independent variables, and results have also been discussed in detail in previous chapters. This, the fifth chapter in the dissertation, provides a short summary of the major findings, a discussion regarding the strengths of this study, a discussion of the limitations of the findings, how those findings fit into the academic literature and the professional world, as well as suggestions for future researchers.

This dissertation has several contributions to the field of municipal finance worth mentioning. First, it expands the limited research associated with municipal finances. Most previous studies have focused on state economies rather than smaller, less heterogeneous, and more sensitive local economies. Second, this dissertation increases understanding of the impact of government owned enterprises on local finances. Lots of ambiguity exists when looking at previous studies concerning the effects of public enterprises on municipal finances. In fact, none of the existing studies can claim that they have captured any of the effects of public enterprises on local finances. Many prior regression models used only dummy variables showing whether a city has utilities or interfund policy. Instead, this study uses net enterprise fund transfers as a percentage of net enterprise income to capture the effects of public enterprises on governmental expenditures, revenue patterns, and general fund balances. Third, this study examined all different portions of general fund balance to achieve a thorough understanding of municipal finances. The vast majority of existing studies limited their examination and conclusions to total general or unreserved fund balance, ignoring other less visible funds. Examining all portions of general fund balance is essential since different fund balances have different uses.

Review of Findings

This dissertation revealed that the most common enterprise fund for Georgia municipalities is the Water and Sewage Fund. Solid Waste Management, Gas System, Electric Utilities, and Sanitation funds are also considered quite common enterprises for Georgia local governments. The highest number of enterprise funds was observed for year 2009 reaching 218, a 6 percent increase since 2005.

Interestingly, the results indicated that in 2009 less populated cities depended more on enterprise revenues than larger municipalities. An examination of the ratios of enterprise revenues and total governmental revenues for all five time periods of this study indicated that for some cities, enterprise revenues grew at a much faster pace than governmental revenues and vice versa for some other cities. Worth noting was that cities with population less than 10,000 experienced the highest growth in enterprise revenues while cities with population greater than 50,000 experienced the highest growth in governmental revenues. This finding suggests that smaller cities depend more on non-traditional revenue sources (e.g. user charges and fees) while larger cities on traditional sources (e.g. sales and property taxes).

In addition, Georgia municipalities maintained a much higher level of unrestricted fund balances (total general, unreserved undesignated, and total unreserved fund balance) than GFOA's recommended benchmark of 5 to 15 percent, confirming previous findings. This finding suggested that Georgia municipalities keep large pools of slack resources indicating their ability to maintain fund balance spending levels even under severe revenue shortfalls.

Further, the results indicated that size matters. Cities with population greater than 50,000 retained smaller total general, unreserved undesignated, and total unreserved fund balances. On the contrary, when examining restricted fund balances (reserved and unreserved designated fund balance), cities with population greater than 50,000 maintained higher fund balances. Other things being equal, smaller cities maintain higher levels of unreserved undesignated, unreserved, and total general fund balance as share of total general fund expenditure than larger cities. Thus, in general, there is an inverse relationship between the size of population and fund balance. The findings also show that municipalities with population less than 50,000 have increased the level of unrestricted fund balances as share of total expenditures over time and decreased their restricted fund balances.

The literature on municipal enterprise fund transfers suggests that such practices have either an expenditure or substitution effect (DeHoog & Swanson, 1988; Tyer, 1989). On one hand, cities with enterprise funds may engage in higher spending due to extra funds appropriated from utility profits (expenditure effect). On the other, municipalities may use their public enterprises to substitute for their own-source revenues and maintain low taxes (substitution effect). Evidence for the expenditure effect was found in the studies of DiLorenzo (1982), Deno and Mehay (1988), Tyer (1989), and Hembree, Shelton and Tyer (2000). Strauss and Wertz (1976), Vogt (1978), DiLorenzo (1982), and Tyer (1989) concluded that cities with internal subsidization substitute for their own-source revenues.

The regression estimates of this study indicated that net enterprise transfers influenced both governmental spending and revenue patterns. However, the results contradict earlier findings regarding the effects of net enterprise transfers on governmental spending and revenue patterns. On one hand, the examined Georgia municipalities transfer funds from their enterprises to boost their own-source revenues (additive effect). However, the extra funds in their revenue do not increase governmental spending. In fact, the negative statistically significant association between net enterprise transfers and total governmental expenditures suggests a "siphoning" effect as enterprise transfers decrease governmental spending. The examined Georgia municipalities used their enterprise transfers for expanding gaps between revenues and expenditures, improving their local fund balance, and presenting a better financial condition.

Other variables of significant interest include intergovernmental revenues, property taxes, and sales taxes per capita. Intergovernmental revenues play an essential role in service provisions for Georgia municipalities—intergovernmental revenues are related to greater governmental spending. Further, intergovernmental revenues have a strong negative statistically significant association with own-source revenues revealing a high dependence of Georgia local governments on intergovernmental aid. The findings also suggest that spending funds for Georgia local governments come heavily from property taxes and not from sales taxes. Perhaps the high elasticity of sales tax revenues urge Georgia municipalities to depend less on this revenue source. Both sales taxes and property taxes though, have a positive statistically significant effect on own-source revenues per capita thus validating the author's hypotheses.

Two socio-economic factors affect total governmental expenditures per capita and own-source revenues per capita. The negative association between income per capita and total governmental expenditures per capita reveals that Georgia residents with high income are less dependent on their local governments and demand fewer services. Surprisingly, income per capita and own-source revenues are inversely related, contradicting the author's expectations. Perhaps high-income residents since they receive less governmental services also contribute less to local taxes. Likewise, the regression results indicate that Georgia municipalities with high unemployment rates spend less and raise less local revenues. Municipalities with high unemployment rates are unable to raise sufficient revenues and offer the required services.

Among all demographic variables used in this study only percent of ethnic diversity was of significant interest. Ethnic diversity and own-source revenues developed a negative statistically significant association confirming the author's expectations. It seems that municipalities with high percentage of ethnic diversity raises less own-source revenues than municipalities with less percentage of ethnic diversity.

In addition, the regression estimates provided evidence that the current economic crisis places some degree of financial stress on the examined local governments. The negative associations between all year dummies and total governmental expenditures per capita indicate an expenditure limitation for Georgia municipalities. The negative associations between all year dummies and own-source revenues provide further support for the aforementioned assumption. This inverse relationship reveals the difficulty of Georgia local governments to raise revenues during the economic downturn.

In addition, the results suggest that Georgia municipalities use their enterprise transfers to boost different portions of general fund balance, specifically: total general, reserved, and total unreserved fund balances. Building fiscal reserves as part of these fund balances offers some protection from the current economic crisis, including consistent cash flow maintenance, and stable tax rates. Further, these high fund balances, an indicator of good financial health, could have also been essential in keeping bond ratings high, lowering procurement costs, and facilitating strategic management and financial planning.

Other fiscal variables with significant impact on different portions of fund balance are property taxes, intergovernmental revenues, and debt per capita. The negative effect of property taxes per capita supported Wolkoff's research. He argued that jurisdictions built reserves based on the elasticity of their revenue sources. In fact, governments with more elastic revenues (e.g. income and sales tax) are likely to keep higher fund balance levels than governments with inelastic revenue sources (e.g. property tax). The inverse effect of intergovernmental revenues on all different portions of fund balance, although contradictory to the author's expectations, validates Hendrick's argument that local governments are unaware of the risks involved with discretionary funds such as intergovernmental aid. The positive significant effect of debt per capita on unreserved designated fund balance revealed some level of fiscal responsibility since this finding is a good indicator of funds being reserved for debt repayment.

Interesting conclusions derive when looking at the results for socio-economic variables. Under the fear that high unemployment rates might hurt local revenue sources, the examined Georgia municipalities choose to maintain funds under their reserved fund

to alleviate any financial instability caused by harsh economic conditions. The regression estimates also indicate that education level influences the level of general fund balance since municipalities with high-educated residents build reserves into their reserved and unreserved undesignated fund balances.

As expected, demographic factors such as population, ethnic diversity, and percent of teen and senior population influence general fund balance. Population affects total general fund balance in the expected direction following the literature. Interestingly, the results indicate that Georgia municipalities hold funds to serve ethnic populations under their unrestricted funds, total general, and total unreserved funds. Further, the regression estimates show an inverse relationship of ethnic diversity with reserved fund balance. These findings suggest that Georgia local governments with high rates of ethnic populations prefer to build reserves into their unrestricted funds such as total general and total unreserved fund. This gives them the flexibility to use these reserves in ways they consider most appropriate and beneficial. On the contrary, Georgia local governments prefer maintaining funds to serve their teen and senior populations under their unreserved designated fund balance.

Governance structure, metropolitan status, and time also appear to impact fund balance levels. Professional governments (council-manager form) maintain higher level of unrestricted general fund balance giving them financial flexibility, a finding consistent with the literature. Further, the greater service needs of metropolitan areas pushed metropolitan governments into maintaining lower reserved fund balances. Interestingly, the time variables of this study indicated that Georgia municipalities reserve funds under

their reserved and unreserved designated fund balance as an effort to better respond to economic downturn.

Research Implications

The research presented in this dissertation represents an expansion in the limited knowledge regarding the impact of enterprise transfers on governmental spending, revenue patterns, and different portions of local general fund balance. This research provides strong evidence that local governments use their public enterprises to boost different portions of general fund balance and build reserves as part of these general fund balances improving their fiscal condition. Further, the "siphoning" effect on total expenditures and additive effect on own-source revenues of net enterprise transfers provides an explanation of how Georgia local governments stretch their positive fund balances.

This research provides several lessons for public officials. The findings suggest that public enterprises are a great revenue source for local governments, which adds budgetary flexibility. One of the biggest concerns for budget officials is to balance their budget. Under tough economic conditions, bridging revenues and expenditures might become a daunting task and even cause significant disruptions in government operations and service delivery. When revenues are short, fiscally stressed governments could use their public enterprises to bridge gaps between expenditures and revenues and meet balanced budget requirements. In other words, public enterprises could shield municipal finances against economic fluctuations.

In addition, transferring funds from profitable public enterprises to the general fund could also benefit both local officials and constituents. An interfund policy could prevent local officials from making unpopular decisions with great social and political costs to cover expenditure gaps. Such decisions include introduction of new taxes, higher rates on existing taxes, broadening the tax base, speeding up collections, decreased governmental expenditures, fewer governmental services, postponing capital projects or infrastructure maintenance to name a few. Therefore, constituents are protected from harsh political measures that would affect their quality of life.

Public enterprises provide an opportunity for revenue diversification as indicated from the additive effect of net enterprise transfers on own-source revenues. Local governments, by transferring resources from their enterprise funds to the general fund, could increase their revenues without altering their tax structure. Revenue diversification could decrease revenue volatility, increase financial flexibility, and lead to improved fiscal performance (White, 1983; Gentry, and Ladd, 1994; Harmon, and Mallick, 1994; Hendrick, 2002; Jonshon, Kioko, Shanon, and Stone, 2005).

In addition to balancing revenues and expenditures and diversifying revenue sources, local governments could also use their public enterprises to build surpluses into their general fund balance. Positive fund balances, especially in periods of tough economic conditions, indicate financial health and good financial planning and management. It is anticipated that governments of such financial condition would achieve high credit ratings and represent great investment opportunities.

Further, local governments could use their public enterprises to establish fiscal reserves as part of their positive general fund balances. Under periods of economic

uncertainty, fiscal reserves could be essential to local governments since they could smooth the impact of economic fluctuations, increase budgetary flexibility, guarantee consistent cash flow, facilitate strategic management, and maintain service delivery. On the other hand, during times of economic wealth fiscal reserves represent extra resources that local governments could invest in safe option markets, build or improve infrastructure, or even expand the service level provision. Further, fiscal reserves could decrease the financial dependence of local governments on federal and state governments or other third parties increasing local political autonomy. Less need for intergovernmental aid could also mean less intervention of third parties in local decision-making and expenditure choices.

Under the concept of New Public Management (NPM), public enterprises became a powerful tool to achieve a smaller, more efficient and more effective government. During the last two decades, public officials view public enterprises “as a practical way to finance projects and services off budget, without affecting balanced budget requirements or voter outrage” (Mitchell, 1996). Public enterprises have assisted cities to provide municipal services while subsidizing their tax revenues (Stumm, 1996).

Study Limitations

This study improved our knowledge regarding factors affecting expenditure, revenue patterns, and general fund balance with special attention to the impact of net enterprise fund transfers on local finances. It provided additional information to supplement existing municipal finance literature. However, it is important to consider this, and any other research, in light of the limitations that may have an impact on how the data are interpreted. This research has several limitations.

First, this research was performed during a special period of great economic uncertainty and financial instability. Previous research has shown that depending economic conditions state and local governments increase or decrease their fiscal reserves. For example, when Marlowe examined general fund balances of Minnesota cities he found that fiscal stabilization variables have a different effect on fund balances based on the economic cycle (Marlowe, 2005). In fact, his regression estimates indicated that the association between enterprise transfers and general fund balance reversed based on the economic cycle.

Hendrick (2006) also added to Marlowe's assumptions. She found that the effects of current fiscal conditions and the significant slack variables on accumulated reserves become stronger as general fiscal conditions worsen while the effects of risk variables weaken. Essentially, slack resources become more important and interchangeable during fiscal downturns while maintaining slack to compensate for risks becomes less important. Recently, Stewart (2009) examined factors that affected Mississippi Counties' unreserved fund balance and confirmed the above assumptions. Specifically, she found that counties

increase reserves during times of relative resource abundance and decrease them during resource scarcity.

The fiscal pressure, which both state and local governments have experienced during the time period of this dissertation, has generated a growing interest in the accumulation and use of fiscal reserves. Under such economic conditions local governments feel greater need to establish adequate fiscal reserves to offset future revenue declines. Therefore, the use of certain fiscal stabilization variables such as enterprise funds might have been magnified. Certainly, our understanding about the use of enterprise funds from local governments would be more thorough if we had the ability to examine them not only under years of economic uncertainty and resource scarcity but also under longer periods of resource abundance.

This leads to the second limitation of this study- a limited number of cross-sections. Due to limitations on the availability of data representing all the variables of this study a five-year panel dataset stretching from 2005 to 2009 was created. It is anticipated that a dataset with more time periods would help the models to perform better. However, this was not an option since many Georgia municipalities did not produce CAFRs before 2005.

Third, there are some concerns about the quality of the data used for this study. The U.S. Census Bureau was utilized to gather all demographic and socio-economic data. Demographic data included population expressed in thousands, populations under age 18 and over age 65, and percent of nonwhite population. For this study the socio-economic factors include education level, per capita income, and unemployment rate. One problem with using the Census for most of the demographic and socio-economic data of this study

is that the data are not updated on an annual basis. Therefore, the demographic and socio-economic variables included in this study produce zero variation from year to year which is believed to cause problems of serial correlation and heteroskedasticity.

Fourth, the financial data used in this study included several outliers. In this study outliers were legitimate since they occurred due to the inherent variability of the data; hence outliers were not excluded from the analysis. The author believes that a more homogeneous sample would have produced less normality concerns. The fact that data from all Georgia municipalities with population over 5,000 were used in this dissertation is considered the major reason for the existence of outliers. Perhaps a sample with cities of more similar financial, socio-economic, and demographic characteristics would have produced fewer normality concerns.

Finally, a small part of the municipal finance literature has raised some concerns regarding the quality of information offered through CAFRs. According to Stumm (2001) "not all of the methods used to transfer revenues between enterprise funds and other city funds are shown in cities' comprehensive annual financial reports (CAFR)." CAFRs and other financial reports are not prepared in a manner usable to researchers since it is extremely hard to determine the total contributions of enterprises to other funds (Stumm, 2001). Therefore, the only venue to acquire all necessary information regarding enterprise transfers is to look beyond them and ask local officials to determine the exact amount of enterprise transfers actually available for non-enterprise activities. However, due to time and resource limitations this option is out of reach.

Future Recommendations

Although this study has improved our understanding of the factors affecting governmental spending, revenue patterns and the level of general fund balance, by examining Georgia municipalities, there are still many unknowns concerning local fiscal reserve building behavior. Future studies should attempt to overcome some of the limitations of this research. This dissertation was limited to local governments of a single state. Therefore, future work should focus on studying local governments from different states, preferably with similar local financial characteristics.

In addition, any research that incorporates a longer time period would increase our understanding regarding the impact of enterprise transfers on municipal finances. It is essential to test the models of this dissertation under periods of resource abundance and not only under periods of great fiscal limitations. Previous studies have indicated that the effects of fiscal, demographic, and socio-economic factors and governance structure characteristics on municipal finances varied depending economic conditions. It is speculated that a similar variation could exist with the impact of enterprise transfers on different portions of general fund balance, governmental spending, and own-source revenues.

Conclusion

The central hypothesis of this dissertation focused on the extent to which net enterprise transfers could increase governmental spending, own-source revenues, and the level of general fund balances. The statistical analysis indicated that net enterprise transfers increased own-source revenues (additive effect) but decreased governmental expenditures (siphoning effect). Further, net enterprise transfers boost different portions of local fund balance establishing fiscal reserves.

The findings of this dissertation suggest that revenue diversification is apparent among local governments. Further, Georgia municipalities used their enterprise transfers to increase their fund balance and improve their financial condition as well as add flexibility to their budgets. However, revenue diversification also leads to greater revenue structure complexity (Carroll, 2009). When revenue structures become more complex the transparency of government financing to its citizens becomes low, establishing fiscal illusion (Oates, 1991). In simpler words, revenue complexity impedes taxpayers from understanding the true price of public expenditures. This obscurity leads taxpayers to develop incorrect perceptions of the price of public outputs (Wagner, 1976).

Although the literature indicated that fiscal illusion usually results in greater public demand for services and thus greater governmental expenditures, this research reveals a different aspect of fiscal illusion. The findings of this dissertation suggest that net enterprise transfers increased own-source revenues but decreased governmental expenditures, generating false assumptions about the true cost of government operation and public outputs. In fact, Georgia taxpayers have overestimated the true price of government operations and service provision, paying for more than what they receive.

The extra slack generated due to taxpayers' misconception of the true cost of government operation and public outputs is accumulated into the different portions of general fund balance as fiscal reserves.

It seems that Georgia local officials may be taking advantage of the public preferences for avoiding taxation to control the expenditure and revenue levels. Simply, local officials decide how much current private consumption will be sacrificed to build reserves in the governmental funds (Wolkoff, 1987). Taxpayers on the other end, lose consumption power since money that could have been used for tax reductions or increased governmental services are used to boost governmental funds.

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